# Welcome to Houston Community College

*W*hether you are looking to obtain your associate's degree, enhance your job skills, change careers, or begin the path to a four-year degree, HCC has a program to fit your schedule and budget. We offer excellent learning opportunities, expanded course offerings, high quality instruction and a commitment to serving our students and our business community.

Every day, citizens of this community walk through our doors in search of a better quality of life through education. In making that commitment they not only enhance their own lives, but also the lives of their families, and ultimately the entire community we live in.

Your decision to attend college is a commitment to your future. I assure you that our faculty and staff will help you gain the education you need in order to succeed and "Own Your Tomorrow" in your chosen profession.

On behalf of the entire HCC community, I extend our best wishes for a rewarding educational experience.

Sincerely,

MARY SPANGLER, ED.D.
CHANCELLOR

# The Houston Community College

## OUR MISSION

The Houston Community College System is an open-admission, public institution of higher education offering opportunities for academic advancement, workforce training, career development, and lifelong learning that prepare individuals in our diverse communities for life and work in a global and technological society.

## VISION

- We are one of the largest communty colleges in the world with untapped resources — **we will be the best!**

- We have a strong collective vision to build "A Learning College"— **our students will excel!**

- We have one of the most diverse communities in the nation — **we will aggressively reach everyone!**

- We have some of the best talent in any college on our faculty, board, administration and staff — **we will be the best-operated learning college!**

- Our community wants us to succeed —w**e will excel!**

## ACCREDITATION

The Houston Community College System is accredited by the Commission on Colleges of the Southern Association of Colleges and Schools to award the associate degree.

Persons interested in reviewing the official accreditation document(s) may do so by contacting the Office of Institutional Research located at 3100 Main, phone number 713-718-8625. To review individual program accreditation, approval, and licensing documents, the department chairperson's office for the particular program may be contacted. (See catalog or class schedule for telephone numbers.)

## APPROVALS

The Texas Higher Education Coordinating Board has approved college/university parallel offerings and programs in technical education.

The Texas Workforce Commission has approved programs for veteran education benefits.

Senior colleges and universities in Texas and surrounding regional states accept credits earned at Houston Community College System.

## OUR VALUES

SHARED VALUES are the core of our vision for HCC to be an inviting and healthy place to work and learn. These values serve to guide our interaction with students, the internal and external communities we serve, and each other. They are the very principles that give focus to our primary purpose of serving students and facilitating their success as citizens in a free and prosperous society.

- FREEDOM — The essence of education is the cultivation of an open environment that promotes a rigorous, untiring, life-long pursuit and expression of truth, and free exchange of ideas.

- ACCOUNTABILITY — A responsible individual is committed to doing one's duty and taking the right actions.

- COMMUNITY-MINDEDNESS — The bonds of our community are care, open communication, cooperation, and shared governance.

- INTEGRITY — Personal and community well being demands a commitment to honesty, mutual respect, fairness, and empathy in all situations. It means doing the right thing at all times.

- EXCELLENCE — Our will and spirit is to achieve the best in teaching, learning, community building, and stewardship.

*Approved by HCC Board of Trustees on January 25, 2007.*

## REGULATIONS POLICY

The regulations and provisions in this Catalog are based upon present conditions and are subject to changes necessitated by College or legislative actions.The provisions of this Catalog are subject to change without notice and do not constitute an irrevocable contract, expressed or implied, between any applicant, student, or faculty member and HCC. The College reserves the right to cancel classes when necessary.

**Administration Building**
**3100 Main, Houston, Texas 77002**
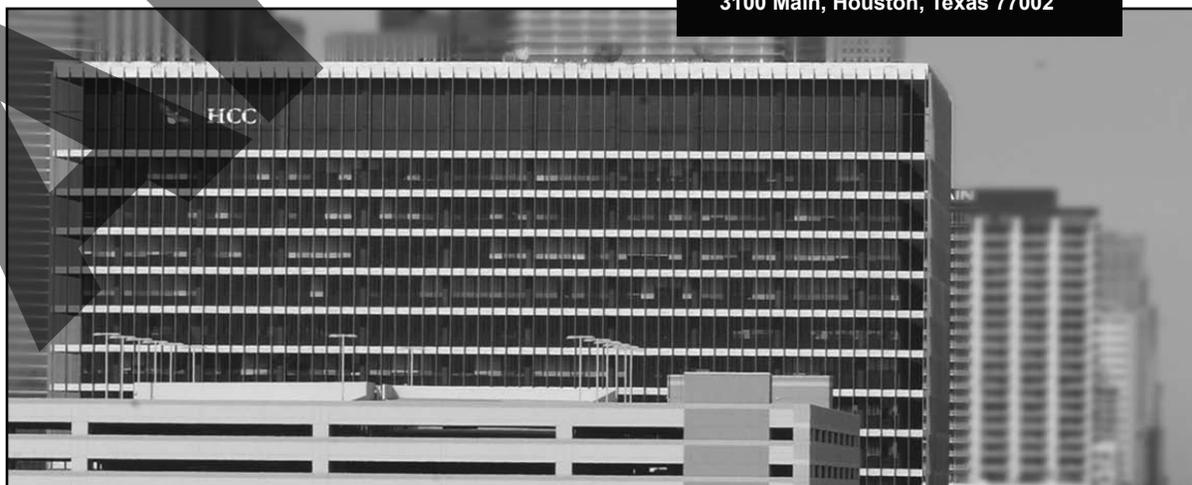
# Meet the HCC Board of Trustees

The Board of Trustees is the official governing body of the Houston Community College System. The Board is composed of nine members who are elected from single-member districts and who serve without pay. Board members are elected to staggered six-year terms. The Board has final authority to determine and interpret the policies that govern the System.

As part of their duties, the Trustees maintain a full schedule of community service, public appearances, speaking engagements, and legislative affairs on behalf of the System. Board members represent an impressive mix of individual talents and professional backgrounds enabling them to provide governance of the highest quality.

# History of HCC

The Houston Community College System (HCC) was created under the governance of the Houston Independent School District (HISD) as the result of a public referendum on May 18, 1971. In August of that year, more than 5,700 students enrolled in workforce education courses held at the Houston Technical Institute. In the following semester, academic transfer classes were added and taught at six HISD locations.

By 1977, HCC had an enrollment of more than 24,000 students and had earned full accreditation by the Southern Association of Colleges and Schools (SACS). As a result of state legislation, HISD voted in 1984 to dedicate a specific portion of its property tax levy to the College for facilities, equipment and operating expenses. In 1989, HCC established its own Board of Trustees also in 1989, the Stafford Municipal School District was annexed. By 2000, the HCC enrollment have reached more than 50,000 students.

State legislation in 1995 designated the "service area" of HCC to include the Houston, Alief, Katy, Spring Branch and North Forest school districts as well as the Stafford Municipal School District. HCC also serves the Fort Bend Independent School District.

# System Administration



*Mary S. Spangler, Ed.D.*
*Chancellor*



*Doretha Eason, Ed.D.*
*Executive Assistant to*
*Chancellor*



*Gloria Walker, CPA*
*Vice Chancellor of Finance*
*and Administration*



*Charles M. Cook, Ed.D.*
*Vice Chancellor for Instruction*



*Irene Porcarello, MSW*
*Vice Chancellor for*
*Student Success*



*William Carter, MBA*
*Vice Chancellor for*
*Information Technology*



*Miles J. LeBlanc, JD*
*General Counsel*

## College Presidents



*William W. Harmon, Ph.D*
*President, Central*



*Marsal P. Stoll, Ed.D.*
*President, Coleman College for*
*Health Sciences*



*Margaret L. Ford,*
*Ed.D. President,*
*Northeast*



*Zachary Hodges, Ed.D.*
*President, Northwest*



*Fena Garza, Ph.D*
*President, Southeast*



*Winston Dahse, BBA, MBA*
*Interim President, Southwest*

# Table OfContents

# 2007-2008 Academic Calendars

## HOLIDAYS

Labor Day . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .September 3, 2007
Thanksgiving . . . . . . . . . . . . . . . . . . . . . . . . November 22-25, 2007
Holiday Break . . . . . . . . . . . . . December 19, 2007- January 1, 2008
Martin Luther King, Jr. Day . . . . . . . . . . . . . . . . . . January 21, 2008
Presidents' Day . . . . . . . . . . . . . . . . . . . . . . . . . . February 18, 2008
Spring Break . . . . . . . . . . . . . . . . . . . . . . . . . . . . .March 10-16, 2008
Holiday Break . . . . . . . . . . . . . . . . . . . . . . . . . . . .March 21-23, 2008
Memorial Day . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . May 26, 2008
Independence Day . . . . . . . . . . . . . . . . . . . . . . . . . . . July 4, 2008

## FALL 2007
### TRADITIONAL 16-WEEK TERM

Online Registration Begins* . . . . . . . . . . . . . . . . . . . . . . . . .April 2
Application Deadline for International Students
    Outside the U.S. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . July 18
Last day to pay for Online Registration (Student will lose space in
    class if payment is not received by this date)**. . . . . . .August 10
On-Campus Registration Begins. . . . . . . . . . . . . . . . . . . .August 13
Financial Aid Priority Application Deadline (New Students). . .April 16
Saturday Registration . . . . . . . . . . . . . . . . . . . . . . . .August 18 & 25
Last Day for 100% Refund . . . . . . . . . . . . . . . . . . . . . . .August 24
Classes Begin - Drop/Add/Swap Fee ($15.00) Begins . . . .August 25
70% Refund. . . . . . . . . . . . . . . . . . . . . . . August 25 - September 11
Registration Ends . . . . . . . . . . . . . . . . . . . . . . . . . . . .August 28
Last Day for Drop/Add/Swap. . . . . . . . . . . . . . . . . . . . . .August 31
Offices Closed - Labor Day Holiday . . . . . . . . . . . . . . .September 3
Official Date of Record***. . . . . . . . . . . . . . . . . . . . . .September 7
25% Refund. . . . . . . . . . . . . . . . . . . . . . . . . . September 12 - 17
Second Installment Loan Payment Deadline. . . . . . . .September 27
Application Deadline for Fall Federal
    Student Loans. . . . . . . . . . . . . . . . . . . . . . . . . . . . .October 1
Priority Deadline for Fall Completion of
    Degrees or Certificates. . . . . . . . . . . . . . . . . . . . . October 15
Offices Closed - All College Conference . . . . . . . . . . . . October 26
Final Installment Loan Payment Deadline. . . . . . . . . . November 1
Last Day for Administrative/Student
    Withdrawals - 4.30 pm . . . . . . . . . . . . . . . . . . . . .November 8
No Night Classes before Thanksgiving. . . . . . . . . . . . November 21
Offices Closed - Thanksgiving Holiday . . . . . . . . . November 22 - 25
Veteran's Advanced-Pay Application Deadline for
    Spring Session . . . . . . . . . . . . . . . . . . . . . . . . . December 1
Instruction Ends. . . . . . . . . . . . . . . . . . . . . . . . . . . December 7
Final Examinations . . . . . . . . . . . . . . . . . . . . . . . December 8 - 14
Semester Ends . . . . . . . . . . . . . . . . . . . . . . . . . . . December 14
Grades Due by - 12:00 Noon. . . . . . . . . . . . . . . . . . December 17
Grades Available to Students . . . . . . . . . . . . . . . . . December 21
Offices Closed - Holiday Break . . . . . . . . .December 19 - January 1

### SECOND-START 12-WEEK TERM

Online Registration Begins* . . . . . . . . . . . . . . . . . . . . . . . . .April 2
Application Deadline for International Students
    Outside the U.S. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . July 18
Last day to pay for Online Registration (Student will lose space in
    class if payment is not received by this date)**. . . . . . .August 10
On-Campus Registration Begins. . . . . . . . . . . . . . . . . . . .August 13
Offices Closed - Labor Day Holiday . . . . . . . . . . . . . . .September 3
Last Day for 100% Refund . . . . . . . . . . . . . . . . . . . . .September 21

Classes Begin - Drop/Add/Swap Fee ($15.00) Begins .September 22
70% Refund. . . . . . . . . . . . . . . . . . . . . . . . . September 22 - October 5
Registration Ends . . . . . . . . . . . . . . . . . . . . . . . . . . . .September 24
Last Day for Drop/Add/Swap. . . . . . . . . . . . . . . . . . . . .September 24
Application Deadline for Fall Federal Student Loans . . . . .October 1
Official Date of Record***. . . . . . . . . . . . . . . . . . . . . . . . October 2
25% Refund. . . . . . . . . . . . . . . . . . . . . . . . . . October 6 - October 9
Priority Deadline for Fall Completion of Degrees or
    Certificates . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .October 15
Second Installment Loan Payment Deadline. . . . . . . . . . October 18
Offices Closed - All College Conference . . . . . . . . . . . . .October 26
Last Day for Administrative/Student
    Withdrawals - 4.30 pm . . . . . . . . . . . . . . . . . . . . . November 8
Final Installment Loan Payment Deadline. . . . . . . . . . November 15
No Night Classes before Thanksgiving . . . . . . . . . . . .November 21
Offices Closed - Thanksgiving Holiday . . . . . . . . . November 22 - 25
Veteran's Advanced-Pay Application Deadline for
    Spring Session . . . . . . . . . . . . . . . . . . . . . . . . . December 1
Instruction Ends. . . . . . . . . . . . . . . . . . . . . . . . . . . December 7
Final Examinations . . . . . . . . . . . . . . . . . . . . . . . December 8 - 14
Semester Ends . . . . . . . . . . . . . . . . . . . . . . . . . . . December 14
Grades Due by - 12:00 Noon. . . . . . . . . . . . . . . . . . December 17
Grades Available to Students . . . . . . . . . . . . . . . . . December 21
Offices Closed - Christmas Break . . . . . . . . . . . December 19 - Jan 1
Grades Due by - 12:00 Noon. . . . . . . . . . . . . . . . . . December 18
Grades Available to Students . . . . . . . . . . . . . . . . . December 22

## HOLIDAY MINI-TERM

Online Registration Begins* . . . . . . . . . . . . . . . . . . . . . . . . .April 2
Application Deadline for International Students
    Outside the U.S. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . July 18
Last day to pay for Online Registration (Student will lose space in
    class if payment is not received by this date)**. . . . . . .August 10
On-Campus Registration Begins. . . . . . . . . . . . . . . . . . . .August 13
Last Day for 100% Refund . . . . . . . . . . . . . . . . . . . . December 14
Classes Begin - Drop/Add/Swap Fee ($15.00) Begins . December 17
Registration Ends . . . . . . . . . . . . . . . . . . . . . . . . . . December 17
Last Day to Drop/Add/Swap . . . . . . . . . . . . . . . . . . . . December 17
70% Refund. . . . . . . . . . . . . . . . . . . . . . . . . . . . December 17 - 20
Official Date of Record***. . . . . . . . . . . . . . . . . . . . . December 19
Last Day for 25% Refund . . . . . . . . . . . . . . . . . . . . . December 21
Holiday. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . December 25
Holiday. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . January 1
Last Day for Administrative/Student Withdrawals - 12.00
    noon . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . January 3
Instruction Ends. . . . . . . . . . . . . . . . . . . . . . . . . . . . . January 8
Final Examinations . . . . . . . . . . . . . . . . . . . . . . . . . . . January 9
Grades Due by - 12:00 Noon. . . . . . . . . . . . . . . . . . . . January 15
Grades Available to Students . . . . . . . . . . . . . . . . . . . . January 19

* Online registration assistance available in computer labs for students
    without access to computers.

** Student will lose space in class if payment is not received by this date.

*** Last day to drop with no record on transcript.

# SPRING 2008
## TRADITIONAL 16-WEEK TERM

Online Registration Begins* . . . . . . . . . . . . . . . . . . . . . .September 1
Application Deadline for International Students
    Outside the U.S. . . . . . . . . . . . . . . . . . . . . . . . . . . . November 27
Veterans Last Day to Apply for Advance Pay . . . . . . . . . December 3
Last day to pay for Online Registration (Student will lose space in
    class if payment is not received by this date)**. . . . . . . .TBA****
Offices Closed - Christmas Break . . . . . . . .December 19 - January 1
On-Campus Registration Begins. . . . . . . . . . . . . . . . . . . . January 2
Saturday Registration . . . . . . . . . . . . . . . . . . . . . . . . . . . . January 5
Last Day for 100% Refund . . . . . . . . . . . . . . . . . . . . . . . January 11
Classes Begin - Drop/Add/Swap Fee ($15.00) Begins . . . January 12
70% Refund. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . January 12 - 29
Registration Ends . . . . . . . . . . . . . . . . . . . . . . . . . . . . . January 13
Last Day for Drop/Add/Swap. . . . . . . . . . . . . . . . . . . . . . January 18
Offices Closed - Martin Luther King, Jr. Observance . . . . January 21
Official Date of Record***. . . . . . . . . . . . . . . . . . . . . . . . January 25
25% Refund. . . . . . . . . . . . . . . . . . . . . . . . .January 30 - February 4
Second Installment Loan Payment Deadline. . . . . . . . . February 14
Priority Deadline for Spring Completion of
    Degrees or Certificates . . . . . . . . . . . . . . . . . . . . . . . February 15
Presidents Day Holiday . . . . . . . . . . . . . . . . . . . . . . . . . February 18
Application Deadline for Spring Federal Student Loans . . . . March 1
Offices Closed - Spring Break . . . . . . . . . . . . . . . . . . . .March 10 - 16
Offices Closed - Holiday Break . . . . . . . . . . . . . . . . . . .March 21 - 23
Final Installment Loan Payment Deadline. . . . . . . . . . . . . March 27
Last Day for Administrative/Student Withdrawals - 4.30 pm . . .April 3
Financial Aid Priority Applications
    Deadline for Returning Students. . . . . . . . . . . . . . . . . . April 15
Veteran's Advanced-Pay Application Deadline
    for Summer Session . . . . . . . . . . . . . . . . . . . . . . . . . . .April 21
Instruction Ends. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . May 2
Final Examinations . . . . . . . . . . . . . . . . . . . . . . . . . . . . May 3 - 9
Semester Ends . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . May 9
Grades Due by - 12:00 Noon. . . . . . . . . . . . . . . . . . . . . . . May 12
Grades Available to Students . . . . . . . . . . . . . . . . . . . . . . May 16
Graduation Exercises . . . . . . . . . . . . . . . . . . . . . . . . . . . . . TBA

## SECOND-START 12-WEEK TERM

Online Registration Begins* . . . . . . . . . . . . . . . . . . . . .September 1
Application Deadline for International Students
    Outside the U.S. . . . . . . . . . . . . . . . . . . . . . . . . . . . November 27
Veterans Last Day to Apply for Advance Pay . . . . . . . . December 17
Last day to pay for Online Registration (Student will lose space in
    class if payment is not received by this date)**. . . . . . . .TBA****
Offices Closed - Holiday Break. . . . . . . . . .December 19 - January 1
On-Campus Registration Begins. . . . . . . . . . . . . . . . . . . . January 2
Offices Closed - Martin Luther King, Jr. Observance . . . . January 21
Last Day for 100% Refund . . . . . . . . . . . . . . . . . . . . . . February 8
Classes Begin - Drop/Add/Swap Fee ($15.00) Begins . . . February 9
70% Refund. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .February 9 - 22
Registration Ends . . . . . . . . . . . . . . . . . . . . . . . . . . . . February 12
Last Day for Drop/Add/Swap. . . . . . . . . . . . . . . . . . . . February 12
Priority Deadline for Spring Completion of
    Degrees or Certificates . . . . . . . . . . . . . . . . . . . . . . . February 15
Offices Closed - Presidents Day Holiday. . . . . February 18 - Monday
Official Date of Record***. . . . . . . . . . . . . . . . . . . . . . . February 19
25% Refund. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . February 23 -26

Application deadline for Spring Federal Student Loans . . . . March 1
Second Installment Loan Payment Deadline. . . . . . . . . . . . March 6
Offices Closed - Spring Break . . . . . . . . . . . . . . . . . . . .March 10 - 16
Offices Closed - Easter Holiday. . . . . . . . . . . . . . . . . . .March 21 - 23
Last Day for Administrative/Student Withdrawals - 4.30 pm . . .April 3
Final Installment Loan Payment Deadline. . . . . . . . . . . . . .April 10
Instruction Ends. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . May 2
Final Examinations . . . . . . . . . . . . . . . . . . . . . . . . . . . . May 3 - 9
Semester Ends . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . May 9
Grades Due by - 12:00 Noon. . . . . . . . . . . . . . . . . . . . . . . May 12
Grades Available to Students . . . . . . . . . . . . . . . . . . . . . . May 16

## SPRING MINI-TERM

Online Registration Begins* . . . . . . . . . . . . . . . . . . . . .September 1
Last day to pay for Online Registration (Student will lose space in
    class if payment is not received by this date)** . . . . . . .TBA****
Offices Closed - Holiday Break. . . . . . . . . .December 19 - January 1
On-Campus Registration Begins. . . . . . . . . . . . . . . . . . . . January 2
Last Day for 100% Refund . . . . . . . . . . . . . . . . . . . . . . . . May 9
Classes Begin . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . May 12
Drop/Add/Swap Fee ($15.00) Begins . . . . . . . . . . . . . . . . May 12
Last Day to Drop/Add/Swap . . . . . . . . . . . . . . . . . . . . . . May 12
70% Refund. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . May 12 - 14
Official Day of Record . . . . . . . . . . . . . . . . . . . . . . . . . . May 13
Last Day for 25% Refund . . . . . . . . . . . . . . . . . . . . . . . . May 15
Last Day for Administrative/Student
    Withdrawals - 4.30 pm . . . . . . . . . . . . . . . . . . . . . . . . May 22
Offices Closed - Memorial Day Holiday. . . . . . . . . . . . . . . May 26
Instruction Ends. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . May 29
Final Examinations . . . . . . . . . . . . . . . . . . . . . . . . . . . . May 30
Session Ends. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . May 30
Grades Due by - 12:00 Noon. . . . . . . . . . . . . . . . . . . . . . June 2
Grades Available to Students . . . . . . . . . . . . . . . . . . . . . . June 6

*  *Online registration assistance available in computer labs for students
   without access to computers.*

** *Student will lose space in class if payment is not received by this date.*

*** *Last day to drop with no record on transcript.*

**** *To be announced*

## SUMMER 2008
## SUMMER I - FIRST FIVE WEEK

Online Registration Begins* . . . . . . . . . . . . . . . . . . . . . . . . . . TBA***

Last day to pay for Online Registration (Student will lose space in
class if payment is not received by this date)**. . . . . . . . TBA****

On-Campus Registration Begins. . . . . . . . . . . . . . . . . . . . . . May 19

Offices Closed - Memorial Day Holiday. . . . . . . . . . . . . . . . May 26

Last Day for 100% Refund . . . . . . . . . . . . . . . . . . . . . . . . . May 30

Classes Begin - Drop/Add/Swap Fee ($15.00) Begins . . . . . . June 2

70% Refund. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . June 2 - 6

Last Day to Drop/Add/Swap . . . . . . . . . . . . . . . . . . . . . . . June 3

Registration Ends . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . June 3

Official Day of Record*** . . . . . . . . . . . . . . . . . . . . . . . . . . June 5

25% Refund. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . June 7 - 9

Priority Deadline for Summer Completion of
Degrees or Certificates. . . . . . . . . . . . . . . . . . . . . . . . . June 16

Last Day for Administrative/Student Withdrawals - 4.30 pm . June 23

Instruction Ends. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . July 1

Final Examinations . . . . . . . . . . . . . . . . . . . . . . . . . . . . . July 2 - 3

Session Ends. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . July 3

Offices Closed - Independence Day Holiday. . . . . . . . . . . . . . July 4

Grades Due by - 12:00 Noon. . . . . . . . . . . . . . . . . . . . . . . . July 7

Grades Available to Students . . . . . . . . . . . . . . . . . . . . . . . July 11

Application Deadline for International
Students Outside the U.S. . . . . . . . . . . . . . . . . . . . . . . . April 8

## SUMMER II - SECOND FIVE WEEK SESSION

Fall Financial Aid Priority Applications
Deadline for New Students. . . . . . . . . . . . . . . . . . . . . . .April 15

Online Registration Begins* . . . . . . . . . . . . . . . . . . . . . . . .TBA****

Last day to pay for Online Registration (Student will lose space in
class if payment is not received by this date)**. . . . . . . .TBA****

On-Campus Registration Begins. . . . . . . . . . . . . . . . . . . . . May 19

Offices Closed - Memorial Day Holiday. . . . . . . . . . . . . . . . May 26

Priority Deadline for Summer Completion of
Degrees or Certificates. . . . . . . . . . . . . . . . . . . . . . . . . June 16

Last Day for 100% Refund . . . . . . . . . . . . . . . . . . . . . . . . . July 3

Offices Closed - Independence Day Holiday. . . . . . . . . . . . . . July 4

Classes Begin - Drop/Add/Swap Fee ($15.00) Begins . . . . . . . July 7

70% Refund. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . July 7 - 11

Registration Ends . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . July 8

Last Day to Drop/Add/Swap . . . . . . . . . . . . . . . . . . . . . . . . July 8

Official Day of Record*** . . . . . . . . . . . . . . . . . . . . . . . . . . July 10

25% Refund. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . July 12 - 14

Veterans Advanced-Pay Application
Deadline for Fall Session . . . . . . . . . . . . . . . . . . . . . . . . July 14

Last Day for Administrative/Student Withdrawals - 4.30 pm . . July 28

Instruction Ends. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .August 5

Final Examinations . . . . . . . . . . . . . . . . . . . . . . . . . . . . August 6 - 7

Session Ends. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .August 7

Grades Due by - 12:00 Noon. . . . . . . . . . . . . . . . . . . . . .August 11

Grades Available to Students . . . . . . . . . . . . . . . . . . . . . .August 15

## TEN-WEEK SUMMER SESSION

Fall Financial Aid Priority Applications
Deadline for New Students. . . . . . . . . . . . . . . . . . . . . . .April 15

Online Registration Begins* . . . . . . . . . . . . . . . . . . . . . . . .TBA****

Last day to pay for Online Registration (Student will lose space in
class if payment is not received by this date)**. . . . . . . .TBA****

On-Campus Registration Begins. . . . . . . . . . . . . . . . . . . . . May 19

Offices Closed - Memorial Day Holiday. . . . . . . . . . . . . . . . May 26

Last Day for 100% Refund . . . . . . . . . . . . . . . . . . . . . . . . May 30

Classes Begin - Drop/Add/Swap Fee ($15.00) Begins . . . . . . June 2

70% Refund. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . June 2 - 12

Registration Ends . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . June 5

Last Day to Drop/Add/Swap . . . . . . . . . . . . . . . . . . . . . . . June 5

Official Day of Record*** . . . . . . . . . . . . . . . . . . . . . . . . . June 10

25% Refund. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . June 13 - 17

Priority Deadline for Summer Completion of
Degrees or Certificates. . . . . . . . . . . . . . . . . . . . . . . . . June 16

Second Installment Loan Payment Deadline. . . . . . . . . . . . June 26

Application Deadline for International
Students Outside the U.S. . . . . . . . . . . . . . . . . . . . . . . . July 1

Offices Closed - Independence Day Holiday. . . . . . . . . . . . . . July 4

Veterans Advanced-Pay Application
Deadline for Fall Session . . . . . . . . . . . . . . . . . . . . . . . . July 14

Last Day for Administrative/Student Withdrawals - 4.30 pm . . July 15

Final Installment Loan Payment Deadline. . . . . . . . . . . . . . July 24

Instruction Ends. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .August 3

Final Examinations . . . . . . . . . . . . . . . . . . . . . . . . . . . August 4 - 10

Session Ends. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .August 10

Grades Due by - 12:00 Noon. . . . . . . . . . . . . . . . . . . . . .August 11

Grades Available to Students . . . . . . . . . . . . . . . . . . . . . .August 15

*  *Online registration assistance available in computer labs for students without access to computers.*

** *Student will lose space in class if payment is not received by this date.*

*** *Last day to drop with no record on transcript.*

**** *To be announced*

# Instructional Locations

## CENTRAL

### Americana Building
811 Dallas . . . . . . . . . . . . . . . . . . . . . . . . . . . . 713-718-5303
Corporate Training & Continuing Education
Open: 8 am-9 pm, Monday-Thursday; 8 am-4:30 pm, Friday;
8 am-12:00 pm, Saturday

### Central Campus
1300 Holman 77004 . . . . . . . . . . . . . . . . . . . . . . .713-718-6000
Open: 8 am-10 pm, Monday-Thursday; 8 am-4:30 pm, Friday;
9 am-1 pm, Saturday

### Willie Lee Gay Hall
1990 Airport Blvd. 77051 . . . . . . . . . . . . . . . . . . . . .713-718-6634
Open: 8 am-10 pm, Monday-Thursday; Closed Friday;
9 am-1 pm, Saturday

## COLEMAN COLLEGE FOR HEALTH SCIENCES

### Health Science Center
1900 Pressler Drive 77030 . . . . . . . . . . . . . . . . . . . . .713-718-7400
Open: 7 am-10 pm, Monday-Thursday; 7 am-6 pm, Friday;
7 am- 4 pm, Saturday 8 am - 4 pm

## NORTHEAST

### Automotive Technology Training Center
4638 Airline 77022 . . . . . . . . . . . . . . . . . . . . . . . . .713-718-8100
Open: 7 am-10 pm, Monday-Friday

### Northeast Campus
555 Community College Dr. 77013 . . . . . . . . . . . . . . . .713-718-8300
Open: 8 am-8:30 pm, Monday-Friday; 8 am-12pm,
Saturday and Sunday

### Northline Mall Center
401 Northline Mall 77022 . . . . . . . . . . . . . . . . . . . . . .713-718-8000
Open: 7 am-10 pm, Monday-Friday; 8 am-12 pm, Saturday and
Sunday

### Pinemont Center
1265 Pinemont 77018 . . . . . . . . . . . . . . . . . . . . . . . .713-718-8400
Open: 8 am-10 pm, Monday-Friday; 8 am- 5pm, Saturday and
Sunday

## NORTHWEST

### Katy Mills Career Training Center
25403 Kingsland Blvd., Katy, TX 77494 . . . . . . . . . . . .281-644-6080

### Town & Country Campus
1010 W. Sam Houston Pkwy N. 77043 . . . . . . . . . . . . .713-718-5700
Open: 7 am-10 pm, Monday-Thursday; 7 am-5 pm, Friday;
8 am-3 pm, Saturday

### UH System at Cinco Ranch
4242 South Mason Road, 77450 . . . . . . . . . . . . . . . . . .713-718-5737

### Westgate Campus
1550 Foxlake Drive 77084 . . . . . . . . . . . . . . . . . . . . . .713-718-5757
Open: 7:30 am-10 pm, Monday-Thursday;
7 am-4:30 pm, Friday; 8 am-5 pm, Saturday

## SOUTHEAST

### Eastside Campus
6815 Rustic 77087 . . . . . . . . . . . . . . . . . . . . . . . 713-718-7000/7100
Open: 8 am-10 pm, Monday-Friday; 8 am-5 pm Saturday; 8 am-5 pm,
Sunday

### Eastside Annex
2524 Garland,77087 . . . . . . . . . . . . . . . . . . . . . 713-718-7000/71000
Open: 8 am-10 pm, Monday-Friday; 8 am-5 pm, Saturday ;8 am-5 pm,
Sunday

## SOUTHWEST

### Alief Center
13803 Bissonnet, 77083-5916. . . . . . . . . . . . . . . . . .713-718-6870
Open: 8 am-10 pm, Monday-Thursday; 8 am-4:30 pm, Friday

### Gulfton Center
5407 Gulfton 77081 . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7760
Open: 8 am-10 pm, Monday-Thursday; 8 am-4:30 pm, Friday

### Missouri City Center
1681 Cartwright Road,
Missouri City 77489 . . . . . . . . . . . . . . . . . . . . . . . . . .281-835-5539
Open: 8 am-10 pm, Monday-Thursday; 8 am- 4:30 pm, Friday and
Saturday

### Stafford Campus
9910 Cash Rd., Stafford 77477 . . . . . . . . . . . . . . . . . . .713-718-7800
Open: 8 am-10 pm, Monday-Thursday; 8 am-4:30 pm, Friday and
Saturday

### West Loop Center
5601 West Loop South 77081 . . . . . . . . . . . . . . . . . . . .713-718-7930
Open: 7 am-10 pm, Monday-Friday; 7 am-5 pm, Saturday

## COMMUNITY AND ADULT EDUCATION

For information about free ASE, ABE and ESL classes, call the HCC
Literacy Hotline at (713) 718-5400; Adult High School class offerings,
call (713) 718-7611.

## CORPORATE TRAINING AND CONTINUING EDUCATION

Corporate Training and Continuing Education provide customized
business training and a comprehensive collection of personal
and professional enrichment learning opportunities. For further
information, contact

System. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5127
Central. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5303
Coleman College for Health Sciences. . . . . . . . . . . . .713-718-7580
Northeast. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-8119
Northwest . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5722
Southeast . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7580
Southwest . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7720

# Student Services Contact Information

## SYSTEM OFFICES

International Students/Veterans . . . . . . . . . . . . . . . . . .713-718-8520
Registrar / Admissions. . . . . . . . . . . . . . . . . . . . . . . . . .713-718-8500
Transcripts . . . . . . . . . . . . . . . . . . . . . . . .713-718-8500/718-8518
Testing & Assessment (24 hr. service). . . . . . . . . . . . .713-718-8540
Transfer . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-8535

## CENTRAL COLLEGE

Admissions-Central Campus. . . . . . . . . . . . . . . . . . . . . 713-718-6111
Admissions-Willie Lee Gay Hall. . . . . . . . . . . . . . . . . . .713-718-6509
Bookstore-Central Campus. . . . . . . . . . . . . . . . . . . . . .713-523-2825
Business Office-Central Campus . . . . . . . . . . . . . . . . . .713-718-6010
Business Office-Willie Lee Gay Hall . . . . . . . . . . . . . . . .713-718-6640
Career Planning & Job Placement-
    Central Campus . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-6174
Child Care Information-Central Campus . . . . . . . . . . . . .713-718-KIDS
Counseling-Central Campus . . . . . . . . . . . . . . . . . . . . .713-718-6120
Counseling-Willie Lee Gay Hall. . . . . . . . . . . . . . . . . . .713-718-6737
Deaf and Hard of Hearing Support Services-
    Central Campus . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-6333
Disability Support Services-Central. . . . . . . . . . . . . . . .713-718-6164
Financial Aid Office-Central Campus. . . . . . . . . . . . . . .713-718-6100
Financial Aid Office-Willie Lee Gay Hall . . . . . . . . . . . . .713-718-6699
Learning Assistance Center-Central . . . . . . . . . . . . . . .713-718-6070
Library-Central Campus . . . . . . . . . . . . . . . . . . . . . . . .713-718-6133
Library-Whiteley Building. . . . . . . . . . . . . . . . . . . . . . . .713-718-6819
Library-Willie Lee Gay Hall ERC . . . . . . . . . . . . . . . . . .713-718-6693
New Student Orientation . . . . . . . . . . . . . . . . . . . . . . . .713-718-6321
Registration-Central Campus . . . . . . . . . . . . . . . . . . . . 713-718-6111
Registration-Willie Lee Gay Hall . . . . . . . . . . . . . . . . . .713-718-6509
Student Activities-Central Campus . . . . . . . . . . . . . . . .713-718-6401
Student Support Services-Central Campus. . . . . . . . . . .713-718-6330
Testing-Central Campus . . . . . . . . . . . . . . . . . . . . . . . .713-718-6011
Testing-Willie Lee Gay Hall . . . . . . . . . . . . . . . . . . . . . .713-718-6471
Upward Bound-Central Campus . . . . . . . . . . . . . . . . . .713-718-6388
Recruitment-Central Campus . . . . . . . . . . . . . . . . . . . .713-718-6401
Refugees, Asylees. . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-6951
Welcome Center-Central Campus. . . . . . . . . . . . . . . . .713-718-6210

## COLEMAN COLLEGE FOR
## HEALTH SCIENCES

Admissions-Health Science Center. . . . . . . . . . . . . . . . .713-718-7373
Cashier-Health Science Center. . . . . . . . . . . . . . . . . . . .713-718-7375
Counseling-Health Science Center . . . . . . . . . . . . . . . .713-718-7373
Financial Aid-Health Science Center. . . . . . . . . . . . . . . .713-718-7630
Library. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7399
Registration Office-Health Science Center . . . . . . . . . . .713-718-7376

## NORTHEAST COLLEGE

Admissions-Northeast Campus. . . . . . . . . . . . . . . . . . . .713-718-8325
Admissions-Northline Mall Center . . . . . . . . . . . . . . . . .713-718-8088
Adult Education- ASE, ABE, ESL. . . . . . . . . . . . . . . . . . .713-718-5400
Adult High School . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7611
Bookstore-Northeast Campus. . . . . . . . . . . . . . . . . . . .713-670-0930
Bookstore-Northline Mall Center . . . . . . . . . . . . . . . . . .713-692-1472
Cashier -Northeast Campus . . . . . . . . . . . . . . . . . . . . .713-718-8357
Cashier-Northline Mall Center . . . . . . . . . . . . . . . . . . . .713-718-8031
Cashier-Pinemont Center . . . . . . . . . . . . . . . . . . . . . . .713-718-8425
Counseling-Northeast Campus . . . . . . . . . . . . . . . . . . .713-718-8139
Counseling-Northline Mall Center . . . . . . . . . . . . . . . . .713-718-8148
Counseling-Pinemont Campus . . . . . . . . . . . . . . . . . . .713-718-8447
Disability Support Services . . . . . . . . . . . . . . . . . . . . . .713-718-8420
Financial Aid-Northeast Campus. . . . . . . . . . . . . . . . . .713-718-8304
Financial Aid-Northline Mall Center . . . . . . . . . . . . . . . .713-718-8080
Job Placement. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5291
Learning Center-Pinemont Center. . . . . . . . . . . . . . . . .713-718-8033
Library-Codwell . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-8354
Library—Northline Center . . . . . . . . . . . . . . . . . . . . . . .713-718-8045
Library—Pinemont ERC . . . . . . . . . . . . . . . . . . . . . . . .713-718-8443
Recruitment-Northeast Campus . . . . . . . 713-718-8305 & 713-718-8382

Registration-Northeast Campus . . . . . . . . . . . . . . . . . . .713-718-8323
Registration-Northline Mall Center . . . . . . . . . . . . . . . . .713-718-8088
Registration-Pinemont Center . . . . . . . . . . . . . . . . . . . .713-718-8447
Testing-Northeast Campus . . . . . . . . . . . . . . . . . . . . . .713-718-8303
Testing-Northline Mall Center . . . . . . . . . . . . . . . . . . . .713-718-8073
Testing-Pinemont Center. . . . . . . . . . . . . . . . . . . . . . . .713-718-8073
Welcome Center-Northline Mall. . . . . . . . . . . . . . . . . . .713-718-8154

## NORTHWEST COLLEGE

Admissions -Town & Country. . . . . . . . . . . . . . . . . . . . .713-718-5901
Admissions -Westgate Center. . . . . . . . . . . . . . . . . . . .713-718-5736
Bookstore-Westgate Center . . . . . . . . . . . . . . . . . . . . .281-492-7198
Bookstore-Town & Country . . . . . . . . . . . . . . . . . . . . . .713-468-5300
Business Office-Town & Country. . . . . . . . . . . . . . . . . . .713-718-5418
Business Office-Westgate Center . . . . . . . . . . . . . . . . . .713-718-5773
Counseling-Town & Country . . . . . . . . . . . . . . . . . . . . .713-718-5669
Counseling-Westgate Center . . . . . . . . . . . . . . . . . . . . .713-718-5751
Disability Support Services . . . . . . . . . . . . . . . . . . . . . .713-718-5708
Financial Aid-Town & Country . . . . . . . . . . . . . . . . . . . .713-718-5713
Financial Aid-Westgate Center . . . . . . . . . . . . . . . . . . .713-718-5901
Job Placement-Town & Country . . . . . . . . . . . . . . . . . .713-718-5423
Library – Town & Country . . . . . . . . . . . . . . . . . . . . . . .713-718-5655
Library - Westgate . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5747
Testing-Town & Country . . . . . . . . . . . . . . . . . . . . . . . .713-718-5670
Testing-Westgate Center . . . . . . . . . . . . . . . . . . . . . . . .713-718-5960
Teaching & Learning Center-Westgate Center . . . . . . . . .713-718-5774
Technical Learning Center-Westgate Center. . . . . . . . . . .713-718-5770

## SOUTHEAST COLLEGE

Admissions-Eastside Campus. . . . . . . . . . . . . . . . . . . . .713-718-7044
Adult High School-Eastside Campus. . . . . . . . . . . . . . . .713-718-7611
Bookstore-Eastside Campus. . . . . . . . . . . . . . . . . . . . .713-640-1441
Career Planning & Job Placement-Eastside Campus. . . . .713-718-7145
Cashier-Eastside Campus. . . . . . . . . . . . . . . . . . . . . . .713-718-7051
Counseling-Eastside Campus. . . . . . . . . . . . . . . . . . . . .713-718-7215
Disability Support Services . . . . . . . . . . . . . . . . . . . . . .713-718-7218
ESL (*English as a Secound Language*). . . . . . . . . . . . . .713-718-7079
Financial Aid-Eastside Campus. . . . . . . . . . . . . . . . . . .713-718-7037
Library –Eastside. . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7084
Recruiter-Eastside Campus. . . . . . . . . . . . . . . . . . . . . .713-718-7217
Registration Office-Eastside Campus . . . . . . . . . . . . . . .713-718-7044
Student Activities-Eastside Campus . . . . . . . . . . . . . . . .713-718-7293
Testing-Eastside Campus . . . . . . . . . . . . . . . . . . . . . . .713-718-7041
Tutoring Assistance Center-Eastside Campus . . . . . . . . .713-718-7202
Upward Bound-Eastside Campus . . . . . . . . . . . . . . . . .713-718-7004
Workforce Development Programs . . . . . . . . . . . . . . . . .713-718-7079
Weekend College-Eastside Campus. . . . . . . . . . . . . . . .713-718-7045
Writing Center-Eastside Campus . . . . . . . . . . . . . . . . . .713-718-7023

## SOUTHWEST COLLEGE

Admissions-Alief . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-6918
Admissions-Stafford Campus . . . . . . . . . . . . . . . . . . . .713-718-7844
Admissions-West Loop Center . . . . . . . . . . . . . . . . . . .713-718-8920
Bookstore-West Loop Center . . . . . . . . . . . . . . . . . . . .713-218-0391
Bookstore-Stafford Campus . . . . . . . . . . . . . . . . . . . . .281-499-6413
Cashier-Gulfton Center . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7753
Child Care-Stafford Campus . . . . . . . . . . . . . . . . . . . . .713-718-6373
Counseling-Stafford Campus. . . . . . . . . . . . . . . . . . . . .713-718-7795`
Counseling-West Loop Center. . . . . . . . . . . . . . . . . . . .713-718-7889
Disability Support Services . . . . . . . . . . . . . . . . . . . . . .713-718-7910
Financial Aid-Stafford Campus . . . . . . . . . . . . . . . . . . .713-718-7785
Financial Aid-West Loop Center . . . . . . . . . . . . . . . . . .713-718-7722
Job Placement . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7718
Library—Alief ERC . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-6941
Library - Stafford . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7824
Library – West Loop . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7880
Testing/Placement-West Loop Center . . . . . . . . . . . . . . .713-718-7717
Recruiter-West Loop Center . . . . . . . . . . . . . . . . . . . . .713-718-7716
Student Life-Stafford Campus . . . . . . . . . . . . . . . . . . . .713-718-7791
Testing-Stafford Campus. . . . . . . . . . . . . . . . . . . . . . . .713-718-7993

# HCC Student Organizations

## CENTRAL

**Student Life Coordinator**
Denny Smith
713-718-6402
**Anthropology Club**
Marian McWhorter
713-718-2333
**Association of Latin American Students**
Carlos Villacis
713-718-6678
**Campus Crusade for Christ**
Margraret Eomurian
**Eagles Club**
Sue Moraska
713-718-6833
**Future Teachers Association**
Pamela Norwood
713-718-6263
**Health & Fitness Club**
Caprice Dodson
713-718-6086
**Math Club**
Tim Sever
713-718-6543
**Student Communications Association**
Napoleon Johnson
713-718-6305
**Student Government Association**
Denny Smith
713-718-6042
**TRIO Student Leadership Association**
Jose Salazar
713-718-6330
**World Friendship League**
Enguday Geberhiwot
713-718-6953
**Vietnamese Student Asssociation**
Tina Do
713-718-6107

## COLEMAN COLLEGE FOR HEALTH SCIENCES

**Alpha Eta Honor Society**
Janice Foster
713-718-7371
**Medical Assistant Student Association**
Cynthia Lundgren
713-718-7361
**Occupational Therapy Student Government**
Linda Joyce Williams
713-718-7392
**Pharmacy Technician Student Association**
Jeff Gricar
713-718-7353

**Physical Therapist Assistant Student Association**
Jan Myers
713-718-7386
**Radiologic Student Association**
Larry Mason & Melanie Hail
713-718-1645
**Respiratory Care Student Association**
Donna Westmoreland
713-718-7381

## NORTHEAST

**Student Life Coordinator**
TBA
713-718-8373
**Circle K International Club**
Marilyn Douglas-Jones
713-718-8018
**Criminal Justice Club**
Michael J. Edwards
713-718-8374
**International Student Association**
Patrick Nguyen
713-718-8150
**Northeast College Student Government Association**
Dr. Kenneth Holden
713-718-8067

## NORTHWEST

**Student Programs, Activities and Leadership Development Office**
Troy Jefferson
713 718-5702
**Student Life Coordinator Anthropology Club**
Ann Bragdon
713-718-5642
**Emerging Leaders**
Gisela Ables
713-718-5779
Mary Alice Wills
713-718-5716
**Face Foward Drama Club**
Debbie Shine
713-718-5606
**Music & Entertainment IndustryStudent Association**
Aubrey Tucker
713-718-5622
**Northwest College Students Association (Student Government)**
Troy Jefferson
713 718-5702
**Political Science Club**
Gary LeBlanc
713-718-5842

**Psi Beta (Psychology Honor Society)**
Joanne Hsu
713-718-5625
Linda Whitney
713-718-5687
**Rotaract Club**
Melba Martin
713-718-5656
**Sociology Club**
Michael Fonge
13-718-5827
**Students Reaching for Christ**
Helen Jones
713-718-5521
Aubrey Tucker
713-718-5622
**HCC Jazz Club**
Joe LoCascio
713-718-5651
**Underground Films and Events Club**
Michael Ronan
713-718-5750
**Creative Writing Club**
Michael Sofranko and Deanne Schlanger 713-718-5680

## SOUTHEAST

**Student Life Coordinator**
Tara Webb
713-718-7293
### Southeast College Student Government Association
Tara Webb
713-718-7293

## SOUTHWEST

**Student Life Coordinator**
Derrick Small
713-718-7791
**Broadcast Technology Student Association**
713-718-6725
**Campus Crusade for Christ**
Augie Sanchez
and Linda Leauvano
713-718-7802
**Delta Psi Omega Honor Society,Sigma Tau Cast**
John Corley
713-718-6361
**Digital Arts Club**
Patricia Porcynaluk
713-718-7891
**Math Club**
Eunice Kallarackal
713-718-7800
**Devwlopers Revolution Gaming Unit**
Remi Abraham
713-718-5728
**Gender Studies Club**
Marie Dybala and Amy Tan
713-718-7814

**Pakistan Student Association**
Dr. Larry Gonzalez
713-718-7780
**Psychology Club**
Dr. Barbara Lachar
713-718-6707
Dr. Elaine P. Adams
713-718-8206
**Southwest Fine Arts Student Association**
Cynthia Millis
713-718-7700
**Southwest Forensic Society**
Bill Ferreira
281-261-6725
**Southwest College Student Government Association**
Mary Page
713-718-7791
**Southwest Writers Club**
Helen Jackson
713-718-2223 X 35180

## SYSTEM

**Vice Chancellor, Student Success**
Irene Porcarello
713-718-5042
**Associate Vice Chancellor Student Success**
Dr. Cheryl Sterling
713-718-5041
**Manager, Student Services Initiatives.**
Shantay Grays
713-718-5043
**Habitat for Humanity Campus Chapter**
Alex Warren
713-718-2223 Ex. 40006

## HONORS PROGRAM

**Central**
Gloria Yampey-Jorg
713-718-6678
**Coleman college for Health Sciences**
Margaret Freeman
713-718-7372
**Northeast**
John Harvey
713-718-8328
**Northwest**
Joseph Kent McGaughy
713-718-5741
**Southeast**
Michelle Novak
713-718-7143
**Southwest**
Heidi Lange
713-718-6707

## ACADEMIC DEPARTMENTS

| | |
|---|---|
| Accounting | 713-718-7905 |
| (CE) | 713-718-6426 |
| (NW) | 713-718-5676 |
| (SE) | 713-718-8230 |
| (SW) | 713-718-7912 |
| Agricultural Sciences | 713-718-5591 |
| American Sign Language | 713-718-6846 |
| Anthropology | |
| (CE) | 713-718-6860 |
| (NE) | 713-718-8055 |
| (NW) | 713-718-5625 |
| (SE) | 713-718-7068 |
| (SW) | 713-718-7778 |
| Art | |
| (CE) | 713-718-6600 |
| (NE) | 713-718-8328 |
| (NW) | 713-718-5620 |
| (SE) | 713-718-7204 |
| (SW) | 713-718-7700 |
| Biology | |
| (CE) | 713-718-6050 |
| (NE) | 713-718-8049 |
| (NW) | 713-718-5435 |
| (SE) | 713-718-7056 |
| (SW) | 713-718-7775 |
| Chemistry | |
| (CE) | 713-718-6052 |
| (NE) | 713-718-8049 |
| (NW) | 713-718-5435 |
| (SE) | 713-718-7056 |
| (SW) | 713-718-7773 |
| Communication | |
| (CE) | 713-718-6600 |
| (NW) | 713-718-5785 |
| (SW) | 713-718-7820 |
| Computer Science | 713-718-6776 |
| Criminal Justice | 713-718-8319 |
| Dance | |
| (CE) | 713-718-6600 |
| (NW) | 713-718-5620 |
| Developmental English | |
| (CE) | 713-718-6678 |
| (NE) | 713-718-8328 |
| (NW) | 713-718-5410 |
| (SE) | 713-718-7109 |
| (SW) | 713-718-6362 |
| Developmental Math | |
| (CE) | 713-718-6441 |
| (NE) | 713-718-8049 |
| (NW) | 713-718-5511 |
| (SE) | 713-718-7056 |
| (SW) | 713-718-7770 |
| Distance Education | 713-718-5275 |
| Drama | |
| (CE) | 713-718-6600 |
| (NW) | 713-718-5620 |

| | |
|---|---|
| (SE) | 713-718-7204 |
| (SW) | 713-718-6361 |
| Economics | |
| (CE) | 713-718-6860 |
| (NE) | 713-718-8501 |
| (NW) | 713-718-5781 |
| (SE) | 713-718-7109 |
| (SW) | 713-718-7776 |
| Education | |
| (CE) | 713-718-6303 |
| (NE) | 713-718-8051 |
| (SW) | 713-718-7810 |
| English | |
| (CE) | 713-718-6671 |
| (NE) | 713-718-8328 |
| (NW) | 713-718-5785 |
| (SE) | 713-718-7109 |
| (SW) | 713-718-7814 |
| English for Foreign Speakers (Academic ESL) | |
| (CE) | 713-718-6678 |
| (NE) | 713-718-8181 |
| (NW) | 713-718-5410 |
| (SE) | 713-718-7204 |
| (SW) | 713-718-6362 |
| Foreign Languages | |
| (CE) | 713-718-6678 |
| (NE) | 713-718-8181 |
| (NW) | 713-718-5410 |
| (SE) | 713-718-7204 |
| (SW) | 713-718-7815 |
| Geography | |
| (CE) | 713-718-6063 |
| (NE) | 713-718-8501 |
| (NW) | 713-718-5781 |
| (SE) | 713-718-7068 |
| (SW) | 713-718-7777 |
| Geology | |
| (CE) | 713-718-6052 |
| (NE) | 713-718-8049 |
| (NW) | 713-718-5435 |
| (SE) | 713-718-7056 |
| (SW) | 713-718-7771 |
| Government | |
| (CE) | 713-718-6063 |
| (NE) | 713-718-8501 |
| (NW) | 713-718-5781 |
| (SE) | 713-718-7109 |
| (SW) | 713-718-7846 |
| or | 713-718-7776 |
| Guided Studies | |
| (CE) | 713-718-6070 |
| (NE) | 713-718-8051 |
| (NW) | 713-718-5410 |
| (SE) | 713-718-7109 |
| (SW) | 713-718-6362 |

History
(CE). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-6063
(NE). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-8501
(NW) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5781
(SE). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7068
(SW) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7777

Humanities
(CE). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-6671
(NE). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-8328
(NW) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5785
(SE). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7109
(SW) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7814

Intensive English
(NE). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-8181
(NW) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5410
(SE). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7204
(SW) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7750

Mathematics
(CE). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-6441
(NE). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-8049
(NW) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5511
(SE). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7056
(SW) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7770

Music
(CE). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-6600
(NW) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5620
(SE). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7204
(SW) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-6372

Nutrition
(CE). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-6050
(NE). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-8049
(SE). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7056
(SW) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7775

Philosophy
(CE). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-6063
(NE). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-8328
(NW) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5785
(SE). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7068
(SW) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-8777

Physical Education
(CE). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-6084
(NE). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-8049
(NW) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5435
(SW) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7776

Physics
(CE). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-6052
(NE). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-8049
(NW) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5435
(SE). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7056
(SW) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7773

Psychology
(CE). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-6860
(NE). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-8055
(NW) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5625
(SE). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7109
(SW) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7777

Sociology
(CE). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-6860
(NE). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-8055
(NW) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5625
(SE). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7068
(SW) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7776

Speech
(CE). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-6600
(NE). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-8328
(NW) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5620
(SE). . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7204
(SW) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-6360



**GENERAL INFORMATION**

# Workforce Departments

Accounting. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7905
Air Conditioning/Refrigeration . . . . . . . . . . . . . . . . . .713-718-6856
*Audio Recording and Filmmaking . . . . . . . . . . . . . . . .713-718-5602
*Automotive Technology . . . . . . . . . . . . . . . . . . . . . . .713-718-8100
Biotechnology . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5253
*Broadcast Technology . . . . . . . . . . . . . . . . . . . . . . . .713-718-6725
*Business Administration. . . . . . . . . . . . . . . . . . . . . . .713-718-5222
*Business Management. . . . . . . . . . . . . . . . . . . . . . . .713-718-5222
*Business Technology . . . . . . . . . . . . . . . . . . . . . . . .713-718-7808
Cardiovascular Technology . . . . . . . . . . . . . . . . . . . . .713-718-7650
Carpentry. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-6898
Cartography (GIS) . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7763
Chemical Engineering Technology . . . . . . . . . . . . . . . .713-718-5253
Chemical Laboratory Technology . . . . . . . . . . . . . . . . .713-718-5253
*Child Development. . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-6303
Cisco . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .281-491-9358
Clinical Laboratory Technician. . . . . . . . . . . . . . . . . . .713-718-5518
*Computer Science Technology . . . . . . . . . . . . . . . . . .713-718-6776
Construction Technology . . . . . . . . . . . . . . . . . . . . . . .713-718-6898
Cosmetology . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-6145
*Criminal Justice . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-8319
Culinary Arts . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-6069
Dental Assisting. . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7351
Diagnostic Medical Sonography . . . . . . . . . . . . . . . . .713-718-7356
Diesel Engine Mechanic and Repairer . . . . . . . . . . . .713-718-8100
Digital Communication (formerly TECC) . . . . . . . . . . .713-718-7890
Digital Gaming and Simulation . . . . . . . . . . . . . . . . . .713-718-6743
*Drafting and Design Technology . . . . . . . . . . . . . . . .713-718-5255
Electronic Engineering Technology . . . . . . . . . . . . . . .713-718-5226
*Emergency Medical Services. . . . . . . . . . . . . . . . . . .713-718-7692
*Fashion Design . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-6152
*Fashion Merchandising . . . . . . . . . . . . . . . . . . . . . . .713-718-6152
*Finance (Banking) . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5404
Filmmaking . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5602
*Fire Protection Technology. . . . . . . . . . . . . . . . . . . . .713-718-5236
Geographic Information Science (GIS) . . . . . . . . . . . .713-718-7763
Health and Physical Education/Fitness . . . . . . . . . . . .713-718-6084
Health Information Technology . . . . . . . . . . . . . . . . . .713-718-7347
Heating, Air Conditioning, Refrigeration . . . . . . . . . . .713-718-6856
Histologic Technician. . . . . . . . . . . . . . . . . . . . . . . . .713-718-7642
Horticulture . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5853
Hotel/Restaurant Management . . . . . . . . . . . . . . . . . .713-718-6072
Human Service Technology . . . . . . . . . . . . . . . . . . . .713-718-5539
Industrial Electricity . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-6898
Instrumentation Controls Engineering Technology . . . .713-718-5253
*Interior Design . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-6152
International Business . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5222
Interpreting/Sign Language . . . . . . . . . . . . . . . . . . . . .713-718-6845
Machining Technology . . . . . . . . . . . . . . . . . . . . . . . .713-718-6805
Manufacturing Engineering Technology . . . . . . . . . . . .713-718-6805
*Marketing Management and Research . . . . . . . . . . . .713-718-5222
*Medical Assistant . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7359
Music Arranging, Composition and Production . . . . . . .713-718-5620
Music Business . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5620

Music in Performance . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5620
*Nuclear Medicine Technology . . . . . . . . . . . . . . . . . .713-718-7356
Nursing (RN) . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7230
Occupational Therapy Assistant . . . . . . . . . . . . . . . . .713-718-7392
Paralegal Technology . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5404
*Pharmacy Technician . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7356
Photography . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-6152
*Physical Therapist Assistant . . . . . . . . . . . . . . . . . . .713-718-7391
Public Administration . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7386
Process Technology . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5253
Radiography . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7650
*Real Estate. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5229
*Respiratory Therapist. . . . . . . . . . . . . . . . . . . . . . . . .713-718-7382
Surgical Technology . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7362
*Technical Communication . . . . . . . . . . . . . . . . . . . . .713-718-7890
Travel and Tourism . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-6101
Veterinary Paramedic . . . . . . . . . . . . . . . . . . . . . . . .713-718-5519
*Video Production Technology. . . . . . . . . . . . . . . . . . .713-718-5602
Vocational Nursing. . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7330
Welding Technology . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-6899

*Named Exemplary Programs by the Texas Higher Education Coordinating Board*

# HCC Guarantee of Educational Excellence

The Houston Community College System is committed to excellence in education. As an expression of this commitment, HCC guarantees its graduates both transfer credit and entry level job skills. Such guarantee is a statement of confidence in the administration, faculty, and staff as well as a commitment to our educational mission to empower students so they may achieve their highest potential.

This guarantee is expressly subject to and limited to special conditions identified in the following sections on job competency and transfer credit. The HCC obligation under this guarantee is limited to providing additional courses under the conditions prescribed in these sections

## TRANSFER CREDIT

HCC guarantees to those students earning the Associate in Arts, Associate of Arts in Teaching and the Associate in Science degrees that their required courses will transfer to all public-supported Texas colleges and universities. If these courses are rejected by the senior institution of the student's choice, HCC will offer the student an alternate tuition-free course that will transfer.

Transferability means the acceptance of HCC credit toward a specific major and degree at a specific institution as defined by the student's written transfer/degree plan. However, no institution of higher education shall be required to accept in transfer, or apply toward a degree program, more than sixty-six (66) semester credit hours of lower-division academic credit. Institutions of higher education, may choose to accept additional credit hours by agreement. The transfer guarantee of academic courses is subject to the following conditions:

- The student must file a written transfer/degree plan by the time he/she has completed 12 semester hours or the equivalent at HCC. The transfer/degree plan must include the following: (a) the specific institution to which the student plans to transfer, (b) the bachelor's degree and major the student plans to pursue, and (c) the date such decision was made.

- Courses must be identified by the receiving institutions as transferable and applicable toward a specific major. The receiving institution determines the following:

- Total number of credits accepted for transfer

- Grades required

- Relevant grade point average

- Duration of transferability

- Required courses must have been taken at HCC no earlier than three years before the attempt to transfer.

If the above terms and conditions have been met and courses are not accepted by a receiving institution in transfer, the following terms and conditions are applicable:

- The student must submit to HCC a Notice of Transfer Credit Denial from the receiving institution (within 10 days of denial) so the resolution process may begin.

- If transfer credit denial is not resolved, tuition-free transfer courses (semester hour for semester hour) must be taken within a one-year period.

- Although courses are tuition-free, students will be responsible for any fees or course-related expenses, other than the course-required books that HCC is responsible for providing at no cost to the student.

## TRANSFER DISPUTE RESOLUTION

If a student is informed by a Texas public college or university that it will not accept the transfer of any HCC academic course credit, the student may have a case for a transfer dispute which will ultimately be resolved by the Texas Higher Education Coordinating Board (THECB).

Students should be cautioned that workforce course credits may or may not be transferable, depending upon the program and articulation agreements between HCC and the college or university involved. In addition, no institution of higher education shall be required to accept in transfer, or apply toward a degree program, more than sixty-six (66) semester credit hours of lower-division academic credit. Institutions of higher education, however, may choose to accept additional credit hours by agreement. If the student wishes to transfer credit later to work on a bachelor's degree, the student should consult with an HCC program advisor or counselor.

Rules and procedures for the resolution of transfer disputes regarding lower-division courses have been formulated by the THECB as follows:

- If an institution of higher education refuses to accept course credit earned by a student at another institution of higher education, the receiving institution shall provide written notice to the student and to the sending institution that transfer of course credit has been denied, along with the reasons for denial.

- Students may dispute the denial of transfer credit by contacting a designated official at either the sending or receiving institution.

- The two institutions and the student shall attempt to resolve the dispute in accordance with THECB rules and guidelines.

- If the transfer dispute is not resolved to the satisfaction of the student or the sending institution within 45 days of the date the student received written notice of denial, the institution denying the course credit transfer shall notify the Commissioner of Higher Education of the unresolved dispute and the reasons for the continued denial of course credit transfer.

- The Commissioner or a designee shall make the final determination in an unresolved dispute concerning the transfer of course credit and provide written notice of the determination to the involved student and institutions.

## JOB COMPETENCY GUARANTEE

HCC guarantees that graduates earning workforce certificates or degrees will possess the job skills required for entry-level employment in the occupational field for which they have been trained. (This guarantee does not imply the graduate will pass any licensing or qualifying examination for a particular career.)

Any HCC workforce program certificate or degree graduate whom the employer determines is lacking in the technical or general educational skills necessary for entry to the position shall be provided up to nine tuition-free credit hours. A program of instruction must be designed to meet specific occupational competencies identified in technical courses which are competency-based and emphasize the acquisition of the skills necessary for immediate employment and/or career advancement. Program competencies are identified in the course syllabus provided each student.

- This guarantee applies only to certificates and degrees of at least 30 semester hours or 360 contact hours.

- All course work in question must have been taken at HCC and taught by HCC instructors.

- The graduate must have earned the AAS or certificate in a workforce program listed in the HCC catalog no earlier than one year prior to the beginning date of the employment in question.

- The graduate must have completed the degree within a five-year period beginning at the point of first enrollment.

- The graduate must be employed full-time within 12 months of graduation and in a position directly related to the specific program completed at HCC.

- Within 90 days of the graduate's initial date of employment, the employer must certify in writing that the graduate lacks entry-level skills identified by HCC as program-exit competencies. The employer must specify the areas of deficiency.

- The employer, graduate, and HCC personnel will develop a written retraining plan. The retraining will be limited to nine credit hours or 360 contact hours related to the identified skill deficiency.

- The retraining must be completed within one calendar year from the time the plan is agreed upon.

- Although retraining is tuition-free, the graduate (or employer) is responsible for the cost of insurance, uniforms, fees, and any other course-related expenses. HCC is responsible for the cost of books required for the course work.

# Admissions

## GENERAL CRITERIA

A comprehensive community college system, HCC offers many programs designed to meet the needs of students according to their backgrounds and interests. As an open admissions two-year lower-division undergraduate institution, HCC has an "open door" admissions policy; all individuals who have at least one of the following qualifications are welcome to enroll:

- High School diploma, or

- General Education Development (GED) certificate, or

- College-level hours earned at other accredited colleges or universities, or

- International students who meet college and state requirements.

Admission to HCC does not guarantee admission to all programs. Based upon their assessment results and program objectives, students may be admitted conditionally and required to take developmental and/or prerequisite courses. In addition, special admission requirements have been established for programs that require students to possess previously learned skills and knowledge.

Applicants may obtain additional admission information from the Office of Admissions and Records, counselors, and campus offices

## INDIVIDUAL APPROVAL

Students who have not graduated, but are at least 18 years old, may be admitted to HCC with appropriate assessment scores. Students who do not score satisfactorily may be admitted conditionally.

## HIGH SCHOOL STUDENT ADMISSIONS

Currently enrolled high school or home-schooled students who have completed their sophomore year may enroll for a maximum of two HCC courses each semester. In general, students must have a 'B' average, satisfy the Texas Success Initiative (TSI) requirements, and not require remediation in the subject area in which they are enrolling. Students must furnish a high school transcript, TSI scores (or documentation for exemption from TSI requirements), and approval from their high school. Students must maintain a C average to continue taking courses at HCC while still attending high school.

HCC credits earned prior to high school graduation may not transfer to some senior colleges.

High school students may take HCC courses for college credit only or for dual (high school and college) credit.

## SPECIAL ADMISSIONS

Students who have not completed their sophomore year in high school may petition for admission. Students must present evidence of their ability to benefit from college classes. Requirements include an application, a letter of interest from the student, a letter of approval from the high school principal, high school transcripts, three letters of recommendation, test scores from an approved assessment, and an interview. Interested students should contact the appropriate Instructional dean at the college one month prior to start of classes.

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## DUAL CREDIT COURSE TUITION WAIVERS

HCC waives tuition on several academic and workforce dual credit courses in participating area high school districts. Students residing in the districts of Houston, Stafford, and parts of Missouri City ISDs pay nothing. Students residing out-of-district, but within the HCC service area of Alief, Fort Bend, Katy, North Forest, and Spring Branch Independent School Districts, pay the out-of-district fee. The dual credit courses count toward both a student's high school graduation requirements and a college-level certificate or degree. Following are eligibility guidelines for tuition-waived dual credit courses.

- To be eligible for any dual credit course, the student must at least be in 11th grade; complete an HCC admission application and submit an official high school transcript indicating TAKS, SAT, and/or ACT test scores (or bring official test score report if test scores do not appear on the high school transcript).

- To be eligible for academic dual credit courses, high school students must pass the applicable areas of a Texas Success Initiative test (TSI) such as THEA, ASSET, or COMPASS. The student may be exempt from state-mandated TSI testing if he/she meets the qualifying standards on applicable areas of the SAT, ACT, or the 11th Grade TAKS tests. The student may be waived from state-mandated TSI testing while in high school if he/she meets the qualifying standards on applicable areas of the 10th Grade TAKS test. Students may take college-level courses related to the area(s) of the test they pass. The student must also meet institutional course prerequisites.

- To be eligible for workforce dual credit courses, high school students must achieve at least the minimum high school passing standard on the Mathematics section and/or the English Language Arts with writing sample section on the Grade 10 or Grade 11 TAKS test. High school students who do not meet the high school passing standard of the Grade 10 or Grade 11 TAKS test will be limited to HCC developmental education courses or appropriate workforce Tech-Prep program courses. Students may only enroll in those workforce education dual credit courses for which they have demonstrated eligibility related to the area(s) of the test they pass, however, students must also meet institutional course prerequisites. Further assessment of college-level skills will be conducted, if relevant, during the first semester of enrollment.

- The class load of a high school student shall not exceed two dual credit courses per semester (fall, spring, and summer). However, under special circumstances that indicate a student with exceptional academic abilities is capable of additional college-level work, HCC academic deans may grant exceptions to this requirement.

- All dual credit students are responsible for purchasing their own textbooks and other required course materials.

- All dual credit course instruction and materials, including HCC-approved textbooks, must be at the equivalent level of the instruction and materials used for the identical courses taught on HCC campuses.

- If taught in the high school, the dual credit class must be composed solely of dual credit, advanced placement (AP), and/or college credit students, not regular high school students.

- For dual credit courses, grading criteria must allow faculty the opportunity to award high school only or high school and college credit depending upon student performance.

For further information, contact any HCC counselor at any of the college locations.

## TRANSFER STUDENTS

A transfer student is any student who has previous college work and plans to pursue a certificate or degree at HCC. Transfer students are required to send official transcripts from each previously attended college or university. Counselors evaluate transfer work at the time the degree plan is filed. Students are encouraged to meet with a an HCC counselor prior to registration but no later than their first semester of enrollment to complete their degree plan. Transfer students should follow the basic procedures for admission.

## TRANSFER LIMITATION

Students who intend to transfer to baccalaureate degree programs should be aware of possible limitations on lower-division course work. Universities will generally not accept in transfer or toward a degree program, more than 66 semester credit hours of lower division academic credit.

## NON-DEGREE SEEKING STUDENTS

A non-degree-seeking student is one who is taking course work for personal enrichment and is not seeking a degree or certificate. In many cases, these students might be referred to continuing education. These students are limited to an accumulation of 15 semester credit hours before they must visit with a counselor or advisor to confirm their status as non-degree seeking. These students are not eligible for state or federal financial aid. Non-degree-seeking students may still need assessment testing in order to meet institutional course prerequisites.

Another example of a non-degree-seeking student is the student who is regularly enrolled in another college or university but wishes to attend HCC summer or mini-terms and then return to his/her home school. The students must provide documentation (unofficial transcripts are acceptable in this instance) verifying enrollment during the preceding semester. If an unofficial transcript is accepted for advising and enrollment, the student should be informed that a hold will be put on his/her record until an official transcript is sent or presented. However, non-degree-seeking students may still need assessment testing in order to meet institutional course prerequisites.

## BASIC PROCEDURE FOR ADMISSIONS

- Submit an application at any HCC Admissions Center or apply online at http://www.hccs.edu. Students may complete the Texas Common Application for 2 years Institution but will need to allow extra processing time before registration. www.applytexas.org

- Calculate tuition based on residency. (See Residency section and Tuition and Fees)

- Participate in a college orientation session, required for all new students with fewer than 15 semester credit hours. (See current Class Schedule for additional details.)

- Provide official transcripts from ALL previously attended colleges and/or universities. (Unofficial copies may be used for advisement.) Mail transcripts to: Office of Student Records, P.O. Box 667517 Houston, TX 77266-7517.

- Complete an HCC assessment exam ( ASSET or COMPASS) or other approved TSI instrument, or provide documentation supporting a TSI Exemption or Waiver. (See current Class Schedule for TSI requirements.)

- Provide ACT, SAT, or TAKS scores to claim TSI exemption. (Unofficial copies may be used for counseling and placement purposes, but official copies will be needed for a TSI exemption.)

- Participate in further assessment if necessary for course placement.
- Meet with a counselor for course advisement.
- File a certificate or degree plan.

## READMISSION

### After Absence

Students who have not enrolled for two or more consecutive regular semesters (fall, spring) must complete the core residency questions and satisfy all applicable requirements for residency again prior to registration.

### After Suspension/Academic Withdrawal

Students seeking readmission after being placed on enforced Academic Withdrawal or Suspension at HCC must petition the appropriate academic or workforce dean at the college they attend. Students may be required to enroll in courses specified by the dean and/or have their course load limited.

## ACADEMIC FRESH START

State law (Educ. Code, Sec, 51.931) allows students with academic credits earned 10 or more years prior to the starting date of the semester in which they seek admission to any public institution of higher education to have those credits or grades not considered in the admission decision. If admitted under this Academic Fresh Start provision, the students may not receive any course credit for courses undertaken 10 or more years prior to enrollment. Students must complete a Fresh Start petition prior to admission to HCC.

## THE TEXAS SUCCESS INITIATIVE

During the 2003 session, the Texas Legislature repealed the Texas Academic Skills Program (TASP) and replaced it with the Texas Success Initiative (TSI). The TSI requires assessment of all new students, individualized success plans for those students whose skills are not at college level, and minimum state standards indicating students' college readiness for pursuit of certain certificate and all degree programs. Each college is required to report on the academic success of its students and the effectiveness of its developmental education programs

A major emphasis of TSI is to insure that all students be tested to determine if they are college ready in reading, writing, and mathematics. Testing is mandatory and must be completed prior to one's first enrollment at HCC unless it is determined that the student has been waived or exempted from TSI requirements.

A student will be considered as college ready when all institutional and state requirements have been met. Students still need to meet any course prerequisites as determined by an institution. Students who are not considered to be college ready, must participate in **college advising activities**. New students who are not college ready must meet with an HCC Counselor or Advisor prior to or during registration to initiate an individualized HCC Student Success Plan. The Plan will record student scores, educational objectives, and declaration of major; direct students to support services; provide benchmarks for tracking success, including the developmental education course sequence and retesting as necessary; and specify the requirements for achieving a degree or certificate.

For a complete description of the HCC Texas Success Initiative plan, please refer to the HCC TSI Plan online.

## GENERAL TSI INFORMATION

- Official verification of TSI test scores, exempt or waived status, must be provided prior to enrollment.
- Students are responsible for payment of all test fees associated with assessment testing.
- Students waived from TSI requirements will be monitored to determine continued eligibility. (This includes all Workforce Level 1 certificate programs and non-degree-seeking students.)
- Students with disabilities may apply for special testing accommodations.
- A student who fails an approved TSI test may need to retest before being declared college ready.

For a detailed explanation of policies governing TSI, see your counselor prior to enrollment. Note: All policies associated with the TSI are subject to change by the Texas Legislature.

## PLACEMENT TESTING

A variety of assessment instruments are used to determine placement into programs and courses at HCC. Meeting minimum passing standards as required by TSI does not preclude HCC from using a local assessment to determine placement in programs or courses. In addition, diagnostic assessment may be administered within the classroom.

Students with disabilities who need to request special testing accommodations should contact their college testing office prior to testing.

## HEALTH SCIENCES ADMISSIONS

All applicants to the Health Sciences Programs must contact the Health Sciences Department Admissions Office (1900 Pressler Dr., Houston,TX 77030, 713-718-7373) directly for formal application procedures, pre-entrance examination schedules, and general admission information. Also, see Health Sciences section.

## UPWARD BOUND

Upward Bound is a federally-funded program intended to help students transition from high school to college. It is a culturally diverse enrichment program conducted at HCC-Central and HCC-Southeast.

The program consists of Saturday activities throughout the academic year and a six-week summer session. High school students at both colleges participate in a variety of educational learning experiences, through counseling, academic instruction and tutoring in basic high school subjects. Field trips, seminars and cultural enrichment activities also are a part of the program.

Students in Upward Bound broaden their own horizons. With the help of individuals working in various careers, the students learn about jobs that may offer new opportunities in today's workforce. Visits to colleges and universities, museums and cultural events also contribute to new experiences for the students.

These activities are balanced by personal experiences to help students think and feel better about themselves. Through role models,leadership training, interviewing skills and a wide range of group experiences, students not only improve their self-images but also become more confident and knowledgeable.

## THE STUDENT SUPPORT SERVICES PROGRAM (TRIO)

This program is designed to provide support and enrichment activities to low-income, first-generation students. The program aims to assist students in retention, graduation, and transferring to 4-year universities. TRIO is a federal program funded by the U.S. Department of Education. It provides one-on-one tutoring, individualized counseling/advising, field trips, student leadership, workshops on a variety of pertinent topics, a supplemental grant to Pell eligible students, and much more. There is a 200 - student limit, so qualified students are selected on a first-come, first-served basis. Jose C. Salazar, Director. 713-718-6330.

# RESIDENCY
## ESTABLISHING RESIDENCY

HCC is required by state law to determine the residency status of all students for tuition purposes. All new students must provide the institution with a completed set of core residency questions and substantiating documentation to affirm their residence. Students who have not enrolled for two or more consecutive regular semesters (Fall & Spring) must complete the residency core questions and satisfy all applicable requirements to establish residency. Additional documentation may be requested at any time following registration.

Residency is determined at the time of registration, either by a student's current address or by the address of a parent or legal guardian if the student is being claimed or is eligible to be claimed as a dependent for federal income tax purposes. A post office box can be used for a mailing address but cannot be used to establish residency. It is the responsibility of the student to register under the correct residency classification. A complete set of rules and regulations for determining residency is available at each Admissions Office.

For tuition purposes, student will be classified according to the following guidelines. The Registrar is the final authority on all questions of residency.

## BASIC RESIDENCY REQUIREMENTS

For tuition purposes, according to Texas Education Code 54.075 and Texas Higher Educational Coordinating Board Rules 21.727, all students must submit a completed set of core residency questions. These questions will be used by the institution to determine if the person is a resident. The following persons shall be classified as Texas Residents and entitled to pay resident tuition at all institutions of higher education.

- A person who was enrolled at a Texas public institution during a fall or spring semester within the previous twelve months and was classified as a Texas resident for tuition purposes.

- A person who (a) graduated from a public or accredited private high school in this state or as an alternative to high school graduation received the equivalent of a high school diploma in this state, AND (b) maintained a residence continuously in this state for the 36 months immediately preceding the date of graduation or receipt of the diploma equivalent as applicable and the 12 months preceding the census date of the academic semester in which the person enrolls.

- A person or a dependent whose parent established a domicile in this state not less than 12 months before the census date of the academic semester in which the student enrolls in an institution AND maintained a residence continuously in the state for the 12 months immediately preceding the census date of the academic semester in which the person enrolls in an institution

## ADDITIONAL REQUIREMENT FOR NON-U.S. CITIZEN STUDENTS

A non-U.S. citizen who is living in the U.S. under permanent resident status, an appropriate visa, or who has filed an I-485 application for permanent residency and has been issued a fee/filing receipt or notice of action from USCIS showing the I-485 has been reviewed and has not been rejected has the same privilege or qualifying for resident status, for tuition purposes, as a U.S, citizen. Anyone permitted by Congress to adopt the United States as their domicile while living in this country is afforded the same privilege as citizens and permanent residents to establish Texas residency for tuition purposes. A list of visas eligible for establishing domicile is available at each college center.

## UNDOCUMENTED STUDENTS

Undocumented students who do not qualify for resident tuition under the Basic Residency Requirements are eligible for admission to HCC according to the following guidelines. All other undocumented students may be admitted but will be charged out-of-state tuition.

- Those who have resided within part of a taxing district (school district of Houston or Stafford, and the city of Missouri City) for one year immediately preceding registration and who attended or graduated from an in-state middle school or high school qualify for in-district tuition and fees.

- Those who have resided within the state of Texas for one year immediately preceding registration and who attended or graduated from an in-state middle school or high school qualify for out-of-district tuition and fees.

Documentation of residency and proof of school attendance must be submitted.

## IN-DISTRICT RESIDENCY

- Students who have met the basic Texas residency requirements and live in the HCC district (Houston ISD, Stafford MSD, and part of Missouri City).

- Students who have a street address in the district. Post office boxes and dormitory addresses cannot be used.

## OUT-OF-DISTRICT RESIDENCY

- Students who have met the basis Texas residency requirements and live outside the HCC district (Houston ISD, Stafford MSD, and part of Missouri City).

## OUT-OF-STATE RESIDENCY

- A student who has not resided in Texas for 12 months immediately preceding registration.

- A non-resident student classification is presumed to be correct as long as the residence in the state is primarily used for the purpose of attending school. To be reclassified as a resident (after one or more years of residency), the student must show proof of intent to establish Texas as his/her permanent legal residence.

A non-resident who marries a Texas resident must establish his/her own residency

## CHANGE OF RESIDENCY

Change from out-of-district residency to in-district residency must be made at the time of registration. Any address change which results in a change to in-district status must be accompanied by adequate documentation. Changes to in-district status made after registration will be effective the following semester.

A student who qualifies for a change from out-of-state to in-state residency status for tuition purposes may file a petition for change of residency. The petition must be filed by the Official Day of Record for the regular term in order to receive any refund of tuition paid for that term.

## PENALTIES

Any student who provides false information or withholds information for proper determination of residency is subject to any or all of the following penalties:

1. Withdrawal from all classes with no refund.

2. Dismissal from the institution.

3. Payment of the difference in fees within 30 days.

4. Loss of credit earned while under incorrect residency status.

## DIRECTORY INFORMATION

HCC considers the following as directory information: name, address, telephone, date of birth, degrees earned and dates, major field of study, dates of attendance, enrollment status, number of hours completed and in progress, student classification, and name of most recent previous institution attended.

HCC directory information is managed in compliance with the Texas Open Records Law. If you do not want this information released, you must complete a confidentiality request form at the college campus and submit to the Registrar's Office.

## INTERNATIONAL STUDENTS

HCC considers a student on any kind of visa other than a Permanent Resident Visa (I-551) to be an international student.

## ALERT - F, M AND J STUDENTS

SEVIS (Student and Exchange Visitor Information System) is the new automated system for tracking F, M and J visa students starting January 30, 2003. F-1 students must adhere to the new SEVIS immigration guidelines to maintain good standing status.

HCC officials are required to report to the USCIS all changes pertaining to F, M and J student status. Please contact the International Student Services office at 3100 Main for details: 713-718-8520.

International students who wish to study in the U.S. on an F-1 or M-1 visa must obtain an I-20 application form from HCC to present to the U.S. Embassy or Consulate in their county to request a student visa. A prospective student on any other type of visa, except tourist visa, may enroll at HCC provided it is a visa approved by the U. S. Citizenship and Immigration Services. The student should call the college of choice for admission instructions and meet the published application deadline. An international student under the age of 18 who wishes admission to HCC must provide documents to show he/she has achieved the equivalency of a U.S. high school diploma in his/her country. Students completing the ESOL Program may attend the college of their choice.

## B VISA HOLDERS

A prospective student holding a current B visa is not eligible to attend HCC. The B visa status must be changed to F-1 student status before enrollment can be permitted.

Students on a B visa who are interested in pursuing studies in the U.S. educational system must declare intention to study to the inspection officer at the U.S. port of entry. Once a college has been identified, the B visa holder can apply for a change to F-1 status and attend college only after the change has been approved by the U.S. Citizenship and Immigration Services.

## CONCURRENT ENROLLMENT

An international student with an I-20 from another college or university wishing to concurrently enroll at HCC must submit written permission from that college or university. English language skills and satisfaction of course prerequisites apply.

## SUMMER INTERNATIONAL TRANSIENT STUDENTS

Students who are attending another college or university and wish to take summer classes at HCC must provide a letter from their home institution which indicates they are in status with the USCIS and have been given permission to enroll at HCC.

## ENGLISH PROFICIENCY AND COURSE PLACEMENT

International students planning to enroll in academic programs must demonstrate English language proficiency. This can be accomplished by taking one of the following exams: TOEFL, CELSA, or an approved TSI test. Scores on the exams must meet state and institutional requirements for placement into college-level classes. Students who do not meet these requirements will be required to enroll in the Intensive English Program or Academic English-as-a-Second-Language.

## TRANSFER CREDIT FROM FOREIGN INSTITUTIONS

Students petitioning to receive transfer credit from foreign institutions must first have their transcripts evaluated by an approved evaluation service. For a list of approved evaluation agencies, students can check the Transfer Office Web site online. From the HCC home page (www. Hccs.edu), click on "For Students," then click on "How to Transfer." Students can also call the Transfer Office at 713-718-8534 for the list of approved evaluation services.

NOTE: ANY STUDENT WHO FALSIFIES RECORDS OF ANY KIND MAY BE DENIED ADMISSION OR DISMISSED FROM HCC.

## APPLICATION DEADLINE

International students intending to enroll in HCC should contact the Enrollment Support Office at 713-718-8520, or contact the International Student Advisor at the college the student wishes to attend for the issuance of an I-20 AB. The application deadlines are:

Fall Semester - July 15

Spring Semester - December 2

Summer Semester - April 15

## ADMISSIONS ASSISTANCE
## STUDENTS WITH DISABILITIES

The Disability Support Services Office assists students with documented physical, learning, or emotional disabilities in developing independence and self-reliance. Services include adaptive equipment and reasonable accommodations for admissions assistance, testing, academic advising, registration, and classroom instruction. Interpreting service is provided for students who are deaf/hard of hearing and assistive technology devices are provided on a case-by-case basis.

Students should request interpreting services as soon as possible or no less than 30 days prior to each academic semester they plan to attend HCC. The Disability Services Office cannot guarantee that services will be in place if insufficient student notice is provided.

Houston Community College is committed to compliance with the Americans with Disabilities Act (ADA) and the Rehabilitation Act of 1973 (Section 504). Students with special needs or disabilities, which may affect their ability to succeed in college classes or participate in college programs/activities, should contact the Disabilities Support Services (DSS) Counselor located at each college

## MODIFIED TESTING ACCOMMODATIONS

Modified testing accommodations are available to students who are unable to take a placement test under standard conditions because of a verified disability. The student must request the accommodations by contacting a DSS counselor and providing documentation supporting a qualifying disability. Academic accommodations are provided only after a student has properly registered for services through a DSS counselor. The counselor must be contacted a minimum of 10 working days prior to testing. It is recommended that the student start this process at least 30 days in advance of registration dates.

If the student is requesting special accommodations for the reglar THEA test, he/she must contact the test comapny (NES). Refer to the THEA registration bulletin.

The following guidelines must be followed to receive testing and academic accommodations:

1. The student contacts the DSS counselor at his/her college and makes an appointment.

2. The DSS counselor informs the student what documentation to bring to the intake meeting on the appointment date.

3. The DSS counselor advises the student whether the disability is a qualifying disability under the ADA.

4. If it is, the DSS counselor reviews the documented information the student has presented and makes an evaluation as to the proper accommodations.

5. The DSS counselor gives the individualized Request for Reasonable Accommodations letter to the student. It is the student's responsibility to present the letter to the Testing Officer; however, the DSS counselor will notify the Testing Office in advance if the student requires specialized equipment, and/or additional personnel are needed to administer the test.

6. The student contacts the Testing Office, arrangements are made, and the test is scheduled.

7. The student has the option to accept or reject the approved accommodations.

8. Once the student has tested, he/she may continue through the registration process.

9. The DSS Office will retain a copy of the accommodations letter in the student's folder; the Testing Office also will retain a copy of the letter.

## VETERANS

The Office of Enrollment Support offers services to veterans requesting educational benefits while enrolled in HCC. To apply for veterans benefits, call the veterans' representative at 713-718-8520. Eligible veterans or dependents include:

- Chapter 30 Veterans, who entered the military after July 1, 1985, and contributed to the educational program.

- Chapter 32 (VEAP) Veterans, who entered the military after January 1, 1977, and contributed to the VEAP program.

- Chapter 1606 (Selected Reserves) Reservists, who entered the Selected Reserves after July 1, 1985.

- Chapter 31 Veterans, who have a service connected disability which creates an employment problem.

- Chapter 35 (Dependents) Spouses or children of deceased or service-connected disabled veterans (100 percent).

- HAZLEWOOD ACT Veterans, who entered the service from Texas and have exhausted their veteran benefits and wish to continue college work can not be in default of a student loan.

## ACTIVATED RESERVISTS

An HCC student who is attending classes and is called to active duty during a semester may elect to do one of the following:

- Receive a refund of the tuition and fees paid for the semester from which the student withdraws.

- Receive an incomplete grade in all courses by designating "with drawn" on the transcript.

- Request instructor to assign an appropriate final grade or credit if the student has satisfactorily completed a substantial amount of course work and demonstrated sufficient mastery of the course material.

- Sign a Statement on the FAFSA certifying that you are not in default on a federal student loan and that you do not owe money back on a federal student grant.

- You must comply with Selective Service registration, if required.

- Not have eligibility suspended or terminated due to a drug-related conviction

## HOW DO I APPLY?

1. First, obtain your Personal Identification Number (PIN) to sign your Free Application for Federal Student Aid (FAFSA) and to make correction to your Student Aid Report (SAR).  You can apply for a PIN at www.pin.ed.gov.

2. Submit the Free Application for Federal Student Aid (FAFSA) – either through the Internet (using FAFSA on the Web at www. fafsa.ed.gov) or by completing a paper FAFSA or Renewal FAFSA.  There are advantages to using FAFSA on the Web: (1) it identifies potential errors right away and prompts you to make on-the-spot corrections, (2) you get online instructions for each question, and you can "chat" live online with a customer service representative if you have further questions (There's no charge for this help.), (3) the Department's Central Processing System will process your application quickly – in three to five days, provided you (and your parents, if applicable) have provided electronic signatures.

3. When you receive your Student Aid Report (SAR), review the information to make certain it is correct.  Use your PIN to make corrections to your SAR (using FAFSA on the Web at www. fafsa.ed.gov) .

4. Submit any required documents to the financial aid office before the April 15th  Priority Deadline.

5. Check your Student Self-Service account on the HCC web site for the status of your financial aid.

6. When you receive the Electronic Financial Aid Notification (EFAN) log on your Student Self-Service account to "Accept" or "Decline" your financial aid offer(s).

## WHEN SHOULD I APPLY?

Students should apply for financial aid each year on or after January 1st.   At HCC, April 15th is the Priority Deadline date for student aid applications.   Students, who meet the deadline date and qualify, may be awarded aid in time to register and purchase books. Any balance remaining from the student's award will be disbursed after the official date of record for the Second Start semester to the student's Chase E-Funds card or to the student's bank account via direct deposit.  The deadline for submitting an application for a federal student loan for the Fall only semester is October 1st.  The deadline for submitting an application for a federal student loan for the Fall and Spring semesters and the Spring only semester is March 1st.

Financial aid applications are accepted after the Priority Deadline, however, financial aid awards may not be available to pay for tuition, fees and books at the time of registration.  Students who submit a financial aid application after the Priority Deadline must be prepared to make other arrangements to pay for books, tuitions and fees.  The Installment Payment Plan is available through the college cashier's office.

## RETURN OF TITLE IV FUNDS

The Financial Aid Office is required by federal statute to recalculate federal financial aid eligibility for students who withdraw, drop out, are dismissed, or take a leave of absence prior to completing 60% of a payment period or term. The Federal Title IV financial aid programs must be recalculated in these situations.    Refunds are allocated in the following order:  Unsubsidized Federal Stafford Loans, Subsidized Federal Stafford Loans, Federal PLUS Loans, Federal Pell Grants, Academic Competitiveness Grants, Federal Supplemental Educational Opportunity Grant, and other aid.

All financial aid recipients who withdraw after the 60% point in their enrollment period must have their financial aid award reviewed and revised, if necessary, according to HCC or the Federal Return of Title IV Funds Calculation.

All financial aid recipients should contact their College Financial Aid Office prior to withdrawing from any or all courses. This notification is mandatory because all financial aid awards have certain enrollment requirements that must be met to maintain eligibility for these funds.

For additional information on the financial aid programs visit your College Financial Aid Office or the HCC Financial Aid web site at www. hccs.edu.

# Student Services

HCC offers a variety of services to students pursuing their educational goals. Detailed descriptions of the following services may be found in the Student Handbook or the Class Schedule. Student services are also detailed online at www.hccs.edu/students/index.htm.

## ALUMNI ASSOCIATION

The HCC Alumni Association was organized to advance the growth and development of the college; promote the personal, educational, and professional development of alumni; and establish and maintain a scholarship fund for individuals who would not otherwise be able to pursue a college education. Membership is offered to all who have successfully completed any course at HCC as well as to outstanding persons who possess the principles and ideals of the Association.

## CHILD CARE

HCC-Cenral offers childcare for all HCC full-and part-time students at the HCC Child and Family Center. The center serves children 6 weeks - 5 years of age, Monday thur Friday, 7:00 am - 5:30 pm. Childcare staff follow the guidelines of developmentally appropriate practice. This Texas licensed center is accerdited by the National Association of the Education for Young Children. Call 713 -718-KIDS or vist 3214 Austin Street for enrollment.

Childcare assistance infromation is also avaiable from the Counseling Dept. at each college or call:

Coleman College for Health Sciences. . . . . . . . . . . . . .713-718-7348
Northeast. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-8066
Northwest  . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5698
Southeast . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7079
Southwest . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-6373

## COOPERATIVE EDUCATION

The Cooperative Education program gives students the opportunity to integrate their classroom study with practical experience by working full - or part-time in a field related to their career goals.

For more information, please contact a transfer counselor.

## COUNSELING AND GUIDANCE

HCC maintains a staff of professional counselors to assist students. Specific counseling and guidance services are detailed in the HCC Student Handbook.

## DEVELOPMENTAL EDUCATION

HCC offers courses in basic skills. Students who have deficiencies in reading, grammar, and mathematics are encouraged to enroll in these designated courses. In addition, HCC offers courses designed to improve study habits and enhance the ability to succeed in college. Students should explore these opportunities with advisors and counselors during Registration.

The Learning Assistance Center at each of the six colleges offers a variety of services during the regular semester, including courses in composition, reading, basic math, vocabulary, and spelling development. Some courses are offered through flexible entry. Students should obtain specific information from counselors.

## DISABILITY SUPPORT SERVICES

Houston Community College does not discriminate on the basis of disability in the recruitment and admission of students or the operation of any of its programs and activities. The designated officer for compliance with the Americans with Disabilities Act (ADA) and Section 504 of the Rehabilitation Act of 1973 is the System's Affirmative Action/Compliance officer, 713-718-8606. The college System will make its campuses and programs, when viewed in their entirety, accessible to individuals with disabilities. Where it is impractical to modify a specific area to make it accessible, the college System will provide an accessible alternative.

The Disabilities Support Services (DSS) Offices assist students with documented physical, learning or emotional disabilities in developing independence and self-reliance. Services include adaptive equipment and reasonable accommodation for admissions assistance, testing, academic advising and registration, and classroom instruction. All services are determined on a case-by-case basis. Steps to request all services are outlined in Admissions Assistance, page 21.

Contact a DSS counselor at the college you plan to attend. DSS counselors for each of the five colleges may be reached at the following numbers:

Central College . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 713-718-6164
Coleman College for Health Sciences. . . . . . . . . . . . . .713-718-7631
Northeast College . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-8420
Northwest College . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5422
Southeast College . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7218
Southwest College . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7910
Interpreter Services . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-6333

For additional information or assistance, contact the ADA Coordinator for the System at 713-718-5165.

## HEALTH SERVICES

As a commuter institution, HCC does not operate a Student Health Center; however, HCC is concerned about the health and welfare of its students and provides important health information to students. The Student Handbook provides a description of health services.

## IMPORTANT INFORMATION ABOUT BACTERIAL MENINGITIS

This information is being provided to all new college students in the state of Texas. Bacterial meningitis is a serious, potentially deadly disease that can progress extremely fast – so take utmost caution. It is an inflammation of the membranes that surround the brain and spinal cord. The bacteria that cause meningitis can also infect the blood. This disease strikes about 3,000 Americans each year, including 100-125 on college campuses, leading to 5-15 deaths among college students every year. There is a treatment, but those who survive may develop severe health problems or disabilities

### What are the symptoms?
High fever, rash or purple patches on skin, light sensitivity, confusion and sleepiness, lethargy, severe headache, vomiting, stiff neck, nausea, and seizures.

There may be a rash of tiny, red-purple spots caused by bleeding under the skin, which can appear anywhere on the body.The more symptoms, the higher the risk.  If these symptoms appear, seek immediate medical attention.

### How is bacterial meningitis diagnosed?
Diagnosis is made by a medical provider and is usually based on a combination of clinical symptoms and laboratory results from spinal fluid and blood tests. Early diagnosis and treatment can greatly improve the likelihood of recovery.

### How is the disease transmitted?
The disease is transmitted when people exchange saliva (by kissing or sharing drinking containers, utensils, cigarettes, toothbrushes, etc.) or come in contact with respiratory or throat secretions.

### How do you increase your risk of getting bacterial meningitis?
- Exposure to saliva by sharing cigarettes, water bottles, eating utensils, food, kissing, etc.
- Living in close conditions such as a room/suite, dorm or group home.

### What are the possible consequences of the disease?
Death (in 8 to 24 hours from perfectly well to dead), permanent brain damage, kidney failure, learning disability,hearing loss, blindness, limb damage (fingers, toes, arms, legs) that requires amputation, gangrene, coma, and convulsions.

## Can the disease be treated?

- Antibiotic treatment, if received early, can save lives and chances of recovery are increased. However, permanent disability or death can still occur.

- Vaccinations are available and should be considered for those living in close quarters and college students 25 years of age or younger.

- Vaccinations are effective against 4 of the 5 most common bacterial types that cause 70% of the disease in the U.S. (but does not protect against all types of meningitis).

- Vaccinations take 7-10 days to become effective, with protection lasting 3-5 years.

- The cost of vaccine varies, so check with your health care provider.

- Vaccination is very safe; the most common side effects are redness and minor pain at injection site for up to two days.

- Vaccination is available at City of Houston health clinics.

For more information, contact your own health care provider, your local or regional Texas Department of Health Office at 713-767-3000, or go to the Web sites at:http://www.cdc.gov/ncidod/dbmd/diseaseinfo; www.acha.org

## HCCS FOUNDATION SCHOLARSHIPS

Some people think that only students with perfect academic success can receive a scholarship. In fact, HCC offers hundreds of scholarships for students from all kinds of academic and personal backgrounds pursuing a variety of career goals; many of these scholarships require enrollment in HCC and a minimum 2.0 GPA.

Below are just a few examples of the scholarships available to HCC students:

- Scholarships for students of Hispanic, African-American, and Asian heritage

- Scholarships for those pursuing degrees or certification in specific fields, such as the fine arts, nursing, technology, or photography

- Scholarships for students attending a specific HCC college or who live in a designated community

- Scholarships for students who have overcome adversity or who can show economic hardship

These scholarships have been established by generous donors who support Houston Community College and its students. For a full list of scholarships available to HCC students, please visit www.hccsfoundation.org.

## Applying for a Scholarship Is Easy

HCC students can apply for all available HCC scholarships through ONE online application at www.hccsfoundation.org. Applicants will be considered for every scholarship for which they appear eligible.

To complete the application, you will need to provide information in the following areas:

- personal information (name, social security number, citizenship, etc.)

- financial aid (Pell grants, other information)

- personal references

- job experience

- high school or college grade point average

- awards and honors

You will also be asked to share your academic and career goals and discuss any financial needs you may have.

Scholarships are awarded once a year in the spring for the following fall and spring semesters.

For more information about HCC scholarships, please visit www.hccsfoundation.org or call the HCCS Foundation scholarship specialist at 713-718-8494.

### About the HCCS Foundation

The Houston Community College System Foundation supports Houston Community College in its efforts to attract and educate Houston-area students with the desire and the dedication to learn—including many non-traditional students and those facing barriers to higher education. The Foundation's mission is to enhance the quality of life of our community and of our fellow citizens through fundraising efforts that improve access to higher education, support workforce training, and advance student learning at Houston Community College.

In addition to raising money for scholarships, the HCCS Foundation provides financial assistance to selected Houston Community College capital projects and provides grants to faculty projects that have the potential to advance student learning at Houston Community College. For information about donating to the HCCS Foundation, please visit

our Web site at www.hccsfoundation.org.

## ID CARD

An HCC student identification "e-card", is required for security identification and to access certain services, such as the library.

# INTERNATIONAL INITIATIVES

Modern global communication, transportation, and commerce have shaped a new interdependent world-wide economy. Education and training institutions must develop students capable of competing in an international workforce. The Office of International Initiatives coordinates and supports a variety of international programs for students and faculty and collaborates with foreign institutions abroad through partnerships.

- Training Programs: Training courses developed by college instructional programs, teach participants specific occupational skills. They may be taught in a participant's first language or in conjunction with the English-as-a-Second-Language program.

- Language Programs: Second-language programs developed for concentrated total immersion in a foreign language.

- Career Area: Overview of business/industry and education serving that profession in the host country.

- Study Abroad Programs: Traditional higher education in regular school classes abroad.

- Cooperative Education Exchange: Students are placed in paying jobs relating to their career area and attend scheduled college co-op classes in the host country.

- Cultural Exchange: Faculty/student groups participate in program activities that provide general knowledge concerning family life, culture, economy, working conditions, and education in the host country.

Interested students should contact the Office of International Initiatives at 3100 Main, 713-718-5058.

# LIBRARIES (LEARNING RESOURCES)

The library system consists of 11 libraries and 2 electronic resource centers (ERCs). Librarians are available to show you how to use the library and help you locate the resources you need. The HCC Library System maintains a large database of electronic resources as well as collections of books, magazines, newspapers, and audiovisual materials covering a wide variety of subjects. A complete description of the resources and library services is found in the online and print versions of the HCC Student Handbook.The portal to the libraries' online resources and services is theHCCS library webpage at http://library.hccs.edu .

### How Do I Find What I Want
The library system's online catalog is available in all campus libraries and ERCs and is accessible from many remote sites, including your home computers. This offers an easy-to-use, up-to-date source for finding books at HCC and other libraries as well as access to HCC's extensive list of full-text electronic resources and to the Internet.

### What If It Isn't At My Campus
Books at every HCC Campus library can be requested by students and will be delivered to any other campus library. When you find a book you want, simply click on the Request button and follow the easy to read instructions. Periodical and newspaper articles are available through the extensive list of electronic subscriptions maintained by HCC. You can access these databases from any HCC Computer or from your home or work computer, if you have Internet access. You will need an HCC Library card number to access the databases from non-HCC Computers. If you don't have an I.D. card or library card go to the libraries' catalog and click on "Get My Barcode" at http://librus.hccs.edu/ .

### How Do I Check Out What I Need
Use your HCC-ID or get an HCC library card to check-out materials from any HCC library or to access electronic resources from your home computer. Your HCC-ID will allow you to check out materials at any HCC Library. If you don't have an HCC-ID, you can request an HCC library card at any library or go to http://library.hccs.edu and click on "Get My Barcode." You will need to present a picture ID and proof of registration. Either card will allow you to check out materials and give you access to all of the libraries' electronic resources. Present your student ID card with the books you wish to borrow at the check-out desk. A book can be checked out for two weeks. You can renew it twice by telephone or the library website. Use of periodicals and audiovisual materials is limited to your college library.

### Overdue Books
The card inside your books shows when it is to be returned. If you fail to return it, a "hold" status is reported and reflected on your student record and will affect your ability to register for additional courses or obtain a transcript. Also, you will be blocked from further borrowing until the materials due are returned to the library.

### What About Other Libraries
Your HCC library card, along with a TexShare library card that you can obtain from any HCC library site enables you to check out materials from any other TexShare member library. This TexShare list includes most state-supported libraries, including all campuses of the University of Houston System and other community colleges in the Gulf Coast area. If you have questions, your campus librarian can direct you to other TexShare Libraries in the area. Remember, you will be subject to the loan rules of each individual institution—both as to the number of items you may check out and how long you may keep them out. You will also be responsible for returning the books to the lending library and for any overdue fines or lost book fees that particular library may charge.

# STUDENT PLACEMENT

The Student Job Placement Office assists current and former students in finding full-time, part-time, and cooperative education employment. Students can also build resumes and search for employment opportunities online at jobs.hccs.edu. Workshops are provided for those making career choices and developing job search skills. Specific services are outlined in the HCC Student Handbook.

# STUDENT DEVELOPMENT

The Student Development Office offers activities and programs that extend students' personal and intellectual growth. Some of the activities include: student government, through campus student associations; clubs and organizations relating to student interests; honor societies; student publications (The Egalitarian and organization newsletters); recreational sports; and cultural, social, and educational activities.

# TESTING

HCC Testing Centers and counselors use a variety of tests to assist students in determining special abilities, aptitudes, study habits, values, career interests, and personality traits. Testing Centers in each csollege within the System that offer COMPASS, ASSET, CELSA, and GED tests according to established schedules. The complete description of testing services is in the HCC Student Handbook.

# General Course Information

## NUMBERING OF COURSES

A course number has four digits. The first digit identifies the level of the course: "0" indicates a developmental level, "1" indicates freshman, and "2" indicates sophomore level.

The second digit indicates the student credit hour (SCH) credit value of the course. The third and fourth digits distinguish the courses within a program area. For example: English 1301 is a freshman level (1), three semester-hour course (3), part one (1).

HCC numbering course coincide, with the Texas Common Course Numbering System (TCCNS). All public colleges and universities in Texas either use the TCCNS or crosswalk courses to the TCCNS. Between 1996 and 2000, higher education in Texas adopted the Workforce Education Course Manual (WECM). All Workforce education programs and continuing education courses utilize WECM courses. These common numbering systems help colleges articulate courses and provide students with greater ease of course credit transfer.

## COURSE LOAD

A semester credit hour (SCH) student is full-time if the student is enrolled in 12 or more semester hours and part-time if enrolled in fewer than 12 hours. Half-time is six hours. To be considered full-time, during the summer a student must enroll in both summer terms or the ten-week session for a total of nine or more semester hours. A student is considered part-time if enrolled in only summer session or for less than nine hours.

During the fall and spring terms, students wishing to enroll in more than 18 credit hours must have special approval by a counselor. During each short summer session, students may schedule a maximum of seven semester hours or two academic courses. Students taking a long summer session only (10 or 11 weeks) or a combined long session and a six- or five-week session may schedule no more than 13 semester hours or four academic courses for the summer. During mini sessions students are limited to one course. Academic and Workforce Deans may approve an override for those students who have demonstrated exceptional academic ability.

The Physical Education (PHED) Department limits enrollment in the number of physical activity classes per semester to two classes.

Generally, a student in academic courses needs two hours of preparation outside of class for each hour of classroom instruction. Consequently, a student who is employed while attending college should consider the total demands on time from work, classes, and activities when deciding on a course load. Students who overload themselves may have scholastic difficulties.

## INSTRUCTIONAL FORMATS AT HCC

### Traditional
- All instruction is carried out in the classroom or lab as appropriate, via face-to-face instruction.

### Media- or Web-Enhanced (Hybrid)
- Hybrid courses meet half the time in a traditional face-to-face classroom environment and deliver the remainder of the course presentation, interaction, activities, and exercises through various electronic means (online, WebCT, podcasts, online video and audio formats, and new technologies as they become available). Instructors and students should be prepared to spend as much time engaged in course activities as in a traditional class, even though they will not be physically present in the classroom for all of it. In addition, the electronic and face-to-face portions of hybrid classes will be apportioned weekly so that every week during the semester the students will have 50% face-to-face instruction and 50% electronic instruction

### Distance
- A course listed in the Distance Education section of the class schedule.

- All instruction takes place via the Internet, teleconference, videotape, or other technologic means.

- person-to-person contact hours account for no more than 15% of the course for reviews and testing only, with the exception of those courses that have a lab requirement.

## FLEX-ENTRY COURSES

Flex-entry courses are semester hour courses offered at dates other than the regular term. They begin after the Official Date of Record for the term and may be held for varying numbers of weeks, but total instructional hours are the same as those in regular terms. Grades earned in flex-entry courses become part of the cumulative GPA.

## CLASS ATTENDANCE

Students are expected to attend classes regularly. Students are responsible for material covered during their absences, and it is the student's responsibility to consult with instructors for makeup assignments. Class attendance is checked daily by instructors. Although it is the responsibility of the student to drop a course for non-attendance, the instructor has the authority to drop a student for excessive absences.

A student may be dropped from a course for absenteeism after the student has accumulated absences in excess of 12.5 percent of the hours of instruction (including lecture and laboratory time). For example:

1. For a three credit-hour lecture class meeting three hours per week (48 hours of instruction), a student may be dropped after six hours of absences.

2. For a four credit-hour lecture/lab course meeting six hours per week (96 hours of instruction), a student may be dropped after 12 hours of absences.

Certain departments or programs may be governed by accrediting or certification standards that require more stringent attendance policies.

NOTE: IT IS THE RESPONSIBILITY OF THE STUDENT TO WITHDRAW OFFICIALLY FROM A COURSE.

Administrative drops are at the discretion of the instructor. Failure of a student to withdraw officially could result in the student receiving a grade of "F" in the course. For the deadline for course withdrawal, check the current course Schedule of courses.

## RELIGIOUS HOLIDAYS

A student who is absent from classes for the observance of a religious holiday may take an examination or complete an assignment scheduled for that day within a reasonable amount of time after the absence. The student must notify the instructor in writing at least two weeks prior to the anticipated absence. A "religious holiday" a holiday observed by a religion whose place of worship is exempt from property taxation under Section 11.20, Tax Code.

## REQUIREMENT OF ENGLISH COMPETENCE

Any student who, in the determination of the instructor and counselor, cannot be expected to benefit from a class because of the student's limited command of the English language will be advised to withdraw from the class. The student will be advised to enroll in Academic English-as-a-Second-Language (AESL) courses (ENGL 0340-0349), Intensive English, Developmental English, or the free Adult Basic Education ESL Program.

## SEMESTER CREDIT HOURS (SCH)

Academic credit is expressed in semester credit hours (SCH). Generally, one class lecture hour per week for the semester earns one SCH. A class meeting three lecture hours a week, therefore, has three SCH. Two to four hours of laboratory work per week for a 16-week semester are equivalent to one SCH.

## CONTINUING EDUCATION UNIT CREDIT (CEU)

Continuing Education Units (CEU) measure completion of segments in non-credit programs. One CEU represents 10 contact hours of participation. These units are not substitutes for college credits but a means of reporting continuing education activities. HCC, as an institution accredited by the Southern Association of Colleges and Schools, will award and note on a students transcript CEUs for all workforce-related Continuing Education courses. Many professional associations and industries require and recognize CEUs as an indication of an individual's professional growth and development.

## TECHNICAL COURSE ARTICULATION AND TECH-PREP PROGRAMS: HIGH SCHOOL TO HCC WORKFORCE PROGRAMS

HCC provides an educational and training structure that is sensitive to the transition of high school students to college. The process that facilitates orderly progression through programs of instruction is commonly referred to as "articulation." Articulation agreements have been made between HCC and high schools within the service area. These agreements allow students successfully completing certain workforce programs in high school to receive college credits, contingent upon enrollment in a similar workforce program at HCC and successful completion of nine semester hours.

Students interested in majoring in a workforce program who want to know if they qualify for placement credit under an articulation agreement should contact an HCC counselor or appropriate program administrator. Students may apply for additional placement credit for no more than 18 semester hours. Credit for more than four courses in any one subject area requires special approval.

## ADVANCED-STANDING CREDIT

Instructional programs may award credit for specialized educational training or experience. Each program will supply information on the types of supporting documents required. The Dean of Workforce Development will evaluate the training or experience. The dean may approve a maximum of 21 semester hours in specific courses related to the training or experience. The student must complete at least 12 semester hours at HCC in the technical program in which the student is enrolled. Advanced-standing credit will become an official part of the student's permanent record only after the student meets all other institutional and program requirements and has applied for graduation. The fee per evaluation is $25.

## CREDIT FOR MILITARY COURSE WORK

Advanced Placement (AP) credit is awarded for military course work equivalent to courses at HCC. Official military transcripts with ACE evaluations (i.e., AARTS or SMART transcript) should be submitted to the Registar. These will be forwarded to the appropriate instructional department for final evaluation and recommendations. The fee per evaluation is $25.

## CORRESPONDENCE COURSES

HCC normally grants transfer credit for correspondence courses taken from an accredited institution noted for credit on that institution's transcript.

## CREDIT BY EXAMINATION

HCC awards credit for qualified scores on nationally standardized examinations for the following instruments: College Board Advanced Placement (AP) Examinations, the College Level Examination Program (CLEP), International Baccalaureate (IB) higher level exams, and the Defense Activity for Non-Traditional Education Support (DANTES) subject exams. A maximum of 24 semester hours credit may be earned through Credit by Exam. Credit earned through these examinations will be recorded by the Registrar only after the student has completed six semester hours at HCC. Official test scores must be sent from the testing agency to the HCC Office of Admissions and Records. Contact the Testing Office for examination schedules and availability of the CLEP. Questions regarding credit received for the above national exams should be directed to the Transfer Office.

## DEPARTMENTAL EXAMINATIONS

Credit by departmental examination may be allowed in courses for which examinations have been developed and approved by the appropriate academic dean. Students desiring to take examinations for credit should apply to the academic dean for information, schedules, and arrangements. The fee per examination is $25.

## GRADING SYSTEM

HCC uses the following grading system:

A (90-100/Excellent) . . . . . . . . . . . . . . . . 4 points per semester hour
B (80-89/Good) . . . . . . . . . . . . . . . . . . . . 3 points per semester hour
C (70-79/Fair) . . . . . . . . . . . . . . . . . . . . . 2 points per semester hour
D (60-69/Passing*) . . . . . . . . . . . . . . . . . 1 point  per semester hour
F (Failing) . . . . . . . . . . . . . . . . . . . . . . . . 0 points per semester hour
IP (In Progress) . . . . . . . . . . . . . . . . . . . . 0 points per semester hour
W (Withdrawn). . . . . . . . . . . . . . . . . . . . . 0 points per semester hour
I (Incomplete). . . . . . . . . . . . . . . . . . . . . . 0 points per semester hour
AUD (Audit) . . . . . . . . . . . . . . . . . . . . . . . 0 points per semester hour

IP (In Progress) is given only in certain developmental courses. The student must re-enroll to receive credit. COM (Completed) is given in non-credit and continuing education courses.

To compute grade point average (GPA), divide the total grade points by the total number of semester hours attempted. The grades "IP," "COM," and  "I" do not affect GPA.

*A grade of "D" is not a passing grade in developmental courses.

## INCOMPLETES

The grade of "I" (incomplete) is conditional. A student receiving an "I" must arrange with the instructor to complete the course work within six months of the end of the incomplete term. After the deadline, the "I" becomes an "F." Upon completion of the coursework, the grade will be entered as I/grade on the student transcript. All "I"s must be changed to grades prior to graduation.

## HEALTH SCIENCES GRADING SYSTEM

See the Health Sciences section for those programs' grading system.

## NON-CREDIT AUDIT

During the first week of classes, an individual may register to audit most academic courses in the Humanities, Mathematics/Natural Sciences or Social Sciences program areas. The audit provides the usual learning opportunities without the course requirements such as attendance, written work, and tests. An audit cannot be changed to credit or credit to audit after the close of the Add / Drop period. Audit courses will be noted on the student's permanent record as Audit. Students receiving financial aid, Social Security, or veterans benefits may not be eligible for benefits for audit courses. Computer Science Technology courses, Commercial Music, Physical Education, private instruction, and all other workforce courses may not be audited.

## GRADE CHANGES

Questions regarding errors in grades should be directed to the Admissions and Records Office. Clerical errors will be corrected immediately by the Admissions and Records Office. Other grade changes must be initiated by the instructor through the appropriate academic dean. A change of grade request must be received within one year after the grade was issued to ensure any necessary corrections. (See www.hccs.edu/students, Student Course Grade Appeal Procedure.) A $20 research fee will be charged for any request made after one year.

## REPETITION OF COURSES

If a student repeats a course in which a grade (A-F) has been received, the highest grade received is the permanent grade for the course and will be used in computing the grade point average. All grades earned in a given course will be entered on the transcript. Other colleges may compute the GPA differently than HCC.

## HONORS

Each fall and spring semester, full-time students who complete 12 or more semester hours with a grade point average of 3.5 or better are named to the Dean's List. Students with 12 or more semester hours with a grade point average of 3.0 to 3.49 will be included on the Honor List. A student eligible for a Dean's List certificate should contact the Dean of Student Development Office.

Students who complete 12 or more semester hours with a GPA of 3.5 or better are eligible to join Phi Theta Kappa, the national honor society of American two-year colleges. Initiation into the society is held each October and March. Further information regarding Phi Theta Kappa may be obtained through the office of the Dean of Student Development.

HCC also operates an Honors Program at each of the HCC colleges. Students may choose to join the HCC Honors Program or may elect to take individual course sections for Honors credit. For more information, see your college Honors Director listed in the HCC Course Schedule or refer to the Honors Program Web site.

## ACADEMIC PROGRESS

A student's academic progress will be evaluated for the first time after a minimum of nine attempted semester hours. Each status is defined with the required action.

| Status | Definition | Action Required |
|---|---|---|
| Good Standing | Cumulative GPA of 2.0 or above | None |
| Probation | Cumulative GPA below 2.0 | Must see counselor to register |
| Continued Probation | Cumulative GPA below 2.0 AND term 2.0 or above | Must see counselor to register |
| Suspension | Previous term status of probation OR continued probation AND term GPA falls below 2.0 | Must have academic dean's approval to enroll. Dean may stipulate conditions for enrollment including, but not limited to, maximum hours and/or specific courses |

Students enrolled in multiple summer sessions will have their entire summer's work evaluated for determination of their academic status.

Students in certain Health Sciences programs are required to maintain a grade of "C" in all courses in order to continue in the program. Students not meeting these standards may continue to enroll at HCC in other programs as long as they maintain minimum HCC requirements.

Students are responsible for knowing whether they have passed the minimum standards for continuation in college. Ineligible students who register will be subject to dismissal with forfeiture of all tuition and fees.

## REQUIREMENTS OF SATISFACTORY PROGRESS FOR VETERANS

In order to be eligible for continued veterans benefits, a veteran who is placed on academic probation must attain a cumulative GPA of 2.0 for two consecutive semesters (full-time) or 24 semester hours (part-time). The student may continue to enroll at HCC while on academic probation, if all other conditions for enrollment are met; however, the Veterans Administration will be notified that the student is not meeting satisfactory progress requirements.

## REQUIREMENTS OF SATISFACTORY PROGRESS FOR FINANCIAL AID STUDENTS

Financial aid students must meet the following satisfactory progress requirements:

- Must maintain a term GPA of 2.0
- Must complete at least 75 percent of attempted courses for the academic year
- Must enroll in courses leading to an HCC degree or certificate

Students who do not maintain the standards listed above will be ineligible to receive financial aid. A student may appeal a suspension of financial aid by submitting a written request to the college Financial Aid Office.

A detailed description of the financial aid standards of progress requirement is available in the college Financial Aid Office.

## GRADE REPORTS

Grades are available online within one week of the end of the course. Students who need a copy of their grade report should contact the Office of Admissions and Records.

## TRANSCRIPT OF COLLEGE WORK

A transcript of college credits is an official copy of the student's permanent record bearing the HCC seal and the signature of the Registrar. Students may request a transcript copy by Internet at www.degreechk.com. Requests may also be made at any HCC campus. There is a charge for transcript processing. All admissions information must be on file and all holds cleared before a student's record will be released. A student should allow a week for delivery following the transcript request. Additional time should be allowed at the close of a semester.

Students should request transcripts of work completed at another institution from that institution.

## TRANSFER POLICY

An evaluation of transfer credit is completed at the time a student files the degree plan. All transfer students should meet with a counselor prior to enrollment and no later than their first semester at HCC to file their degree plan.

All official transcripts from accredited transfer institutions must be requested by the student and sent by the institution to the HCC Office of Admissions and Records. HCC awards transfer credit for passing work completed at accredited colleges and universities. An academic general education transfer course with a grade of "D" or above will be accepted. A technical workforce transfer course with a grade of "D" or above will be accepted if it was earned within five years of a student's initial enrollment (or re-enrollment) at HCC. Technical workforce credit older than five years may be transferred by departmental approval only. Grades for transfer courses are not calculated in the GPA.

This policy is applicable to all HCC programs except those, such as Health Sciences, that specify other requirements. Students who transfer credits with a GPA of less than 2.0 must earn additional grade points in the Houston Community College System to offset this deficiency. Students will not be graduated from HCC with less than a 2.0 GPA.

HCC has articulation agreements with Texas public senior institutions and some private institutions for the acceptance of HCC credits (usually not more than 66 semester hours) toward university degree requirements. A student who intends to transfer to a senior institution should consult an HCC counselor to design a course of study to avoid inappropriate course selection and possible loss of credit upon transfer.

There is no uniform policy among colleges and universities regarding transfer of credit with a course grade of "D." Developmental courses are not transferable.

## APPLICATION FOR GRADUATION

Prior to graduation, students must have official transcripts of credits transferred from other institutions sent to the Office of Admission and Records. A candidate for any degree or certificate must meet the graduation requirements in the catalog for the year of initial enrollment unless the student elects to graduate under the requirements of a later catalog. The candidate must indicate the catalog of choice when filing for graduation. A student who does not enroll at HCC for a period of more than one calendar year is required to graduate under the catalog requirement for the year of readmission.

To be considered as a candidate for the AA degree, AS degree, AAT degree, AAS degree, or Certificate of Completion, a student must submit a formal application for graduation and an updated educational plan at the time of registration for the final semester or not later than the graduation application deadline. If the student is not approved for graduation during the semester or instructional period in which the application is filed, HCC will retain the fee for one year and apply it when approval for graduation is granted.

Students who are unable to complete their degree plan on file at HCC may transfer up to 42 semester hours of equivalent courses from an accredited institution. These courses must be completed within three years of their last semester of enrollment at HCC. However, all other graduation requirements must be satisfied, including the residency requirement that 18 semester hours of a student's degree must be completed at HCC.

## PRIORITY APPLICATION DEADLINES:

- Fall - October 15

- Spring - February 15

- Summer - June 16

A candidate for a degree or certificate is not required to purchase a diploma. A student may request their records be reviewed at the conclusion of their course work so the appropriate degree or certificate will be recorded on the student's transcript.

## GRADUATION HONORS

Graduation honors will be awarded to students with superior cumulative GPAs. The following classifications of honors will be recognized on the student's transcript and diploma:

| | |
|---|---|
| Highest Honors | GPA 3.80 or above |
| High Honors | GPA 3.60 to 3.79 |
| Honors | GPA 3.35 to 3.59 |

HCC will use the following guidelines to compute honors eligibility:

1. The student must complete at least 18 semester hours credit at HCC

2. The student must complete requirements for the AA, AS, AAT or AAS degree

3. The grades in all HCC courses will figure in the cumulative GPA

4. Courses taken through the preceding fall semester will be used in computing the GPA for the ceremony. The student must have completed 75 percent of the course work for the degree at that time

## PARTICIPATION IN THE GRADUATION EXERCISES

HCC holds one student graduation ceremony each year in May. Candidates for degrees and certificates are encouraged to attend the graduation ceremonies. Students who completed course requirements the previous December or who plan to complete course requirements the following August may participate in the May ceremony.

# Academic Degrees

The Associate in Arts, the Associate of Arts in Teaching, and the Associate in Science degrees can give you a good start before transferring to a four-year university. These academic degrees provide a solid foundation through a traditional liberal arts education. Studies include the humanities and fine arts, social sciences, communication, teacher education, mathematics, and science. The liberal arts develop critical and analytical skills demanded by constantly changing environments. After transfer to a four-year university, you may concentrate in a major area of study during your junior and senior years.

## ASSOCIATE IN ARTS (AA)

The Associate in Arts is intended primarily for students planning on transferring to a senior college or university to receive a baccalaureate degree in the following areas: communication, business, social sciences, humanities, and fine arts. Commencing the fall of 1999, all Associate in Arts academic core curriculum courses taken at HCC are guaranteed to transfer and count toward the core curriculum at all Texas public higher educational institutions.

In addition, if a student successfully completes any part of a field of study (FOS) curriculum developed by the Texas Higher Education Board, the FOS courses will be transferred to a Texas public higher educational institution and must be substituted for that institution's lower division requirements in the degree program containing the field of study. The student shall receive full academic credit for the transferred FOS courses in the related university degree program. HCC has developed specialized transfer plans for specific majors and for specific universities. Students should obtain appropriate transfer plans including FOS courses from a counselor. Students also need to be aware that universities often have limitations on the amount of credit that can transfer from community colleges to universities. That limit is usually around sixty-six semester hours taken at community colleges.

## REQUIRED ACADEMIC CORE*

ENGL 1301    Composition I ................................................................. 3
ENGL 1302    Composition II ................................................................ 3
Oral Communication (choose one) ........................................................ 3
    ARAB 1411,1412; COMM 1307; CHIN 1411, 1412; FREN 1411, 1412; GERM 1411,1412 1412; JAPN 1411, 1412; KORE 1411, 1412; RUSS 1411, 1412; SPAN 1411, 1412; SPCH 1311, 1315, 1318, 1321, 1342, 2335, or 2341; VIET 1411, 1412
Humanities    (choose one) ................................................................. 3
    ENGL 2322, 2323, 2327, 2328, 2332, 2333, 2334,2335, 2336, 2341, 2342, 2343, 2353, 2374; PHIL 2306, 2316, 2317
Mathematics ........................................................................................ 3
    MATH 1314, 1316, 1324, 1325, 1332, 1342, 2412 , 2413, 2414, 2415
Natural Science with lab ...................................................................... 4
    ASTR 1403, 1404, 1481, 1482; BIOL 1308 & 1108, 1309 & 1109, 1406, 1407, 1411, 1413, 2401, 2402, 2406, 2416, 2420, 2428; CHEM 1405, 1407;1411, 1412, 1413, 1414, 2423, 2425, 2427; ENVR 1401; GEOL 1401, 1402, 1403, 1404, 2430; PHYS 1401, 1402, 2325 & 2125, 2326 & 2126, 2425, 2426
    Note: Course must have a lab. Please see p. 42 for Natural Science core curriculum restrictions.

Natural Science (lab optional) .............................................................. 3
    ANTH 2301; ASTR 1303, 1304, 1381, 1382, 1403, 1404, 1481, 1482; BIOL 1308, 1309,1406, 1407, 1411, 1413, 2401, 2402, 2406, 2416, 2420, 2428; CHEM 1305, 1307, 1405, 1407, 1411, 1412, 1413, 1414, 2423, 2425, 2427; ENVR 1301, 1401; GEOG 1301; GEOL 1345, 1347, 1401, 1402, 1403, 1404, 2430; PHYS 1305, 1306, 1401, 1402, 2325, 2326.
    Note: Please see p. 43 for Natural Science core curriculum restrictions.
History (choose two) ............................................................................ 6
    HIST 1301, 1302, 2301
GOVT  2301    Government I ................................................................. 3
GOVT  2302    Government II ................................................................ 3
Visual/Performing Arts (choose 3 hours) ............................................. 3
    Any 3 semester hours of ARTS; DANC; DRAM; MUAP, or MUSI courses.
Social/Behavioral Science (choose one) .............................................. 3
    ANTH 2302, 2346, 2351; ECON 2301, 2302, 2311; GEOG 1302 , 1303, 2312; GOVT 2304; HIST 2389; PHIL 2307; PSYC 2301, 2389; SOCI 1301, 1306, 2301, 2319, 2336, 2374; TECA 1354
Cross/Multicultural Studies (choose one) ............................................ 3
    ANTH 2302, 2346, 2351; ARTS 1301, 1303, 1304; ECON 2311; ENGL 2322, 2323, 2327, 2328, 2332, 2333, 2334, 2335, 2336, 2341,2342, 2343, 2353, 2374; DANC 2303, EDUC 1325;GEOG 1302,1303, 2312; HIST 2311,2312, 2321, 2322, 2328, 2380, 2381; HUMA 1301, 1305, 2319, 2323; MUSI 1306, 1308,1309; PHED 1304; PHIL 1301, 1304, 2307, 2316, 2317, 2321; PSYC 2370; SOCI 1301, 2319, 2374; SPCH 1318; any Foreign Language 1411, 1412, 2311, or 2312.
Other Required Courses
College-Level Electives ....................................................................... 17
* No one course may be used to fulfill more than one core category.

## AA DEGREE TRANSFER ADVISING PLANS

### Agricultural Sciences Specialty Area
### Agricultural Sciences Advising Plan
ENGL 1301 Composition I ...................................................................... 3
ENGL 1302 Composition II ..................................................................... 3
Oral Communication ............................................................................. 3
Humanities (choose one) ...................................................................... 3
MATH 1314 College Algebra ................................................................. 3
MATH 1324 Finite Mathematics OR MATH 1342 Statistics ..................... 3
American History .................................................................................. 6
GOVT 2301 Government I....................................................................... 3
GOVT 2302 Government II ..................................................................... 3
BIOL 1413 General Zoology OR
BIOL 1411 General Botany..................................................................... 4
CHEM 1411 General Chemistry I .......................................................... 4
AGRI 1319 General Animal Science ...................................................... 3
AGRI 1131 The Agricultural Industry ..................................................... 1
AGRI Electives (see department chair for advising).............................. 15

## Arts Specialty Area

ENGL 1301 Composition I ........................................................... 3
ENGL 1302 Composition II .......................................................... 3
Oral Communication .................................................................. 3
Humanities (choose one) ........................................................... 3
Mathematics ................................................................................3
Natural Science (one course must have a lab) ........................... 7
American History ....................................................................... 6
GOVT 2301 Government I ........................................................... 3
GOVT 2302 Government II .......................................................... 3
Social/Behavioral Science (choose one) ................................... 3
ARTS 1303 Art History I (Fine Arts) ........................................... 3
ARTS 1304 Art History II (Cross Cultural) ................................. 3
ARTS 1311 Foundation Design I ................................................ 3
ARTS 1312 Foundation Design II ............................................... 3
ARTS 1316 Foundation Drawing I .............................................. 3
ARTS 1317 Foundation Drawing II ............................................. 3
Electives (see Art department chair for advising) ...................... 6

## Dance Specialty Area

ENGL 1301 Composition I ........................................................... 3
ENGL 1302 Composition II .......................................................... 3
Oral Communication .................................................................. 3
Humanities (choose one) ........................................................... 3
Mathematics ............................................................................. 3
Natural Science (one course must have a lab) ........................... 7
American History ....................................................................... 6
GOVT 2301 Government I ........................................................... 3
GOVT 2302 Government II .......................................................... 3
Social/Behavioral Science (choose one) ................................... 3
DANC 2303 Dance Appreciation (Cross Cultural) ..................... 3
DANC 2325 Anatomy & Kinesiology .......................................... 3
DANC 1301 Dance Composition ................................................ 3
DANC 1341 & 1342 Ballet I & II (Fine Arts) ............................... 6
DANC 1345 & 1346 Modern Dance I & II .................................... 6
DANC 1305 & 1306 World Dance I & II ....................................... 6
DANC 1347 & 1348 Jazz Dance I & II ......................................... 6
(See Dance department chair for advising)

## Drama Specialty Area

ENGL 1301 Composition I ........................................................... 3
ENGL 1302 Composition II .......................................................... 3
SPCH 1342 Voice and Diction (Oral Comm) .............................. 3
Humanities (choose one) ........................................................... 3
Mathematics ............................................................................. 3
Natural Science (one course must have a lab) ........................... 7
American History ....................................................................... 6
GOVT 2301 Government I ........................................................... 3
GOVT 2302 Government II .......................................................... 3
Social/Behavioral Science (choose one) ................................... 3
DRAM 1310 Introduction to Theatre (Fine Arts) ........................ 3
DRAM 1322 Stage Movement ..................................................... 3
DRAM 1341 Stage Makeup ......................................................... 3
DRAM 1351 Acting I ................................................................... 3
DRAM 1352 Acting II .................................................................. 3
DRAM 1330 Theatre Practice I ................................................... 3
DRAM 2331 Theatre Practice II .................................................. 3
DANC 2303 Dance Appreciation (Cross Cultural) ..................... 3
(See Drama department chair for advising)

## Music Specialty Area

ENGL 1301 Composition I ........................................................... 3
ENGL 1302 Composition II .......................................................... 3
Oral Communication .................................................................. 3
Humanities (choose one) ........................................................... 3
Mathematics ............................................................................. 3
Natural Science (one course must have a lab) ........................... 7
American History ....................................................................... 6
GOVT 2301 Government I ........................................................... 3
GOVT 2302 Government II .......................................................... 3
Social/Behavioral Science (choose one) ................................... 3
Major Instrument (FOS) ............................................................. 4
Ensemble (FOS) ......................................................................... 4
MUSI 1211-1212, 2211-2212 Music Theory (FOS) .................... 8
MUSI 1216-1217, 2216-2217 Ear Training/Sight Singing (FOS) ... 8
MUSI 1308 Music Literature I (Fine Arts, FOS) ......................... 3
MUSI 1309 Music Literature II (Cross Cultural) ......................... 3
(See Music department chair for advising)

## Journalism / Mass Communication Specialty Areas

ENGL 1301 Composition I ........................................................... 3
ENGL 1302 Composition II .......................................................... 3
COMM 1307 Mass Communication (FOS, Oral Communication) ...... 3
English Literature (choose one) ................................................. 3
MATH 1314 College Algebra ...................................................... 3
Natural Science (one course must have a lab) ........................... 7
American History ....................................................................... 6
GOVT 2301 Government I ........................................................... 3
GOVT 2302 Government II .......................................................... 3
Social/Behavioral Science ........................................................ 3
Fine Arts (choose 3 hours) ........................................................ 3
SPCH 1318 (Cross/Multicultural) .............................................. 3
COMM 1335 Introduction to Radio/TV (FOS) ............................. 3
COMM 2302 Priniciples of Journalism (FOS) ............................ 3
COMM 2305 Editing & Layout (FOS) ......................................... 3
COMM 2311 News Gathering & Writing I (FOS) ......................... 3
Major-related Electives .............................................................. 6
(See Communication department chair for advising)

## Advertising / Public Relations Speciality Area

ENGL 1301 Composition I ........................................................... 3
ENGL 1302 Composition II .......................................................... 3
COMM 1307 Mass Communication (Oral Communication) ......... 3
English Literature (choose one) ................................................. 3
MATH 1314 College Algebra ...................................................... 3
Natural Science (one course must have a lab) ........................... 7
American History ....................................................................... 6
GOVT 2301 Government I ........................................................... 3
GOVT 2302 Government II .......................................................... 3
Fine Arts (choose 3 hours) ........................................................ 3
Social/Behavioral Sciences ...................................................... 3
Cross Cultural Studies .............................................................. 3
COMM 2327 Advertising (FOS) .................................................. 3
COMM 2330 Public Relations (FOS) .......................................... 3
COMM 2305 Editing and Layout (FOS) ...................................... 3
COMM 2311 News Gathering & Editing I (FOS) ......................... 3
Major-related Electives .............................................................. 6
(See Communication department chair for advising)

## Radio And Television Broadcasting / Broadcast Journalism Specialty Areas

ENGL 1301 Composition I ....................................................... 3
ENGL 1302 Composition II ...................................................... 3
COMM 1307 Mass Communication (FOS, Oral Comm.) ....................... 3
English Literature (choose one)............................................... 3
MATH 1314 College Algebra ................................................. 3
Natural Science (one course must have a lab)............................... 7
American History .............................................................. 6
GOVT 2301 Government I...................................................... 3
GOVT 2302 Government II..................................................... 3
Social/Behavioral Science .................................................... 3
Fine Arts (choose 3 hours) ................................................... 3
SPCH 1318 (Cross/Multicultural).............................................. 3
COMM 1335 Introduction to Radio/TV (FOS)................................. 3
COMM 1336 TV Production I (FOS)........................................... 3
COMM 2311 News Gathering & Writing I (FOS) ............................. 3
COMM 2366 Introduction to Film.............................................. 3
Major-related Electives ....................................................... 6
(See Communication or Broadcast department chair for advising)

## General Communication / Communication Studies / Speech Communication / Speech & Rhetorical Studies /Organizational Communication Specialty Areas

ENGL 1301 Composition I ....................................................... 3
ENGL 1302 Composition II ...................................................... 3
SPCH 1311 Intro to Speech Communication (FOS, Oral Comm) ........... 3
English Literature (choose one)............................................... 3
MATH 1314 College Algebra ................................................. 3
Natural Science (one course must have a lab)............................... 7
American History .............................................................. 6
GOVT 2301 Government I...................................................... 3
GOVT 2302 Government II..................................................... 3
Social/Behavioral Science .................................................... 3
Fine Arts (choose 3 hours) ................................................... 3
SPCH 1318 (Cross/Multicultural) (FOS)...................................... 3
SPCH 2333 Discussion and Small Group Communication (FOS) .......... 3
Speech Performance elective (FOS, choose two courses from:
    SPCH 1315, 1321, 1342, 2335, 2341)........................... 3
Major-related Electives ....................................................... 12
(see Speech department chair for advising)

## Philosophy Specialty Area

ENGL 1301 Composition I ....................................................... 3
ENGL 1302 Composition II ...................................................... 3
Oral Communication............................................................ 3
PHIL 2316 Ancient/Medieval Philosophy (Humanities)....................... 3
MATH 1314 College Algebra ................................................. 3
Natural Science ............................................................... 7
American History .............................................................. 6
GOVT 2301 Government I...................................................... 3
GOVT 2302 Government II..................................................... 3
PHIL 2307 (Social/Behavioral Science)....................................... 3
Fine Arts (choose 3 hours) ................................................... 3
Foreign Language 1411 and 1412 (Cross Cultural) ......................... 8
PHIL 1301 Introduction to Philosophy or PHIL1303 ......................... 3
PHIL 2303 Logic ............................................................... 3
PHIL 2306 Ethics .............................................................. 3
PHIL 2317 Modern/Contemporary Philosophy ............................... 3

## Liberal Arts Specialty Area

ENGL 1301 Composition I ....................................................... 3
ENGL 1302 Composition II ...................................................... 3
Oral Communication............................................................ 3
Humanities (choose one)....................................................... 3
Mathematics .................................................................. 3
Natural Science (one course must have a lab)............................... 7
American History .............................................................. 6
GOVT 2301 Government I...................................................... 3
GOVT 2302 Government II..................................................... 3
Fine Arts (choose 3 hours) ................................................... 3
Social/Behavioral Science (choose one) ..................................... 3
Foreign Language 1411(Cross Cultural course)............................. 4
Foreign Language 1412 ....................................................... 4
Foreign Language 2311 ....................................................... 3
Foreign Language 2312 ....................................................... 3
Additional Humanities electives .............................................. 6

## Criminal Justice Specialty Area

ENGL 1301 Composition I ....................................................... 3
ENGL 1302 Composition II ...................................................... 3
Oral Communication............................................................ 3
Humanities (choose one) ...................................................... 3
MATH 1314 College Algebra ................................................. 3
PSYC 2317 Behavioral Statistics .............................................. 3
Natural Science *(one course must have a lab)* ............................. 7
American History .............................................................. 6
GOVT 2301 Government I...................................................... 3
GOVT 2302 Government II ..................................................... 3
CRIJ 1301 Introduction to Criminal Justice (FOS)............................ 3
CRIJ 1306 Courts and Criminal Procedures (FOS)........................... 3
CRIJ 2313 Correctional Systems and Practices (FOS)....................... 3
CRIJ 2328 Police Systems and Practices (FOS) ............................. 3
CRIJ 1310 Fundamentals of Criminal Law ................................... 3
SOCI 2336 Criminology........................................................ 3
Cross Cultural (choose 3 hours).............................................. 3
Fine Arts (choose 3 hours) ................................................... 3

## Social/Behavioral Science Specialty Area

ENGL 1301 Composition I ....................................................... 3
ENGL 1302 Composition II ...................................................... 3
Oral Communication............................................................ 3
Humanities (choose one)....................................................... 3
MATH 1314 College Algebra .................................................. 3
PSYC 2317 Statistics .......................................................... 3
Biology or Chemistry .......................................................... 8
American History .............................................................. 6
GOVT 2301 Government I...................................................... 3
GOVT 2302 Government II..................................................... 3
Fine Arts (choose 3 hours) ................................................... 3
PSYC 2301 General Psychology (Behavioral Science course)............... 3
Anthropology Elective.......................................................... 3
SOCI 1301 Introduction to Sociology (Cross Cultural course) .............. 3
Foreign Language (B.A.) or ................................................... 14
Additional Math/Science (B.S.)................................................ 7
Additional Behavioral Science ............................................... 0-6

## Pre-Business Specialty Area

ENGL 1301 Composition I ....................................................... 3
ENGL 1302 Composition II ...................................................... 3
SPCH 1321 Business & Professional Speech.................................. 3
Humanities (choose one)....................................................... 3

MATH 1314 College Algebra ...................................................... 3
MATH 1324 Finite Mathematics................................................ 3
MATH 1325 Calculus with Applications (FOS)...................................... 3
Natural Science (one course must have a lab)....................................... 7
American History ...................................................................... 6
GOVT 2301 Government I.................................................... 3
GOVT 2302 Government II ................................................... 3
Fine Arts (choose 3 hours) .................................................. 3
PSYC 2301 General Psychology (Behavioral Science)........................ 3
SOCI 1301 Introduction to Sociology (Cross Cultural) ...................... 3
ACCT 2301 Principles of Accounting I (FOS).................................... 3
ACCT 2302 Principles of Accounting II (FOS).................................. 3
ECON 2301 Macroeconomics (FOS).................................... 3
ECON 2302 Microeconomics (FOS) ....................................... 3
BCIS 1405 Business Computer Applications (FOS)........................ .4

## Business Information Systems / CIS / MIS Specialty Area

ENGL 1301 Composition I...................................................... 3
ENGL 1302 Composition II..................................................... 3
SPCH 1321 Business & Professional Speech......................................... 3
Humanities (choose one)...................................................... 3
MATH 1314 College Algebra ...................................................... 3
MATH 1324 Finite Mathematics................................................ 3
MATH 1325 Calculus with Applications (FOS)...................................... 3
Natural Science (one course must have a lab)....................................... 7
American History ...................................................................... 6
GOVT 2301 Government I.................................................... 3
GOVT 2302 Government II ................................................... 3
Fine Arts (choose 3 hours) .................................................. 3
SOCI 1301 Introduction to Sociology (Cross Cultural) ................... 3
ACCT 2301 Principles of Accounting I (FOS)..................................... 3
ACCT 2302 Principles of Accounting II (FOS)................................... 3
ECON 2301 Macroeconomics (FOS).................................... 3
ECON 2302 Microeconomics (FOS) ....................................... 3
BCIS 1405 Business Computer Applications (FOS)........................ 4
COSC 1436 Programming Fundamentals I.................................... 4

## Pre-Nursing (AA to BSN) Specialty Area

ENGL 1301 Composition I....................................................... 3
ENGL 1302 Composition II...................................................... 3
Humanities (choose one)...................................................... 3
Oral Communication elective (choose 3 hours)........................................ 3
American History ...................................................................... 6
GOVT 2301 Government I....................................................... 3
GOVT 2302 Government II...................................................... 3
PSYC 2317 or MATH 1342 Statistics (Math, FOS)..... ............................ 3
CHEM 1405 or 1411 or 1413 Chemistry (FOS)...................................... 4
BIOL 1322 Basic Nutrition (FOS)................................................. 3
BIOL 2401 Anatomy & Physiology I (FOS) ............................................ 4
BIOL 2402 Anatomy & Physiology II (FOS)........................................... 4
BIOL 2420 Microbiology (FOS)................................................... 4
PSYC 2301 General Psychology (behavioral science, FOS)................. 3
PSYC 2314 Human Growth and Development: Lifespan (FOS)............. 3
Fine Arts elective (choose 3 hours) ...................................................... 3
Cross/Multicultural elective...................................................... 3
Elective .......................................................................... 3

# ASSOCIATE OF ARTS IN TEACHING (AAT)
## LEADING TO INITIAL TEXAS TEACHER CERTIFICATION

The Associate of Arts in Teaching is a state-approved collegiate degree program consisting of lower-division courses intended for transfer to baccalaureate programs that lead to initial Texas teacher certification. There are three AAT curricula which include 60-66 semester credit (SCH) hours of coursework. These three AATs can only be offered by Texas public community colleges, and are fully transferable to any Texas public university offering baccalaureate degree programs leading to initial teacher certification. All AAT academic core curriculum courses taken at HCC are guaranteed to transfer and count toward the core curriculum at all Texas public higher educational institutions.

In addition, if a student successfully completes any part of an AAT field of study (FOS) curriculum as developed by the Texas Higher Education Board, the FOS courses will be transferred to a Texas public higher educational institution and must be substituted for that institution's lower division requirements in the degree program leading to initial Texas teacher certification. The student shall receive full academic credit for the transferred FOS courses in the related university degree program leading to initial Texas teacher certification. HCC has developed specialized transfer plans, in collaboration with the Gulf Coast Teacher Education Consortium. The following universities have approved the AAT plans below for transfer toward initial Texas teacher certification: Prairie View A&M University, Sam Houston State University, Texas A&M University, Texas Southern University, University of Houston, University of Houston-Downtown, University of Houston-Clear Lake, University of Houston-Victoria, and University of St. Thomas. Students need to be aware that universities often have limitations on the amount of credit that can transfer from community colleges to universities. That limit is usually around sixty-six semester hours taken at community colleges. For more information on university requirements and plan uniqueness including details regarding the Gulf Coast Teacher Education agreement, please see the Transfer Office website and the Teacher Education department chair for advising.

# AAT Degree Transfer Advising Plans

## ASSOCIATE OF ARTS IN TEACHING

### leading to all initial teacher certifications in: Early Childhood-Grade 4; Grades 4-8; and Special Education

ENGL 1301 Composition I....................................................................... 3
ENGL 1302 Composition II...................................................................... 3
English Literature .................................................................................. 3
SPCH   1315 Public Speaking or SPCH 1321 Business Speech (Oral).. 3
HIST 2301 Texas History or 1301........................................................... 3
HIST 1302 American History II .............................................................. 3
GOVT   2301 Government I...................................................................... 3
GOVT   2302 Government II..................................................................... 3
MATH 1314 College Algebra .................................................................. 3
Biological Lab Science (Choose one course from: 1308/1108, 1406,
            1411, 1413, 2401, 2416, 2420 or 2406)........................... 4
Chemical Lab Science (Choose one course from: CHEM 1305, 1405,
            1411, or 1413)................................................................. 4
TECA   1354    Child Growth or GEOG 1303 World Geography
            (Social/Behavioral Science)............................................. 3
Visual/Performing Arts (Choose one course from: ARTS 1301, 1303,
            1304; DANC 2303; DRAM 1310, 2361, 2362, 2363, 2366;
            MUSI 1306, 1308, or 1309)............................................... 3
Cross Cultural Studies (EDUC 1325 recommended) ............................. 3
EDUC 1301 Introduction to the Teaching Profession ............................ 3
EDUC 2301 Introduction to Special Populations ................................... 3
MATH 1350 Math for Teachers I............................................................ 3
MATH 1351 Math for Teachers II........................................................... 3
Physical Lab Science (Choose one course from: ASTR  1403,1404,1481,
            1482; BIOL 2406; ENVR 1401; GEOL 1401, 1402,
            1403,1404 1404; PHYS, 1401, 1402,
            or 2325/2125)................................................................... 4
(Note: Bilingual certification requires SPAN 1411-2312).

## ASSOCIATE OF ARTS IN TEACHING

### leading to initial teacher certifications in: Early Childhood Degree Specialization or EC-Grade 4 Generalist

ENGL 1301 Composition I....................................................................... 3
ENGL 1302 Composition II...................................................................... 3
English Literature .................................................................................. 3
SPCH   1315 Public Speaking or SPCH 1321 Business Speech (Oral).. 3
HIST 2301 Texas History or 1301........................................................... 3
HIST 1302 American History II .............................................................. 3
GOVT   2301 Government I...................................................................... 3
GOVT   2302 Government II..................................................................... 3
MATH 1314 College Algebra .................................................................. 3
Biological Lab Science (Choose one course from: 1308/1108, 1406,
            1411, 1413, 2401, 2506, 2416, or 2420)......................... 4
Chemical Lab Science (Choose one course from: CHEM 1305/1105,
            1405, 1411, or 1413)....................................................... 4

Visual/Performing Arts (Choose one course from: ARTS 1301, 1303,
            1304; DANC 2303; DRAM 1310, 2361, 2362, 2363, 2366;
            MUSI 1306, 1308, or 1309)............................................... 3
GEOG 1303 World Geography (Social/Behavioral) ............................... 3
Cross Cultural Studies (EDUC 1325 recommended) ............................. 3
MATH 1350 Math for Teachers I............................................................ 3
MATH 1351 Math for Teachers II........................................................... 3
TECA 1303  Family, School, and Community......................................... 3
TECA 1311  Educating Young Children .................................................. 3
TECA 1318  Wellness of the Young Child ............................................. 3
TECA 1354  Child Growth and Development .......................................... 3

## ASSOCIATE OF ARTS IN TEACHING

### leading to all initial teacher certifications in:  Grades 8-12 or EC-Grade 12

ENGL 1301 Composition I....................................................................... 3
ENGL 1302 Composition II...................................................................... 3
English Literature .................................................................................. 3
SPCH   1315 Public Speaking or SPCH 1321 Business Speech (Oral).. 3
HIST 2301 Texas History or 1301........................................................... 3
HIST 1302 American History II .............................................................. 3
GOVT   2301 Government I...................................................................... 3
GOVT   2302 Government II..................................................................... 3
MATH 1314 College Algebra .................................................................. 3
Biological Lab Science (Choose one course from: 1308/1108, 1406,
            1411, 1413, 2401, 2416, 2406, or 2420)......................... 4
Chemical Lab Science (Choose one course from: CHEM 1305/1105,
            1405, 1411, or 1413)....................................................... 4
Visual/Performing Arts (Choose one course from: ARTS 1301, 1303,
            1304; DANC 2303; DRAM 1310, 2361, 2362, 2363, 2366;
            MUSI 1306, 1308, or 1309)............................................... 3
TECA   1354    Child Growth or GEOG 1303 World Geography (Social/
            Behavioral Science)......................................................... 3
Cross Cultural Studies (EDUC 1325 recommended) ............................. 3
EDUC 1301 Introduction to the Teaching Profession ............................ 3
EDUC 2301 Introduction to Special Populations ................................... 3
Teaching Field Content Area (see Transfer Office website for specific
            course options) ............................................................... 3
Teaching Field Content Area (see Transfer Office website for specific
            course options) ............................................................... 3
Teaching Field Content Area (see Transfer Office website for specific
            course options) ............................................................... 3
Teaching Field Content Area (see Transfer Office website for specific
            course options) ............................................................... 3
(Note: Each Teaching Field Content Area has its own specific set of courses
which apply for secondary certification.  See Teacher Education department
chair or Transfer Office website for the details of each teaching field).

# Associate In Science (AS)

The Associate in Science is intended primarily for students planning on transferring to a senior college or university to receive a baccalaureate degree in the following areas: computer science, engineering, health and natural sciences, or mathematics. (See counselor for Transfer plans) Commencing the fall of 1999, all Associate in Science academic core curriculum courses taken at HCC are guaranteed to transfer and count toward the core curriculum at all Texas public higher educational institutions.

In addition, if a student successfully completes any part of a field of study (FOS) curriculum developed by the Texas Higher Education Board, the FOS courses will be transferred to a Texas public higher educational institution and must be substituted for that institution's lower division requirements in the degree program containing the field of study. The student shall receive full academic credit for the transferred FOS courses in the related university degree program. HCC has developed specialized transfer plans for specific majors and for specific universities. Students should obtain appropriate transfer plans including FOS courses from a counselor.

Students also need to be aware that universities often have limitations on the amount of credit that can transfer from community colleges to universities. That limit is usually around sixty-six semester hours taken at community colleges.

## REQUIRED ACADEMIC CORE*

ENGL 1301    Composition I .................................................. 3
ENGL 1302    Composition II ................................................. 3
Oral Communication (choose one) ............................................ 3
    ARAB 1411, 1412; COMM 1307; CHIN 1411, 1412; FREN 1411, 1412; GERM 1411, 1412; JAPN 1411; KORE 1411, 1412; RUSS 1411, 1412; SPAN 1411, 1412; SPCH 1311, 1315, 1318, 1321, 1342, 2335, or 2341; VIET 1411, 1412
Humanities (choose one) ...................................................... 3
    ENGL 2322, 2323, 2327, 2328, 2332, 2333, 2334,2335, 2336, 2341, 2342, 2343, 2353, 2374; PHIL 2306, 2316, 2317
Mathematics ................................................................. 3
    MATH 1314, 1316, 1324, 1325, 1332, 1342, 2412 , 2413, 2414, 2415
Natural Science with lab ..................................................... 4
    ASTR 1403, 1404, 1481, 1482; BIOL 1308 & 1108, 1309 & 1109, 1406, 1407, 1411, 1413, 2401, 2402, 2406, 2416, 2420, 2428; CHEM 1405, 1407, 1411, 1412, 1413, 1414, 2423, 2425, 2427; ENVR 1401; GEOL 1401, 1402, 1403, 1404, 2430; PHYS 1401, 1402, 1411, 1412, 2325 & 2125, 2326 & 2126, 2425, 2426.
    Note: Course must have a lab. Please see p. 42 for Natural Science core curriculum restrictions.
Natural Science (lab optional) ............................................... 3
    ANTH 2301; ASTR 1303, 1304, 1381, 1382, 1403, 1404, 1481, 1482; BIOL 1308, 1309, 1322, 1406, 1407, 1411, 1413, 2401, 2402, 2406, 2416, 2420, 2428; CHEM 1305, 1307, 1405, 1407, 1411, 1412, 1413, 1414, 2423, 2425, 2427; ENVR 1301, 1401; GEOG 1301; GEOL 1345, 1347, 1401, 1402, 1403, 1404, 2430; HECO 1322; PHYS 1305, 1306, 1401, 1402, 2325, 2326.
    Note: Please see p. 43 for Natural Science core curriculum restrictions.
History (choose two) ......................................................... 6
    HIST 1301, 1302, 2301

GOVT  2301    Government I ................................................... 3
GOVT  2302    Government II .................................................. 3
Visual/Performing Arts (choose 3 hours) ..................................... 3
    Any 3 semester hours of ARTS; DANC; DRAM; MUAP, or MUSI courses.
Social/Behavioral Science (choose one) ...................................... 3
    ANTH 2302, 2346, 2351; ECON 2301, 2302, 2311; GEOG 1302 , 1303, 2312; GOVT 2304; HIST 2389;PHIL 2307; PSYC 2301, 2389; SOCI 1301, 1306, 2301, 2319, 2336, 2374; TECA 1354
Cross/Multicultural Studies (choose one) ..................................... 3
    ANTH 2302, 2346, 2351; ARTS 1301, 1303, 1304; ECON 2311; ENGL 2322, 2323, 2327, 2328, 2332, 2333, 2334, 2335, 2336, 2341,2342, 2343, 2353, 2374; DANC 2303, EDUC 1325;GEOG 1302, 1303, 2312; HIST 2311,2312, 2321, 2322, 2328, 2380, 2381; HUMA 1301, 1305, 2319, 2323; MUSI 1306, 1308,1309; PHED 1304; PHIL 1301, 1304, 2307, 2316, 2317, 2321; PSYC 2370; SOCI 1301, 2319, 2374; SPCH 1318; any Foreign Language 1411, 1412, 2311, or 2312.
Additional Mathematics (May choose any college-level mathematics, PHIL 2303, or PSYC 2317) ........................................... 6
Additional Natural Science with lab .......................................... 4
College-Level Electives ...................................................... 7
* No one course may be used to fulfill more than one core category.

## ASSOCIATE IN SCIENCE DEGREE TRANSFER ADVISING PLANS

## CIVIL ENGINEERING SPECIALTY AREA

ENGL 1301 Composition I ...................................................... 3
ENGL 1302 Composition II ..................................................... 3
Oral Communication ........................................................... 3
Humanities (choose one) ...................................................... 3
MATH 2413 Calculus I (FOS) ................................................... 4
MATH 2414 Calculus II (FOS) .................................................. 4
CHEM 1411General Chemistry I (FOS) ........................................... 4
CHEM 1412 General Chemistry II (FOS) ......................................... 4
PHYS 2325 General Technical Physics I (FOS) .................................. 3
PHYS 2125 Physics Laboratory I (FOS) ......................................... 1
PHYS 2326 General Technical Physics II (FOS) ................................. 3
PHYS 2126 Physics Laboratory II (FOS) ........................................ 1
American History ............................................................. 6
GOVT 2301 Government I ....................................................... 3
GOVT 2302 Government II ...................................................... 3
Social/Behavioral Science .................................................... 3
Visual/Performing Arts (choose 3 hours) ...................................... 3
Cross Cultural elective (choose one) ......................................... 3
ENGR 1201 Introduction to Engineering ........................................ 2
ENGR 2301Engineering Statics (FOS) ........................................... 3
ENGR 2302 Engineering Dynamics (FOS) ......................................... 3
For other Engineering plans, call the Transfer Office at 713-718-8534.

## COMPUTER SCIENCE SPECIALTY AREA

ENGL 1301 Composition I.........................................................................3
ENGL 1302 Composition II........................................................................3
Oral Communication.................................................................................3
Humanities (choose one)..........................................................................3
MATH 2413 Calculus I (FOS)....................................................................4
MATH 2414 Calculus II (FOS)...................................................................4
PHYS 2125 Physics Laboratory I (FOS) ...................................................1
PHYS 2325 General Technical Physics I (FOS)........................................3
PHYS 2126 Physics Laboratory II (FOS) ..................................................1
PHYS 2326 General Technical Physics II (FOS) .......................................3
American History .....................................................................................6
GOVT 2301 Government I.........................................................................3
GOVT 2302 Government II........................................................................3
Social/Behavioral Science .......................................................................3
Visual/Performing Arts (choose 3 hours) .................................................3
Cross Cultural elective (choose one)........................................................3
COSC 1436 Programming Fundamentals I (FOS)....................................4
COSC 1437 Programming Fundamentals II (FOS)...................................4
COSC 2436 Programming Fundamentals III (FOS)..................................4
COSC 2325 Computer Organization & Machine Lang. (FOS) .................3

## SCIENCE/MATH TECHNOLOGY SPECIALTY AREA

ENGL 1301 Composition I.........................................................................3
ENGL 1302 Composition II........................................................................3
Oral Communication (choose one)............................................................3
Humanities (choose one)..........................................................................3
MATH  2412 Precalculus ..........................................................................4
MATH  2413 Calculus I..............................................................................4
MATH  2414 Calculus II.............................................................................4
MATH  2425 Calculus III............................................................................4
CHEM  1411 General Chemistry I.............................................................4
CHEM  1412 General Chemistry II............................................................4
PHYS 2125 Physics Laboratory I ..............................................................1
PHYS 2325 General Technical Physics I...................................................3
PHYS 2126 Physics Laboratory II .............................................................1
PHYS 2326 General Technical Physics II..................................................3
American History .....................................................................................6
GOVT  2301 Government I.........................................................................3
GOVT  2302 Government II........................................................................3
Fine Arts (choose 3 hours) .......................................................................3
Social/Behavioral elective (choose one)...................................................3
Cross Cultural elective (choose one)........................................................3

## ELECTRICAL/ELECTRONIC ENGINEERING TECHNOLOGY

ENGL 1301 Composition I.........................................................................3
ENGL 1302 Composition II........................................................................3
Oral Communication.................................................................................3
Humanities (choose one)..........................................................................3
MATH 2413 Calculus I (FOS)....................................................................4
MATH 2414 Calculus II (FOS)...................................................................4
CHEM 1411General Chemistry I (FOS) ....................................................4
PHYS 1401 Physics I (FOS)......................................................................4
PHYS 1402 Physics II (FOS).....................................................................4
American History .....................................................................................6
GOVT 2301 Government I.........................................................................3
GOVT 2302 Government II........................................................................3
Social/Behavioral Science .......................................................................3
Visual/Performing Arts (choose 3 hours) .................................................3
CETT 1403 DC Circuits (FOS)..................................................................4
CETT 1405 AC Circuits (FOS)..................................................................4
CETT 1425 Digital Fundamentals (FOS)..................................................4

For other Engineering Techology plans, call the Transfer Office at 713-718-8534.

# GENERAL REQUIREMENTS (AA, AAT, AND AS DEGREES)

To be eligible for an Associate in Arts (AA), an Associate of Arts in Teaching (AAT), or an Associate in Science (AS) degree from HCC, a student must successfully:

1. Complete at least 60 semester hours of credit as follows: (a) for the AA degree, 43 hours of required core courses and 17 hours of transferable electives, usually focusing on the student's transfer major. (b) for the AAT degree, 44 hours of required core courses plus 16-18 hours of required pre-teaching courses (c) for the AS degree, 43 hours of required core courses plus six additional hours of mathematics, four additional hours of natural science, and 7 hours of transferable electives, usually focusing on the student's transfer major.

2. Complete a minimum of 18 semester hours toward the degree in the Houston Community College System. These hours may not be satisified through credit by exam.

3. Have an overall 2.0 HCC grade point average.

4. Satisfy TSI requirements.

5. Resolve all financial obligations and return all College materials, including library books, to HCC prior to graduation.

# ACADEMIC CERTIFICATES

Since the fall 2000 semester, HCC awards academic certificates for the following benchmarks of achievement:

1. Certificate of Completion of the AA/AAT/AS Core Curriculum. To receive the Certificate of Completion for the AA/AAT/AS core curriculum, a student must complete 43 SCH of required course work in the following areas*:

Communication . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 6
Oral Communication . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 3
Mathematics . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 3
Natural Sciences . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 7
Humanities . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 3
Visual/Performing Arts . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 3
American History . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 6
Government    . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 6
Social/Behavioral Science . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 3
Cross/Multicultural Studies . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 3
Total (Core Curriculum Certificate) . . . . . . . . . . . . . . . . . . . . . . . 43

*No one course may be used to fulfill more than one core category.

1. If a student successfully completes the 43-hour core curriculum at HCC, that block of courses must be substituted for a receiving institution's core curriculum when a student transfers. A student will receive academic credit for each of the courses transferred and may not be required to take additional core curriculum courses at the receiving institution, unless the receiving institution has a larger core. Students who transfer without completing the core curriculum will receive academic credit in the core curriculum of the receiving institution for each of the courses that the student has successfully completed in the core curriculum of the sending institution.

2. Certificate of Completion of Developmental Education

3. Certificate of Completion of the Academic-English-as-a-Second-Language (AESL) Program

4. Certificate of Completion of the Intensive English (ESOL) Program

## ADVANCED DANCE CERTIFICATE

The Advanced Dance Certificate is a 21-semester academic certificate designed to give a professional credential demonstrating advanced Dance proficiency. This certificate is recognized by dance studios for instructional purposes.

DANC 1301 Dance Composition . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 3
DANC 1305 or 1306 World Dance I or II . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 3
DANC 2303 Dance Appreciation . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 3
DANC 2325 Anatomy & Kinesiology . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 3
DANC 2341 or 2342 Ballet III* or IV* . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 3
DANC 2345 or 2346 Modern Dance III* or IV* . . . . . . . . . . . . . . . . . . . . . . . 3
DANC 2351 or 2352 Dance Performance III* or IV* . . . . . . . . . . . . . . . . . . . 3

*Department approval needed for advanced placement; otherwise prerequisites are needed for advanced levels of technique.

## GLOBAL STUDIES CERTIFICATE

The Global Studies Certificate is a 15-semester hour academic certificate designed to aid students in understanding the complex interrelationships between nations and their inhabitants. The program utilizes a cross disciplinary approach, encouraging students to embrace global issues from multiple perspectives. This certificate will provide a unifying framework to help students contribute to our increasingly interconnected world as responsible global citizens. It establishes a unique foundation for the pursuit of varied majors and careers, from liberal arts and social sciences to international business. (All courses are core curriculum courses and will transfer as core to all Texas public universities).

**Required Foundation Course 1 (choose one course from the following)**

SOCI 2374 Global Issues and Social Change . . . . . . . . . . . . . . . . . . . . . . . 3
ECON 2311 Economic Geography . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 3
GEOG 2312 Economic Geography . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 3
HIST 2322 Modern World Civilizations: 1500-Present . . . . . . . . . . . . . . . . 3

**Required Foundation Course 2 (choose one course from the following)**
Any 3-4 hour Foreign Language course chosen from ARAB, CHIN, FREN, GERM, JAPN, KORE, RUSS, SPAN, or VIET

## Choose any three courses from the following list:

Oral Communication (011)
 ARAB 1411, 1412; CHIN 1411, 1412; FREN 1411, 1412; GERM 1411, 1412; JAPN 1411, 1412; KORE 1411, 1412; SPAN 1411, 1412; VIET 1411, 1412

Natural Science (030)
 ENVR 1301, 1401 (Note: Credit will not be given for both ENVR 1301 and 1401)

Humanities (040)
 ENGL 2332, 2333, 2336

Visual/Performing Arts (050)
 ARTS 1303, 1304, DANC 1305, 1306

Social/Behavioral Science (080)
 ANTH 2302, 2346, 2351; ECON 2301, 2311; GEOG 1302, 1303, 2312; HIST 2311, 2312, 2321, 2322; PHIL 2307; SOCI 1301, 2374

Cross/Multicultural Studies (091)
 ANTH 2302, 2346, 2351; ARTS 1303, 1304; ARAB 1411, 1412; CHIN 1411, 1412; FREN 1411, 1412; GERM 1411, 1412; JAPN 1411, 1412; KORE 1411, 1412; SPAN 1411, 1412; VIET 1411, 1412; ECON 2311; ENGL 2332, 2333, 2336; GEOG1302, 1303, 2312; HIST 2311, 2312, 2321, 2322; HUMA 1301, PHIL 1304, 2307. 2316, 2317; PSYC2370;SOCI 1301, 2374

## MEXICAN-AMERICAN / LATINO STUDIES CERTIFICATE

The Mexican-American / Latino Studies Certificate is a 15-semester hour academic certificate designed to help you understand Mexican-American / Latino culture from different perspectives. It provides a unique foundation for various majors and careers, including elementary education, social and behavioral sciences, criminal justice, and many others. (All courses are core curriculum courses and will transfer as core to all Texas public universities).

Required Foundation Courses (take both)

ENGL 2336 Multicultural Literature (Emphasis on Mexican-American
and Latin-American Literature).....................................................3
HUMA 2319 Minority Experience in the US. (Emphasis on
Mexican-Americans / Latinos)....................................................3

## Choose any three courses from the following list:

Oral Communication (011)
  SPAN 2311, 2312, 2313, 2315
Social/Behavioral Science (080)
  GOVT 2301 (Emphasis on Mexican-American / Latino issues)
  HIST 2380 (Emphasis on Mexican-American / Latino issues)
  HIST 2328 ( Mexican-American History)
Cross/Multicultural Studies (091)
  HUMA 1305 Introduction to Mexican-American Studies
  HUMA 2323(Emphasis on Meso-American Pre-Hispanic Culture)

## WOMEN & GENDER STUDIES CERTIFICATE

The WGS certificate is a 15-semester hour certificate designed to help the student understand women's and  gender issues as a fundamental category of social and cultural analysis;  to help the student link gender with class, race, ethnic, and sexual identification; and to help the student analyze the diversity of women's experiences.  It provides a unique foundation for various majors and careers, including education, social and behavioral sciences, criminal justices, math, engineering and many others.  (All courses are core curriculum courses and will transfer as core to all Texas public universities.)

## Required Foundation Courses (take both)

Engl 1302 Composition II (Emphasis on women
and gender issues)....................................................................................3
Hist 1302 US History after 1877 (Emphasis on women and
gender issues)............................................................................................3

## Choose any three courses from the following List:

Oral Communication (011)
  SPCH 1311, 1315, 1318, 1321 (all need an emphasis on
women and gender issues)
Natural Science (030)
  BIOL 1407 (focus on gender differences)
Humanities (040)
  ENGL 2322, 2323, 2727, 2728, 2332, 2333, 2334, 2335, 2336,
2341, 2342, 2343, 2353 (all need an emphasis on
women and gender issues)
  Phil 1301, 1304, 2306, 2307, 2316, 2317 (women and
gender issue focus)
Visual/Performing Arts (050)
  ARTS 1301, 1303, 1304 (all need an emphasis on women
and gender issues)
Social and Behavioral Science (080)
  ANTH 2351 (emphasis on women and gender issues)
  GOVT 2301, 2302 (all need an emphasis on
women and gender issues)
  HIST 1301, 2311, 2312, 2321, 2322, 2328, 2380, 2381
(all need an emphasis on women and gender issues)
  SOCI  1301, 1306, 2301, 2374  (all need an emphasis
on women and gender issues)
Cross/Multicultural Studies (091)

ANTH 2302, HIST 2311, 2312, 2321, 2322, 2328, 2380, 2381 (all need
an
emphasis on women and gender issues)
PSYC 2374, SOCI  1301, 1306, 2301, 2374
(all need an emphasis on women and gender issues)
SPAN 2321, 2323 (all need an emphasis on
women and gender issues)

## Additional WGS-related courses*

PSYC 2306, 2308, 2314 (all need an emphasis on
women and gender issues)
Note: Additional courses above are elective courses for degree purposes. They do not count in the core curriculum and may not apply to the university major in transfer.  See counselor.

## ADDITIONAL ASSOCIATE DEGREES

A student who has received an associate degree or higher from an accredited institution must meet specific requirements to earn an additional degree from HCC.

1. The student must complete a minimum of 18 semester hours at HCC for each additional degree. These hours may not repeat credit applied from a previous HCC degree.  These hours may not be satisfied through credit by exam.

2. All additional hours must be applicable toward the additional degree. If the student has prior credit in required courses, appropriate substitutions may be arranged.

3. All courses required by the specific HCC program of the additional degree must be completed.

4. A grade point average of at least 2.0 must be earned on all hours since the previous degree.

5. Academic courses from previous degrees may be applied to an additional AAS degree required academic core where equivalent and appropriate, which waives the need for approval, except where program restrictions prevail.

6. If the first degree was an Associate in Arts, an Associate of Arts in Teaching, Associate in Science, a bachelor degree, or higher degree from an accredited educational institution in the United States, the student will be considered to be "Core Complete", thus needing to complete only the requirement of 18 additional semester hours at HCC toward a new associate degree.

7. Each additional academic associate degree obtained from HCC must be of a different type.  Thus, a student may only obtain one Associate in Arts, one Associate of Arts in Teaching, and/ or one Associate in Science from HCC. For example, if one degree from HCC was an AA, then any additional degrees must be an AAT, AS, or AAS.

8. Multiple Associate of Applied Science degrees may be earned from HCC if all AAS program requirements are met including earning at least 18 additional semester hours at HCC, 12 of which must be earned in the major program of the additional degree. In most cases, however, there is only one AAS degree allowable per workforce program. See counselor or program chair for clarification.

9. Multiple workforce Certificates of Completion may be earned from HCC if all program requirements are met for each certificate including earning at least 9 additional unique semester hours at HCC toward the major program of the additional certificate.

10. All other state and institutional graduation requirements, including TSI policies and financial obligations, must be met.

# CORE CURRICULUM

The core curriculum is required of all AA, AAT, and AS graduates. In 1997, the 75th Texas Legislature passed Senate Bill 148, which required the Texas Higher Education Coordinating Board to adopt rules that include a statement of "the content, component areas, and objectives of the core curriculum". Every public institution of higher education was required by law to adopt and implement by fall, 1999, a core curriculum of no less than 42 semester hours that will be fully transferable and, if completed, will substitute for a receiving institution's core curriculum.

In compliance with state recommendations and in the spirit of improving its educational service to students, HCC will require all students seeking an AA, AAT, or AS to complete the core curriculum. The purpose of the HCC core curriculum program is to provide the basic intellectual competencies and perspectives that help define the educated person. The exemplary educational objectives listed for the various courses included in the core will form the basis for assessing student performance and the effectiveness of the HCC core curriculum.

## BASIC INTELLECTUAL COMPETENCIES IN THE HCC CORE CURRICULUM

Essential to the learning process in any discipline are six basic intellectual competencies: reading, writing, speaking, listening, critical thinking, and computer literacy. These competencies should form the components of the HCC core curriculum and be woven into instructional practices throughout each course. Although certain courses address specific competencies, such as writing or speaking, the competencies of critical thinking or computer literacy may be included as specific objectives in many different courses.

**READING:** Reading at the college level means having the ability to understand, analyze and interpret a variety of printed materials: books, articles, and documents.

**WRITING:** Writing at the college level means having the ability to produce clear, correct, and coherent prose adapted to a specific purpose, occasion, and audience. In addition to knowing how to use correct grammar, spelling, and punctuation, students should also become adept with the writing process, including how to determine a topic, how to organize and develop it, and how to phrase it effectively for their audience. These abilities are acquired through practice and reflection.

**SPEAKING:** Effective speaking is the ability to communicate orally in clear, coherent, and persuasive language appropriate to purpose, occasion, and audience.

**LISTENING:** Listening at the college level means having the ability to understand, analyze, and interpret various forms of spoken communication.

**CRITICAL THINKING:** Critical thinking embraces methods for applying both qualitative and quantitative skills analytically and creatively to subject matter in order to evaluate arguments and to construct alternative strategies. Problem solving is one of the applications of critical thinking used to address an identified task.

**COMPUTER LITERACY:** Computer literacy at the college level means having the ability to use computer-based technology in communicating, solving problems, and acquiring information. Core-educated students should have an understanding of the limits, problems, and possibilities associated with the use of technology and should have the tools necessary to evaluate and learn new technologies as they become available.

## PERSPECTIVES IN THE CORE CURRICULUM

The HCC core curriculum will contain courses that help students:

1. Establish broad and multiple perspectives on the individual in relation to the larger society and world in which we live and to understand the responsibilities of living in a culturally and ethnically diverse world.

2. Develop a capacity to reflect upon and discuss individual, political, economic, and social aspects of life in order to determine ways in which to be a responsible member of society.

3. Recognize the importance of maintaining health and wellness.

4. Develop a capacity to use knowledge of how technology and science affect their lives.

5. Develop personal values for ethical behavior.

6. Develop the ability to make aesthetic judgments.

7. Use logical reasoning in problem solving.

8. Integrate knowledge and understanding of the interrelationships of the scholarly disciplines.

## CORE COMPONENTS AND RELATED EXEMPLARY EDUCATIONAL OBJECTIVES

### Summary Distribution Requirements:

Communication ............................................................ 9 Semester Hours
Mathematics .......................................................... 3 Semester Hours
Natural Sciences .......................................................... 7 Semester Hours
Humanities and Arts
    Humanities...................................................... 3 Semester Hours
    Visual/Performing Arts .................................... 3 Semester Hours
Social/Behavioral Sciences
    American History ............................................ 6 Semester Hours
    Government.................................................... 6 Semester Hours
    Social Science ............................................... 3 Semester Hours
Cross/Multicultural Studies ......................................... 3 Semester Hours

**Total   43 Semester Hours**

## COMMUNICATION - NINE SEMESTER HOURS

### Courses That Fulfill This Requirement:
Written communication (take both):

English 1301 Composition I.......................................... 3 Semester Hours
English 1302 Composition II......................................... 3 Semester Hours
Oral communication (choose one):
ARAB 1411, 1412
CHIN 1411, 1412
FREN 1411, 1412
GERM 1411,1412
JAPN 1411, 1412
KORE 1411, 1412
RUSS 1411, 1412
SPAN 1411,1412
SPCH 1311,1315, 1318, 1321, 1342, 2335, 2341
VIET  1411,1412

The objective of communication in the core curriculum is to enable the student to communicate effectively in a style appropriate to the subject, occasion, and audience.

## Exemplary Educational Objectives

- To understand and demonstrate writing and speaking processes through invention, organization, drafting, revision, editing, and presentation.

- To understand the importance of specifying audience and purpose and to select appropriate communication choices.

- To understand and appropriately apply modes of expression (descriptive, expositive, narrative, scientific, and self-expressive) in written, visual, and oral communication.

- To participate effectively in groups with emphasis on listening, critical and reflective thinking, and responding.

- To understand and apply basic principles of critical thinking, problem solving, and technical proficiency in the development of exposition and argument.

- To develop the ability to research and write a documented paper and/or to give an oral presentation.

## MATHEMATICS THREE SEMESTER HOURS

## Courses That Fulfill This Requirement:
MATH 1314, 1316, 1324, 1325, 1332, 1342, 2305, 2318, 2320, 2412, 2413, 2414, 2415

The objective of mathematics in the core curriculum is to develop a quantitatively literate college graduate. Every college graduate should be able to apply basic mathematical tools in the solution of real-world problems.

## Exemplary Educational Objectives

- To apply arithmetic, algebraic, geometric, higher-order thinking, and statistical methods to modeling and solving real-world situations.

- To represent and evaluate basic mathematical information verbally, numerically, graphically, and symbolically.

- To expand mathematical reasoning skills and formal logic to develop convincing mathematical arguments.

- To use appropriate technology to enhance mathematical thinking and understanding and to solve mathematical problems and judge the reasonableness of the results.

- To interpret mathematical models such as formulas, graphs, tables, and schematics and draw inferences from them.

- To recognize the limitations of mathematical and statistical models.

- To develop the view that mathematics is an evolving discipline, interrelated with human culture, and understand its connections to other disciplines.

## NATURAL SCIENCES - SEVEN SEMESTER HOURS

## Courses That Fulfill This Requirement:
ANTH 2301
ASTR 1303, 1304, 1381, 1382, 1403, 1404, 1481, 1482
BIOL 1308, 1309, 1322, 1406, 1407, 1411, 1413, 2401, 2402 2406, 2416, 2420, 2428
CHEM 1305, 1307, 1405, 1407,1411,1412, 1413, 1414, 2423, 2425, 2427
ENVR 1301, 1401
GEOG 1301
GEOL 1345, 1347, 1401, 1402, 1403, 1404, 2430
PHYS 1305, 1306, 1401,1402, 2325 & 1125, 2326 & 1126
(One course must have a laboratory component.)

Note: Natural Science core course restrictions are as follows: BIOL 1308 and 1406 may not be taken in combination to fulfill the core requirements. Of the following CHEM courses (1305, 1405, 1411, and 1413), only one may be taken to fulfill the core curriculum requirement.)

The objective of the natural sciences in the core curriculum is to enable the student to understand, construct, and evaluate relationships in the natural sciences and to enable the student to understand the basis for building and testing theories.

## Exemplary Educational Objectives

- To understand and apply methods and appropriate technology to the study of natural sciences.

- To recognize scientific and quantitative methods and the differences between these approaches and other methods of inquiry and to communicate findings, analyses, and interpretations, both orally and in writing.

- To identify and recognize the differences among competing scientific theories.

- To demonstrate knowledge of the major issues and problems facing modern science, including issues that touch upon ethics, values, and public policies.

- To demonstrate knowledge of the interdependence of science and technology and their influence on, and contribution to, modern culture.

Note: In the following science course combinations, only one in each list may satisfy certificate or associate degree natural science core requirements. The other courses, if additionally taken, may count as electives in the certificate or degree plan:

- Only one of BIOL 1308 or BIOL 1406 may be taken as natural science core.

- Only one of BIOL 1309 or BIOL 1407 may be taken as natural science core.

- Only one of CHEM 1305, CHEM 1405, or CHEM 1411 may be taken as natural science core.

- Only one of CHEM 1307, CHEM 1407, or CHEM 1412 may be taken as natural science core.

- Only one of ENVR 1301 or ENVR 1401 may be taken as natural science core.

- Only one of PHYS 1311, PHYS 1411, ASTR 1304, 1382, or ASTR 1404, 1482 may be taken as natural science core.

- Only one of PHYS 1312, PHYS 1412, ASTR 1303, 1403, 1381, or ASTR 1481 may be taken as natural science core.

## HUMANITIES AND VISUAL AND PERFORMING ARTS – SIX SEMESTER HOURS

### Courses That Fulfill This Requirement:
Three Hours of Humanities: ENGL 2322, 2323, 2327, 2328, 2332, 2333, 2334, 2335, 2336, 2341, 2342, 2343, 2353, 2374; PHIL 2306, 2316 or 2317.
Three Hours of Visual or Performing Arts: Any ARTS, DANC, DRAM, MUAP, or MUSI courses.

The objective of the humanities and visual and performing arts in a core curriculum is to expand students' knowledge of the human condition and human cultures, especially in relation to behaviors, ideas, and values expressed in works of human imagination and thought. Through study in disciplines such as literature and the visual and performing arts, students will engage in critical analysis, form aesthetic judgments, and develop an appreciation of the arts and humanities as fundamental to the health and survival of any society. Students should have experiences in both the arts and humanities. Students must write a research essay demonstrating critical thinking sills using appropriate MLA or APA documentation.

### Exemplary Educational Objectives

- To demonstrate awareness of the scope and variety of works in the arts and humanities.

- To understand those works as expressions of individual and human values within an historical and social context.

- To respond critically to works in the arts and humanities.

- To engage in the creative process or interpretive performance and comprehend the physical and intellectual demands required of the author or visual or performing artist.

- To articulate an informed personal reaction to works in the arts and humanities.

- To develop an appreciation for the aesthetic principles that guide or govern the humanities and arts.

- To demonstrate knowledge of the influence of literature, philosophy, and/or the arts on intercultural experiences.

## SOCIAL AND BEHAVIORAL SCIENCES 15 SEMESTER HOURS

### Courses That Fulfill This Requirement:
Six Hours of American History: (choose two)
HIST 1301, 1302, 2301
Six Hours of Government: (take both)
GOVT 2301, 2302
Three Hours of Social/Behavioral Science: (choose one)
ANTH 2302, 2346, 2351
ECON 2301, 2302, 2311
GEOG 1302, 1303, 2312
GOVT 2304
HIST 2389
PHIL 2307
PSYC 2301, 2389
SOCI 1301,1306, 2301, 2319, 2336, 2374
TECA 1354

The objective of social and behavioral science in the core curriculum is to increase students' knowledge of how social and behavioral scientists discover, describe, and explain the behaviors and interactions among individuals, groups, institutions, events, and ideas. Such knowledge will better equip students to understand themselves and the roles they play in addressing the issues facing humanity.

## Exemplary Educational Objectives

- To employ the appropriate methods, technologies, and data that social and behavioral scientists use to investigate the human condition.

- To examine social institutions and processes across a range of historical periods, social structures, and cultures.

- To use and critique alternative explanatory systems or theories.

- To develop and communicate alternative explanations or solutions for contemporary social issues.

- To analyze the effects of historical, social, political, economic, cultural, and global forces on the subject of study.

- To comprehend the origins and evolution of U.S. and Texas political systems, with a focus on the growth of political institutions, the constitutions of the U.S. and Texas, federalism, civil liberties, and civil and human rights.

- To understand the evolution and current role of the U.S. in the world.

- To differentiate and analyze historical evidence (documentary and statistical) and differing points of view.

- To recognize and apply reasonable criteria for the acceptability of historical evidence and social research.

- To analyze, critically assess, and develop creative solutions to public policy problems.

- To recognize and assume responsibility as a citizen in a democratic society by learning to think independently, by engaging in public discourse, and gathering information through the news media and other appropriate sources about politics and public policy.

- To identify and understand differences and commonalities of diverse cultures.

# CROSS/MULTI-CULTURAL STUDIES
## THREE SEMESTER HOURS

## Courses That Fulfill This Requirement:
ANTH 2302, 2346, 2351
ARTS 1301, 1303, 1304
DANC 2303
ECON 2311
EDUC 1325
ENGL 2322, 2323, 2327, 2328, 2332, 2333, 2334, 2335, 2336, 2341, 2342, 2343, 2353, 2374
GEOG 1302, 1303, 2312
HIST 2311, 2312, 2321, 2322, 2328, 2380, 2381
HUMA 1301, 1305, 2319, 2323
MUSI 1306, 1308, 1309
PHED 1304
PHIL 1301, 1304, 2307, 2321, 2316, 2317
PSYC 2370, 2374
SOCI 1301, 2374
SPCH 1318
Any Foreign Language 1411, 1412, 2311, 2312

The objective of cross/multi-cultural studies in the core curriculum is to introduce students to areas of study which enlarge their knowledge and appreciation of the multi-cultural and multi-racial world in which they live.

## Exemplary Educational Objectives

- To establish broad and multiple perspectives in relation to the larger society and world in which we live, and to understand the responsibilities of living in a culturally and ethnically diversified world.

- To demonstrate knowledge of those elements and processes that create and define culture.

- To understand and analyze the origin and function of values, beliefs, and practices found in human societies.

- To develop basic cross/multi-cultural understanding, empathy, and communication.

- To identify and understand underlying commonalities of diverse cultural practices.

- To analyze the effects of cultural forces on the area of study.

# Workforce Degrees and Certificates

Designed primarily for students seeking skills, knowledge, and training leading to employment in a specific field, the Associate in Applied Science degree is awarded in technical and occupational areas. Courses and programs are divided into sixteen clusters: Agriculture, Food, and Natural Resources; Architecture and Construction; Arts, Audio/Video Technology and Communications; Business, Management and Administration; Education and Schools; Finance; Government and Public Administration; Health and Medical Sciences; Hospitality and Tourism; Human Services and Social Sciences; Information Technology; Law, Public Safety Corrections and Security; Manufacturing; Marketing, Sales and Service; Science, Technology, Engineering and Mathematics; and Transportation, Distribution and Logistics. Degree requirements include general education courses and specific occupation-related courses.

Certificates are awarded upon completion of a sequence of courses in an occupational field. Credits earned in a certificate will typically apply to a related HCC Associate in Applied Science degree.

A Marketable Skills Achievement Award (MSA) is granted to students who complete a sequence of credit courses totaling 9-14 SCH or workforce continuing education courses of 144-359 contact hours. These awards meet the minimum standard for program length specified in the federal Workforce Investment Act (WIA) but are too short to qualify as approved Texas Higher Education Coordinating Board certificate programs. MSA credit awards are in the following programs: Accounting, Business Technology, Automotive Technology, Computer Science Technology, Criminal Justice, Culinary Arts, Digital Communication, Fashion Design, Fashion Merchandising, Horticulture, Interior Design, Public Administration, Real Estate, Technical Communication, and Travel and Tourism. Credits earned in a MSA will typically apply to a related HCC certificate or AAS degree. MSA continuing education awards are in the following programs: Auto Body Repair, Bilingual Air Conditioning and Refrigeration, Certified Nurse Aide, Child Development, Cisco Certified Network Associate, Electrocardiography, Emergency Medical Service-Basic Provider, HIS Medical Billing, Massage Therapist, People Soft on Campus, Phlebotomy, Property Management, Truck Driving, and Waste Quality & Wastewater Treatment.

For specific MSA workforce credit and continuing education degree plans visit the web site @http://www.hccs.edu/system/Instructional_Services/msaa/msaa.html.

Review the following pages to learn more about the wide array of workforce programs available at HCC.

## ASSOCIATE IN APPLIED SCIENCE (AAS)

The Associate in Applied Science (AAS) degree is intended primarily for students whose first priority is to acquire skills and knowledge needed for employment in a specific field.

To be eligible for an AAS degree from HCC, a student must successfully

1. Complete at least 60 semester hours of credit and the prescribed curriculum for a two-year workforce program (see AAS degree plans).

2. Complete a minimum of 18 semester hours toward the degree at HCC, 12 semester hours of which must be in the workforce program the student is pursuing. These hours may not be satisfied by Credit by Examination.

3. Have an overall 2.0 HCC grade point average.

4. Satisfy all TSI requirements.

5. Resolve all financial obligations and return all materials to HCC prior to graduation.

## GENERAL EDUCATION ELECTIVE OPTIONS

In the various AAS workforce degree plans, some general education electives are required. The following are approved choices for each elective category:

Humanities/Fine Arts Electives: Must choose three hours from ARTS, DANC, DRAM, ENGL Literature; Foreign Language 2311, 2312; HUMA; MUAP; MUSI; or any PHIL (except 2303).

Math/Science Electives: Must choose three hours from ANTH 2301, ASTR, BIOL, CHEM, ENVR, GEOL, HECO, MATH, PHYS, or PSYC 2317.

Social/Behavioral Science Electives: Must choose three hours from ANTH (2302, 2346, or 2351), ECON, GEOG, GOVT, HIST, PSYC (except 2317), or SOCI.

General Education Electives: Student must choose one course from any of the above areas.

## ENHANCED SKILLS CERTIFICATES

Enhanced Skills Certificates (consisting of six to 15 SCH) are designed to enrich the specific curriculum of AAS/Tech Prep programs and help students meet higher technical skill levels in a constantly changing workplace.

## ADVANCED SKILLS CERTIFICATES

An Advanced Skills Certificate is designed to provide a longer, more specialized, and advanced set of knowledge and skills in a particular area of expertise, e.g., Diagnostic Medical Sonography. Typically, Advanced Skills Certificates require students to have already completed a two-year associate degree prior to admission.

To be eligible for an Enhanced or Advanced Skills Certificate from HCC, a student must:

1. Complete the related AAS degree.

2. Successfully complete the prescribed curriculum.

3. Have an overall grade point average of at least 2.0 in all credits applying to the certificate.

4. Resolve all financial obligations to HCC and return all materials, including library books.

## INSTITUTIONAL CERTIFICATES, CERTIFICATES OF COMPLETION

HCC Institutional Certificates are awarded upon successful completion of small clusters of job-specific CEU or SCH courses (from six to 12 SCH). These courses are designed to give the student a certain level of skill and/or knowledge in an occupational area. Semester credit hours earned in completing a certificate may be applied to a related AAS degree program. A student may, for example, take a number of courses in a field such as real estate or drafting and earn a certificate that helps obtain a job or advance in a present job. While working, a student may continue college part-time and add related courses to qualify for an AAS degree.

Certificates of Completion are the same as Institutional Certificates above, but are of longer duration (from 15 to 42 or more SCH). To be eligible for a Certificate of Completion from HCC, a student must successfully:

1. Complete the prescribed curriculum for the certificate.

2. Complete a minimum of nine hours in the specialization area toward the certificate at HCC. Hours may not be satisfied by Credit by Exam.

3. Maintain an overall grade point average of at least 2.0 in all credits applying to the certificate.

4. Present evidence of initial assessment testing on a state-approved instrument or evidence of TSI exemption if required for the particular certificate (typically those of 42 SCH or greater).

5. Resolve all financial obligations and return all materials, including library books, to HCC prior to graduation.

## MARKETABLE SKILLS ACHIEVEMENT AWARD

A Marketable Skills Achievement Award (MSA) is awarded after a student completes a sequence of credit courses totaling 9-14 SCH or workforce continuing education courses of 144-359 contact hours. These awards meet the minimum standard for program length specified in the federal Workforce Investment Act (WIA) but are too short to qualify as certificate programs on the Texas Higher Education Coordinating Board program inventory. Designed to prepare students for employment, the content of the award must have been recommended by an external workforce advisory committee or appear on the Local Workforce Development Board's Targeted Occupations list.

## EXEMPLARY PROGRAMS

HCC'S commitment to quality education in workforce education was validated during the Texas Higher Education Coordinating Board (THECB) site visit in April, 2005. The THECB rigorously examined the HCC workforce programs using statewide measures and standards for program effectiveness. Based on enrollment, graduates, placement of completers, industry involvement and quality of instruction, the following workforce programs were rated "exemplary," the highest rating possible:

Accounting

Audio Recording/Video Production

Automotive Technology

Broadcast Technology

Business Administration

Business Technology

Child Development

Computer Information Sciences

Computer Programming

Criminal Justice

Drafting and Design Technology

Emergency Medical Services

Fashion Design

Fashion Merchandising

Finance (Banking)

Fire Protection Technology

Fire Science/Firefighting

Interior Design

Marketing, Management and Research

Medical Assistant

Nuclear Medicine Technology

Pharmacy Technician

Physical Therapist Assistant

Real Estate

Respiratory Therapist

Technical Communication

# Agriculture, Food, Natural Resources

**Horticulture Technology**
**Veterinary Paramedic**
**(See Academic Degrees and Certificates 33-47)**

## Agriculture, Food and Natural Resources

A Career Cluster is a grouping of occupations and broad industries based on commonalities. The Agriculture, Food, and Natural Resources career cluster is concerned with providing knowledge and skills related to production, processing, marketing, distribution, financing, and development of agricultural commodities and resources including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources. This would include careers related to Agriculture, Horticulture, Food Technology, Wildlife, Animal Science, Entomology, Landscape, Forestry and Natural Resources.

Every HCC Workforce Educational program contains a "capstone," an experience for the student to "put it all together." The capstone might consist of an external learning experience (e.g., co-op, clinical, etc.), a course especially designed to help students synthesize knowledge and skills, or a licenser exam as appropriate.

## HORTICULTURE

Horticulture is the art and science of cultivating plants. In the past, this referred to agriculture and simple gardening. New practices and tools have broadened the scope to include "ornamental landscape horticulture" or "production horticulture." The Horticulture Program offers the basic knowledge and techniques necessary for entering jobs and careers in horticulture. The degree may be used in preparation for a baccalaureate degree. Students considering continuing their studies in Horticulture at a four-year college are responsible for reviewing that college's baccalaureate degree requirements and for consulting with an HCC counselor in planning their degree program.

The capstone for the Landscape Horticulture Certificate and the Nursery and Floral Production Certificate is HALT 1382, Cooperative Education. The capstone for the AAS Horticulture is HALT 1382, Cooperative Education. The capstone for the Golf Course Technician Certificate is HALT 1382, Cooperative Education. The capstone for the AAS Golf Course Operations/Grounds Management is HALT 1398, Special Topics in Horticulture Services Operations and Management.

For more information on a class or the program, contact Valorie Gehman at 713-718-5853, or valorie.gehman@hccs.edu.

### HORTICULTURE

| | AAS | |
|---|---|---|

#### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| HALT | 1301 | Principles of Horticulture | 3 |
| HALT | 1211 | Shrubs, Vines, and Groundcovers | 2 |
| HALT | 1309 | Interior Plants | 3 |
| FMKT | 1301 | Floral Design | 3 |
| AGRI | 1309 | Computers in Agriculture OR | |
| XXXX | #3## | Computer Applications Elective* | 3 |
| | | **Semester Total** | **17** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 2311 | Technical and Industrial Correspondence and Report Writing | 3 |
| HALT | 1307 | Plant Diseases | 3 |
| HALT | 1333 | Landscape Irrigation | 3 |
| HALT | 2314 | Plant Propagation | 3 |
| HALT | 2318 | Soil Fertility and Fertilizers | 3 |
| | | **Semester Total** | **15** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| XXXX | #3## | Social Science General Education Elective | 3 |
| CHEM | 1305 | Introductory Chemistry I OR | |
| CHEM | 1405 | Intro to Chemistry for Non-Science Majors | 3 |
| | | **Semester Total** | **6** |

#### SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| HALT | 1322 | Landscape Design | 3 |
| HALT | 2308 | Greenhouse Management | 3 |
| HALT | 1319 | Landscape Construction | 3 |
| HALT | 2320 | Nursery Production and Management | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| HALT | 2312 | Turfgrass Maintenance Management | 3 |
| BMGT | 1301 | Supervision | 3 |
| HALT | 1351 | Landscape Business Operations | 3 |
| HALT | 1382 | Cooperative Education | 3 |
| HALT | 2331 | Advanced Landscape Design | 3 |
| HALT | 2307 | Horticulture Food Crops | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts Elective | 3 |
| | | **Semester Total** | **18** |
| | | **Program Total** | **71** |

*The Computer Applications Elective may be chosen from the following courses: ITSC 1309, Integrated Software Applications I; POFI 1301, Computer Applications I; or BCIS 1405, Business Computer Application.

## LANDSCAPE HORTICULTURE

The Landscape Horticulture Certificate provides the student with fundamental instruction in horticultural science and applicable workforce skills with an emphasis on landscaping techniques.

| | CERTIFICATE | |
|---|---|---|

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| HALT | 1301 | Principles of Horticulture | 3 |
| HALT | 1211 | Shrubs, Vines, and Groundcovers | 2 |
| AGRI | 1309 | Computers in Agriculture OR | |
| XXXX | #3## | Computer Applications Elective* | 3 |
| CHEM | 1305 | Introductory Chemistry I OR | |
| CHEM | 1405 | Introductory Chemistry for Non-Science Majors | 3 |
| HALT | 2318 | Soil Fertility and Fertilizers | 3 |
| | | **Semester Total** | **14** |

## SECOND SEMESTER

| Course | | Title | Credits |
|--------|--|-------|---------|
| HALT | 1307 | Plant Diseases | 3 |
| HALT | 2314 | Plant Propagation | 3 |
| HALT | 1309 | Interior Plants | 3 |
| BMGT | 1301 | Supervision | 3 |
| | | **Semester Total** | **12** |

## THIRD SEMESTER

| Course | | Title | Credits |
|--------|--|-------|---------|
| HALT | 1382 | Cooperative Education | 3 |
| HALT | 1319 | Landscape Construction | 3 |
| HALT | 1322 | Landscape Design | 3 |
| HALT | 1333 | Landscape Irrigation | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **38** |

*The Computer Applications Elective may be chosen from the following courses: ITSC 1309, Integrated Software Applications I; POFI 1301, Computer Applications I; or BCIS 1405, Business Computer Application.

# GOLF COURSE OPERATIONS/GROUNDS MANAGEMENT

### AAS

## FIRST YEAR

### FIRST SEMESTER

| Course | | Title | Credits |
|--------|--|-------|---------|
| HALT | 1301 | Principles of Horticulture | 3 |
| XXXX | #3## | Computer Applications Elective* | 3 |
| ENGL | 1301 | Composition I | 3 |
| HALT | 1396 | Speical Topics in Nursery Operations and Management | 3 |
| HALT | 1170 | First Aid/CPR | 1 |
| HALT | 1324 | Turfgrass Science and Management | 3 |
| | | **Semester Total** | **16** |

### SECOND SEMESTER

| Course | | Title | Credits |
|--------|--|-------|---------|
| HALT | 1370 | Golf Course Irrigation | 3 |
| MATH | 1332 | Mathematics for Liberal Arts | 3 |
| XXXX | #3## | Humanities/Fine Arts Elective | 3 |
| HALT | 2318 | Soil Fertility and Fertilizers | 3 |
| HALT | 1372 | Golf Course Grounds Equipment and Shop Operations | 3 |
| HALT | 1382 | Cooperative Education-Turf and Turfgrass Management | 3 |
| | | **Semester Total** | **18** |

## SECOND YEAR

### FIRST SEMESTER

| Course | | Title | Credits |
|--------|--|-------|---------|
| XXXX | #3## | Social/Behavioral Science Elective | 3 |
| HALT | 1373 | Golf Course Design and Construction | 3 |
| HALT | 1345 | Golf/Sports Field/Park Management | 3 |
| HALT | 1374 | Golf Course Trees and Shrubs | 3 |
| | | **Semester Total** | **12** |

### SECOND SEMESTER

| Course | | Title | Credits |
|--------|--|-------|---------|
| BIOL | 1411 | General Botany OR | |
| CHEM | 1405 | Introductory Chemistry I | 4 |
| XXXX | #3## | Humanities/Fine Arts Elective | 3 |
| HALT | 1320 | Horticultural Calculations | 3 |
| HALT | 2323 | Horticultural Pest Control | 3 |
| | | **Semester Total** | **13** |

## THIRD SEMESTER

| Course | | Title | Credits |
|--------|--|-------|---------|
| SPAN | 1300 | Beginning Spanish Conversation I | 3 |
| HALT | 1398 | Special Topics in Horticulture Services Operations and Management, Other | 3 |
| | | **Semester Total** | **6** |
| | | **Program Total** | **65** |

*The Computer Applications Elective may be chosen from the following courses: ITSC 1309, Integrated Software Applications I; POFI 1301, Computer Applications I; or BCIS 1405, Business Computer Application.

# GOLF COURSE TECHNICIAN CERTIFICATE

The Golf Course Technician Certificate program focuses on the daily care, maintenance, and management of a golf course including basic landscape irrigation and pest control.

### CERTIFICATE

### FIRST SEMESTER

| Course | | Title | Credits |
|--------|--|-------|---------|
| HALT | 1301 | Principles of Horticulture | 3 |
| XXXX | #3## | Computer Applications Elective* | 3 |
| HALT | 1396 | Special Topics in Nursery Operations and Management | 3 |
| HALT | 1170 | First Aid/CPR | 1 |
| HALT | 1327 | Horticultural Equipment Management | 3 |
| HALT | 1324 | Turfgrass Science and Management | 3 |
| | | **Semester Total** | **16** |

### SECOND SEMESTER

| Course | | Title | Credits |
|--------|--|-------|---------|
| HALT | 1370 | Golf Course Irrigation | 3 |
| MATH | 1332 | Mathematics for Liberal Arts | 3 |
| XXXX | #3## | Humanities/Fine Arts Elective | 3 |
| HALT | 2318 | Soil Fertility and Fertilizers | 3 |
| HALT | 1372 | Golf Course Grounds Equipment and Shop Operations | 3 |
| | | **Semester Total** | **15** |

### THIRD SEMESTER

| Course | | Title | Credits |
|--------|--|-------|---------|
| HALT | 1382 | Cooperative Education-Turf and Turfgrass Management | 3 |
| | | **Semester Total** | **3** |
| | | **Program Total** | **34** |

*The Computer Applications Elective may be chosen from the following courses: ITSC 1309, Integrated Software Applications I; POFI 1301, Computer Applications I; or BCIS 1405, Business Computer Application.

# GOLF COURSE LANDSCAPE EQUIPMENT TECHNICIAN

The Golf Course Landscape Equipment Technician Marketable Skills Achievement Award provides the student with fundamental instruction in golf course maintenance with emphasis on equipment utilization and maintenance.

(Marketable Skills Achievement Award)

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| HALT | 2312 | Turfgrass Maintenance | 3 |
| HALT | 1333 | Landscape Irrigation | 3 |
| AGRI | 2301 | Agricultural Power Units | 3 |
| HALT | 1327 | Horticultural Equipment Management | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **12** |

## NURSERY AND FLORAL PRODUCTION

The Nursery and Floral Production certificate enables students to gain an understanding of the latest technology, materials, and methods required in the growing, maintenance, distribution, and sale of nursery and floral plant material. The curriculum prepares students for work as wholesale growers of nursery stock, including woody ornamentals and foliage, bedding plants, potted flowering plants, cut flowers, and fruits and vegetables.

### CERTIFICATE

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| HALT | 1301 | Principles of Horticulture | 3 |
| HALT | 1211 | Shrubs, Vines, and Groundcovers | 2 |
| AGRI | 1309 | Computers in Agriculture OR | |
| XXXX | #3## | Computer Applications Elective* | 3 |
| HALT | 1320 | Horticulture Calculations | 3 |
| HALT | 2318 | Soil Fertility and Fertilizers | 3 |
| | | **Semester Total** | **14** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| HALT | 1307 | Plant Diseases | 3 |
| HALT | 2314 | Plant Propagation | 3 |
| BMGT | 1301 | Supervision | 3 |
| FMKT | 1301 | Floral Design | 3 |
| | | **Semester Total** | **12** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| HALT | 2308 | Greenhouse Management | 3 |
| HALT | 2320 | Nursery Production and Management | 3 |
| XXXX | #3## | Department Approved Elective** | 3 |
| HALT | 1382 | Cooperative Education | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **38** |

*The Computer Applications Elective may be chosen from the following courses: ITSC 1309, Integrated Software Applications I; POFI 1301, Computer Applications I; or BCIS 1405, Business Computer Application.

**Department Approved electives may be chosen from HALT, AGRI, FORE or FMKT courses.

## GULF COAST GARDENER

The Gulf Coast Gardener Marketable Skills Achievement Award allows the student to choose a path of study from three areas: nursery, floral, or interiorscaping. It provides the student with a general knowledge of horticulture and horticultural practices related to nursery and floral production and landscaping.

(Marketable Skills Achievement Award)

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| HALT | #3## | Elective* | 3 |
| HALT | 1301 | Principles of Horticulture | 3 |
| HALT | 1211 | Shrubs, Vines, and Groundcovers | 2 |
| HALT | 1307 | Plant Diseases | 3 |
| HALT | #3## | Elective* | 3 |
| | | **Semester Total** | **14** |
| | | **Program Total** | **14** |

*Choose from the following electives: HALT 1309, Interior Plants; HALT 1319, Landscape Construction; HALT 2308, Greenhouse Management; HALT 2320, Nursery Production and Management; FMKT 1301, Floral Design; or FMKT 2331, Advanced Floral Design.

## VETERINARY PARAMEDIC

The Veterinary Paramedic Program prepares graduates for employment in zoological parks and aquariums, humane shelters, animal control centers, pet stores, kennels, stables and animal hospitals. The one-year program is divided into three semesters. New applicants are accepted each fall and spring semester. Instruction includes classroom lectures, practical labs, field trips, and a preceptorship. The program is not intended for pre-veterinary medicine or to qualify a student as a registered veterinary technician.

Applicants must complete the admissions procedure to be considered for the program. Contact the program for specific requirements for admission and the student handbook for program policies.

The capstone for the Veterinary Paramedic Certificate is VTHT 1166, Practicum.

For more information, call 713-718-5519 or e-mail pamela.huebner@hccs.edu.

## VETERINARY PARAMEDIC

### CERTIFICATE

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| VTHT | 1413 | Veterinary Anatomy and Physiology | 4 |
| VTHT | 2201 | Canine and Feline Clinical Management | 2 |
| VTHT | 1233 | Small Zoo and Wild Mammals | 2 |
| VTHT | 2323 | Veterinary Clinical Pathology I | 3 |
| VTHT | 1371 | Shelter Management | 3 |
| | | **Semester Total** | **14** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| VTHT | 2331 | Veterinary Clinical Pathology II | 3 |
| VTHT | 1266 | Practicum | 2 |
| VTHT | 1341 | Anesthesia and Surgical Assistance | 3 |
| VTHT | 1229 | Large Zoo and Wild Mammals | 2 |
| VTHT | 1349 | Veterinary Pharmacology | 3 |
| | | **Semester Total** | **13** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| VTHT | 1345 | Veterinary Radiology | 3 |
| VTHT | 2205 | Equine Clinical Management | 2 |
| VTHT | 2217 | Exotic Animal Clinical Management | 2 |
| VTHT | 1166 | Practicum | 1 |
| | | **Semester Total** | **8** |
| | | **Program Total** | **35** |

# Architecture and Construction

**Carpentry**
**Construction Engineering Technology**
**Heating, Air Conditioning & Refrigeration**
**Industrial Electricity**
**(See Academic Degrees and Certificates 33-47)**

### Architecture and Construction

A Career Cluster is a grouping of occupations and broad industries based on commonalities. The Architecture and Construction career cluster is concerned with providing knowledge and skills related to designing, planning, managing, building and maintaining the built environment. This would include careers related to Architecture, Construction Management, Construction Trades, Environmental Design and Building Maintenance.

Every HCC Workforce Educational program contains a "capstone," an experience for the student to "put it all together." The capstone might consist of an external learning experience (e.g., co-op, clinical, etc.), a course especially designed to help students synthesize knowledge and skills, or a licenser exam as appropriate

## CARPENTRY

The Carpentry Program prepares students for employment in the construction industry and other occupations associated with the fabrication of wooden structures and fixtures. Employment statistics indicate a growing demand for trained craftspeople in the carpentry trade and related industries. Job opportunities include construction, remodeling, and repair of residential homes, apartment buildings and commercial structures, floor systems installation, and cabinet fabrication. The program consists of one Carpenter Helper Certificate that provides the foundation skills to seek entry-level employment and the Carpentry Certificate. Students must successfully complete the Carpenter Helper Certificate before enrolling in the Carpentry Certificate. Students are required to purchase books and tools.

Students successfully completing any of the certificates listed below may apply a maximum of 26 semester hours towards an AAS in Construction Technology - Craft Management Specialization or an AAS in Business Administration - Technical Management Specialization. For certificates with fewer than 26 semester hours, additional courses in Construction Technology, Business Administration, or other related disciplines may be required.

The capstones for Carpentry are as follows:

Carpenter Helper Certificate: CRPT 1345, Conventional Interior Finish Systems.

Carpentry Certificate: CRPT 1380, Cooperative Education.

For additional information call 713-718-6898, or e-mail max.saravia@hccs.edu.

## CARPENTER HELPER

### CERTIFICATE

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| CRPT | 1329 | Introduction to Carpentry | 3 |
| CRPT | 1315 | Conventional Wall Systems | 3 |
| CRPT | 1325 | Forms and Foundations I | 3 |
| CRPT | 1341 | Conventional Exterior Finish Systems | 3 |
| CRPT | 1345 | Conventional Interior Finish Systems | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **15** |

## CARPENTRY CERTIFICATE

### CERTIFICATE

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| CRPT | 1329 | Introduction to Carpentry | 3 |
| CRPT | 1315 | Conventional Wall Systems | 3 |
| CRPT | 1325 | Forms and Foundations I | 3 |
| CRPT | 1341 | Conventional Exterior Finish Systems | 3 |
| CRPT | 1345 | Conventional Interior Finish Systems | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| CRPT | 1311 | Conventional Roof Systems | 3 |
| CRPT | 2335 | Metal Wall Systems | 3 |
| WDWK | 1313 | Cabinet Making I | 3 |
| WDWK | 2451 | Cabinet Making II | 4 |
| | | **Semester Total** | **13** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| CRPT | 1380 | Cooperative Education - Carpenter | 3 |
| | | **Semester Total** | **3** |
| | | **Program Total** | **31** |

## CONSTRUCTION TECHNOLOGY

The Construction Technology Program is designed to develop qualified personnel for employment in the field of construction or to enhance the workplace skills of those already employed in the industry for career advancement. Job opportunities include management and supervisory positions in construction of residential and commercial buildings and other related industries.

The capstones for Construction Technology are as follows:

Construction Technology AAS: CNBT 2335, Computer-Aided Construction Scheduling; or CNBT 2380, Cooperative Education.

Craft Management AAS Specialization: CNBT 2335, Computer-Aided Construction Scheduling; or CNBT 2380, Cooperative Education.

Construction Technology Certificate: CNBT 1350, Construction Technology II.

Construction Helper Certificate: CNBT 1316, Construction Technology I.

For more information, call 713-718-6898 or e-mail max.saravia@hccs.edu.

# CONSTRUCTION TECHNOLOGY

TSI Testing is required prior to first enrollment.

## FIRST YEAR

### FIRST SEMESTER      CREDITS
| | | | |
|---|---|---|---|
| CNBT | 1191 | Special Topics in Construction/Building Technology/ Technician | 1 |
| CNBT | 1201 | Introduction to the Construction Industry | 2 |
| CRPT | 1329 | Introduction to Carpentry | 3 |
| DFTG | 1315 | Architectural Blueprint Reading | 3 |
| CNBT | 1302 | Mechanical, Plumbing, and Electrical Systems in Construction | 3 |
| CNBT | 1316 | Construction Technology I | 3 |

**Semester Total 15**

### SECOND SEMESTER      CREDITS
| | | | |
|---|---|---|---|
| HART | 1310 | HVAC Shop Practices and Tools | 3 |
| ELPT | 1329 | Residential Wiring | 3 |
| PFPB | 1313 | Introduction to the Plumbing Trade | 3 |
| CNBT | 1350 | Construction Technology II | 3 |
| CNBT | #3## | Approved Construction Technical Elective | 3 |

**Semester Total 15**

## SECOND YEAR

### FIRST SEMESTER      CREDITS
| | | | |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| CNBT | 1311 | Construction Methods and Materials I | 3 |
| CNBT | 1342 | Building Codes and Inspections | 3 |
| ITSC | 1309 | Integrated Software Applications I | 3 |

**Semester Total 12**

### SECOND SEMESTER      CREDITS
| | | | |
|---|---|---|---|
| CNBT | 1346 | Construction Estimating I | 3 |
| CNBT | 2342 | Construction Management I | 3 |
| ENGL | 2311 | Technical and Industrial Correspondence and Report Writing | 3 |
| XXXX | #3## | Approved Social Science General Education Elective | 3 |

**Semester Total 12**

### THIRD SEMESTER      CREDITS
| | | | |
|---|---|---|---|
| CNBT | 2337 | Construction Estimating II | 3 |
| CNBT | 2344 | Construction Management II | 3 |
| XXXX | #3## | Approved Math/Natural Science General Education Elective | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts Elective | 3 |
| CNBT | 2335 | Computer-Aided Construction Scheduling, OR | |
| CNBT | 2380 | Cooperative Education Construction Engineering Technology/Technician | 3 |

**Semester Total 15**

**Program Total 69**

# CRAFT MANAGEMENT SPECIALIZATION

The Craft Management Specialization award prepares qualified craftspeople to enhance their technical skills for career advancement. The program is designed to allow individuals in areas such as Air Conditioning and Refrigeration, Carpentry, Industrial Electricity, Welding, or other related disciplines to assume supervisory, project leader or management positions.

A maximum of 26 semester hours of credit may be awarded for successful completion of a HCC certificate in an approved field, Department of Labor Bureau of Apprentice Training - Journeyman Certification, and/or field experience with approval of the department. For certificates with less then 26-semester hours, additional courses in Construction Technology or other related disciplines may be required.

TSI Testing is required prior to first enrollment.

## FIRST YEAR

Block credit for approved certification .... 26

## SECOND YEAR

### FIRST SEMESTER      CREDITS
| | | | |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| CNBT | 1311 | Construction Methods and Materials I | 3 |
| CNBT | 1342 | Building Codes and Inspections | 3 |
| ITSC | 1309 | Integrated Software Applications I | 3 |

**Semester Total 13**

### SECOND SEMESTER      CREDITS
| | | | |
|---|---|---|---|
| CNBT | 1346 | Construction Estimating I | 3 |
| CNBT | 2342 | Construction Management I | 3 |
| ENGL | 2311 | Technical and Industrial Correspondence and Report Writing | 3 |
| XXXX | #3## | Approved Social Science General Education Elective | 3 |

**Semester Total 12**

### THIRD SEMESTER      CREDITS
| | | | |
|---|---|---|---|
| CNBT | 2337 | Construction Estimating II | 3 |
| CNBT | 2344 | Construction Management II | 3 |
| XXXX | #3## | Approved Math/Natural Science General Education Elective | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts Elective | 4 |
| CNBT | 2335 | Computer-Aided Construction Scheduling, OR | |
| CNBT | 2380 | Cooperative Education-Construction Engineering Technology/Technician | 3 |

**Semester Total 13**

**Program Total 64**

# CONSTRUCTION TECHNOLOGY

The Construction Technology Certificate enhances the skills learned in the helper certificate by providing more advanced training in Heating and Air Conditioning Electricity, Plumbing, and Construction Technology trades and practices.

**FIRST SEMESTER**

| | | | |
|---|---|---|---|
| CNBT | 1191 | Special Topics Construction/Building Technology/Technician | 1 |
| CNBT | 1201 | Introduction to the Construction | 2 |
| CRPT | 1329 | Introduction to Carpentry | 3 |
| DFTG | 1315 | Architectural Blueprint Reading | 3 |
| CNBT | 1302 | Mechanical, Plumbing, and Electrical Systems in Construction | 3 |
| CNBT | 1316 | Construction Technology I | 3 |
| | | **Semester Total** | **15** |

**SECOND SEMESTER**

| | | | |
|---|---|---|---|
| HART | 1310 | HVAC Shop Practices and Tools | 3 |
| ELPT | 1329 | Residential Wiring | 3 |
| PFPB | 1313 | Introduction to the Plumbing Trade | 3 |
| CNBT | 1350 | Construction Technology II | 3 |
| CNBT | #3## | Approved Construction Technical Elective | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **30** |

*Pending approval of the Texas Higher Education Coordinating Board

## CONSTRUCTION HELPER

The Construction Helper Certificate prepares students for entry level employment in the field of construction. Students are exposed to a variety of trades involved in residential and commercial buildings. Students enrolled in this certificate obtain basic skills required in the construction industry, including safety regulations, trade standards and practices, blueprint reading, basic carpentry, air conditioning, electrical, and plumbing skills.

**FIRST SEMESTER**

| | | | |
|---|---|---|---|
| CNBT | 1191 | Special Topics in Construction/Building Technology/Technician | 1 |
| CNBT | 1201 | Introduction to the Construction Industry | 2 |
| CRPT | 1329 | Introduction to Carpentry | 3 |
| DFTG | 1315 | Architectural Blueprint Reading | 3 |
| CNBT | 1302 | Mechanical, Plumbing, and Electrical Systems in Construction | 3 |
| CNBT | 1316 | Construction Technology I | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **15** |

*Pending approval of the Texas Higher Education Coordinating Board

## HEATING, AIR CONDITIONING AND REFRIGERATION

The Heating, Air Conditioning, and Refrigeration Program is designed to train individuals in the field of heating and refrigeration equipment, maintenance and repair and in the use of EPA-approved recovery equipment. Individuals satisfying course competencies will have career opportunities in a variety of job classifications such as service, installation and repair of industrial and domestic refrigeration systems. All students seeking employment as air conditioning/refrigeration technicians must pass an Environmental Protection Agency (EPA) certification test. HCC recommends the student pass this test before completing the program.

Students successfully completing any of the certificates listed below may apply a maximum of 26 semester hours towards an AAS degree in Construction Technology - Craft Management Specialization. For certificates with fewer than 26 semester hours, additional courses in Construction Technology, Business Administration, or other related disciplines may be required.

The capstones for Heating, Air Conditioning, and Refrigeration are as follows:

Heating, Air Conditioning and Refrigeration Mechanic Certificate: HART 2349, Heat Pumps; HART 2368, Practicum; or HART 2380, Cooperative Education.

Heating, Air Conditioning and Refrigeration Commercial Technician Certificate: HART 2341, Commercial Air Conditioning; or HART 2380, Cooperative Education, or HART 2368, Practicum.

Heating, Air Conditioning and Refrigeration Technician/Installer Certificate: HART 2345, Residential Air Conditioning Systems Design; or HART 2380, Cooperative Education; or HART 2368, Practicum.

For additional information call 713-718-6898 or e-mail max.saravia@hccs.edu.

## HEATING, AIR CONDITIONING AND REFRIGERATION MECHANIC

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| HART | 1301 | Basic Electricity for HVAC | 3 |
| HART | 1307 | Refrigeration Principles | 3 |
| HART | 1303 | Air Conditioning Control Principles | 3 |
| HART | 1356 | EPA Recovery Certification Preparation | 3 |
| | | **Semester Total** | **12** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| HART | 1345 | Gas and Electric Heating | 3 |
| HART | 1341 | Residential Air Conditioning | 3 |
| HART | 2342 | Commercial Refrigeration | 3 |
| HART | 2349 | Heat Pumps OR | |
| HART | 2380 | Cooperative Education OR | |
| HART | 2368 | Practicum-Heating, Air Conditioning and Refrigeration | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **24** |

## HEATING, AIR CONDITIONING AND REFRIGERATION COMMERCIAL TECHNICIAN

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| HART | 1301 | Basic Electricity for HVAC | 3 |
| HART | 1303 | Air Conditioning Control Principles | 3 |
| HART | 1307 | Refrigeration Principles | 3 |
| HART | 1356 | EPA Recovery Certification Preparation | 3 |
| | | **Semester Total** | **12** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| HART | 1341 | Residential Air Conditioning | 3 |
| HART | 1345 | Gas and Electric Heating | 3 |
| HART | 2342 | Commercial Refrigeration | 3 |
| HART | 2349 | Heat Pumps | 3 |
| | | **Semester Total** | **12** |

## THIRD SEMESTER

| | | | CREDITS |
|---|---|---|---|
| HART | 2334 | Advanced A/C Controls | 3 |
| HART | 2357 | Specialized Commercial Refrigeration | 3 |
| HART | 2302 | Commercial Air Conditioning System Design | 3 |
| HART | 2341 | Commercial Air Conditioning OR | |
| HART | 2380 | Cooperative Education OR | |
| HART | 2368 | Practicum-Heating, Air Conditioning and Refrigeration | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **36** |

# HEATING, AIR CONDITIONING AND REFRIGERATION TECHNICIAN/ INSTALLER

### CERTIFICATE

## FIRST SEMESTER

| | | | CREDITS |
|---|---|---|---|
| HART | 1301 | Basic Electricity for HVAC | 3 |
| HART | 1303 | Air Conditioning Control Principles | 3 |
| HART | 1307 | Refrigeration Principles | 3 |
| HART | 1356 | EPA Recovery Certification Preparation | 3 |
| | | **Semester Total** | **12** |

## SECOND SEMESTER

| | | | CREDITS |
|---|---|---|---|
| HART | 1345 | Gas and Electric Heating | 3 |
| HART | 1341 | Residential Air Conditioning | 3 |
| HART | 2342 | Commercial Refrigeration | 3 |
| HART | 2349 | Heat Pumps | 3 |
| | | **Semester Total** | **12** |

## THIRD SEMESTER

| | | | CREDITS |
|---|---|---|---|
| MCHN | 1453 | Sheet Metal III | 4 |
| HART | 2336 | Air Conditioning Troubleshooting | 3 |
| HART | 2345 | Residential Air Conditioning Systems Design | 3 |
| HART | 2338 | Air Conditioning Installation and Startup OR | |
| HART | 2380 | Cooperative Education OR | |
| HART | 2368 | Practicum-Heating, Air Conditioning and Refrigeration | 3 |
| | | **Semester Total** | **13** |
| | | **Program Total** | **37** |

# INDUSTRIAL ELECTRICITY

The Industrial Electricity Program prepares students for employment in the electrical and cable/network industries. There is an increased demand for trained electricians to work in the installation, maintenance, and service of residential, commercial and industrial electrical systems. Rewarding career opportunities exist in the areas of industrial automation, cable/network, and fiber optic installations. The program provides comprehensive theoretical and hands-on training to meet the industry's continued and changing demands for qualified personnel. Students are required to purchase tools and books.

Students successfully completing any of the certificates listed below may apply a maximum of 26 semester hours towards an AAS degree in Construction Technology - Craft Management Specialization or an AAS degree in Business Administration - Technical Management Specialization. For certificates with fewer than 26 semester hours, additional courses in Construction Technology, Business Administration, or other related disciplines may be required.

The capstones for Industrial Electricity are as follows:

Electrical Helper Certificate: ELPT 1345, Commercial Wiring.

Electrical Power Technology Certificate: ELPT 2364, Practicum, or ELPT 2301, Journeyman Electrician Exam Review.

Industrial Automation Technology Certificate: ELPT 2365, Practicum, or ELPT 2449, Industrial Automation.

Cable and Network Installer Certificate: CSIR 1355, Industry Certifications. Cable and Network Technician Certificate: CSIR 1391, Special Topics-Communications System Installer and Repairer.

For more information call 713-718-6898 or e-mail max.saravia@hccs. edu.

# ELECTRICAL HELPER

### CERTIFICATE

## FIRST SEMESTER

| | | | CREDITS |
|---|---|---|---|
| ELPT | 1215 | Electrical Calculations I | 2 |
| ELPT | 1221 | Introduction to Electrical Safety and Tools | 2 |
| ELPT | 1325 | National Electrical Code I | 3 |
| ELPT | 1311 | Basic Electrical Theory | 3 |
| ELPT | 1329 | Residential Wiring | 3 |
| ELPT | 1345 | Commercial Wiring | 3 |
| | | **Semester Total** | **16** |
| | | **Program Total** | **16** |

# INDUSTRIAL AUTOMATION TECHNOLOGY

### CERTIFICATE

## FIRST SEMESTER

| | | | CREDITS |
|---|---|---|---|
| ELPT | 1215 | Electrical Calculations I | 2 |
| ELPT | 1221 | Introduction to Electrical Safety and Tools | 2 |
| ELPT | 1325 | National Electrical Code I | 3 |
| ELPT | 1311 | Basic Electrical Theory | 3 |
| ELPT | 1341 | Motor Control | 3 |
| ELMT | 1301 | Basic Programmable Logic Controllers | 3 |
| | | **Semester Total** | **16** |

## SECOND SEMESTER

| | | | CREDITS |
|---|---|---|---|
| ELPT | 1355 | Electronic Applications | 3 |
| ELPT | 2419 | Programmable Logic Controllers I | 4 |
| CSIR | 1355 | Industry Certifications | 3 |
| INCR | 1302 | Physics of Instrumentation OR | 3 |
| HART | 1307 | Refrigeration Principles | 3 |
| | | **Semester Total** | **13** |

## THIRD SEMESTER

| | | | CREDITS |
|---|---|---|---|
| ELPT | 2365 | Practicum (or Field Experience) - Electrical and Power Transmission Installer, Automation Technology OR | 3 |
| ELPT | 2449 | Industrial Automation | 4 |
| XXXX | #3## | Department Approved Elective | 3 |
| | | **Semester Total** | **6** |
| | | **Program Total** | **35** |

# ELECTRICAL POWER TECHNOLOGY

## CERTIFICATE

### FIRST SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| ELPT | 1215 | Electrical Calculations I | 2 |
| ELPT | 1221 | Introduction to Electrical Safety and Tools | 2 |
| ELPT | 1325 | National Electrical Code I | 3 |
| ELPT | 1311 | Basic Electrical Theory | 3 |
| ELPT | 1329 | Residential Wiring | 3 |
| ELPT | 1345 | Commercial Wiring | 3 |
| | | **Semester Total** | **16** |

### SECOND SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| ELPT | 1341 | Motor Control | 3 |
| ELMT | 1301 | Basic Programmable Logic Controllers | 3 |
| CSIR | 1355 | Industry Certifications | 3 |
| ELPT | 2325 | National Electrical Code II | 3 |
| | | **Semester Total** | **12** |

### THIRD SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| ELPT | #3## | Department Approved Elective | 3 |
| ELPT | 2364 | Practicum (or Field Experience) - Electrical and Power Transmission Installer, Power Technology OR | 3 |
| ELPT | 2301 | Journeyman Electrician Exam Review | 3 |
| | | **Semester Total** | **6** |
| | | **Program Total** | **34** |

# ADVANCED ELECTRICAL SYSTEMS INSTALLATION TECHNICIAN

## CERTIFICATE

### FIRST SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| ELPT | 1215 | Electrical Calculations I | 2 |
| ELPT | 1221 | Introduction to Electrical Safety and Tools | 2 |
| ELPT | 1311 | Basic Electrical Theory | 3 |
| ELPT | 1331 | Survey of the National Electrical Code | 3 |
| ELPT | 1341 | Motor Control | 3 |
| CSIR | 1355 | Industry Certifications | 3 |
| | | **Semester Total** | **16** |

### SECOND SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| ELMT | 1301 | Programmable Logic Controllers | 3 |
| ELPT | 1345 | Commercial Wiring | 3 |
| ELPT | 1355 | Electronic Applications | 3 |
| EEIR | 1307 | Introductory Security Systems | 3 |
| HART | 1307 | Refrigeration Principles | 3 |
| | | **Semester Total** | **15** |

### THIRD SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| EEIR | 1345 | Intermediate Security Systems | 3 |
| HART | 1451 | Energy Management | 4 |
| ELPT | 2449 | Industrial Automation | 4 |
| | | **Semester Total** | **11** |
| | | **Program Total** | **42** |

# CABLE AND NETWORK INSTALLER

## CERTIFICATE

### FIRST SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| ELPT | 1215 | Electrical Calculations I | 2 |
| ELPT | 1221 | Introduction to Electrical Safety and Tools | 2 |
| ELPT | 1325 | National Electrical Code I | 3 |
| ELPT | 1311 | Basic Electrical Theory | 3 |
| ELPT | 1329 | Residential Wiring | 3 |
| CSIR | 1355 | Industry Certifications | 3 |
| | | **Semester Total** | **16** |
| | | **Program Total** | **16** |

# CABLE AND NETWORK TECHNICIAN

## CERTIFICATE

### FIRST SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| ELPT | 1215 | Electrical Calculations I | 2 |
| ELPT | 1221 | Introduction to Electrical Safety and Tools | 2 |
| ELPT | 1325 | National Electrical Code I | 3 |
| ELPT | 1311 | Basic Electrical Theory | 3 |
| ELPT | 1329 | Residential Wiring | 3 |
| CSIR | 1355 | Industry Certifications | 3 |
| | | **Semester Total** | **16** |

### SECOND SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| ELPT | 1345 | Commercial Wiring | 3 |
| ELPT | 1355 | Electronics for Applications | 3 |
| CNBT | 2342 | Construction Management I | 3 |
| CSIR | 1391 | Special Topics-Communications System Installer and Repairer - Cable and Network Installations | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **28** |

# Arts, A/V Technology and Communications

## COMMUNICATION & MEDIA ARTS

**Audio Recording Technology**
**Broadcast Technology**
**Digital Communication**
**Filmmaking**
**Technical Communication**
**(See Academic Degrees and Certificates 33-47)**

## VISUAL & PERFORMING ARTS

**Fashion Design**
**Fashion Merchandising**
**Interior Design**
**Music Arranging, Composition and Production**
**Music Business**
**Music in Performance**
**(See Academic Degrees and Certificates 33-47)**

### Arts, Audio/Video Technology and Communications

A Career Cluster is a grouping of occupations and broad industries based on commonalities. The Arts, Audio/Video Technology and Communications career cluster is concerned with providing knowledge and skills related to designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services. This would include careers related to Communication, Journalism, Radio/TV/Film, Speech, Communication Disorders, Audio Recording, Video Production, Broadcast Technology, Graphic Design, Multimedia, Web Publishing, Digital Arts, Art, Art History, Dance, Drama, Music, Music Business, Fashion Design and Merchandising and Interior Design.

Every HCC Workforce Educational program contains a "capstone," an experience for the student to "put it all together." The capstone might consist of an external learning experience (e.g., co-op, clinical, etc.), a course especially designed to help students synthesize knowledge and skills, or a licenser exam as appropriate

### AUDIO RECORDING/VIDEO PRODUCTION

"Hands-on" is the guiding philosophy behind this innovative program in audio recording, live sound and video production. With the addition of a SSL 4048 G+ mixing console, students acquire hundreds of engineering hours as they produce audio recordings, MIDI sequences and music videos in seven well-equipped recording studios and video editing suites. After completing the first and second semester classes, each student is assigned a weekly recording session to enhance technical and creative skills. Graduating students complete their education with classes in audio mastering, CD production, and internships and they may augment their training with two enhanced skills certificates in electronic music and video production. Upon completion, students pursue careers in recording studios, live sound reinforcement, MIDI sequencing, electronics maintenance, equipment installation, radio, television, music video production and sales.

The capstone course for the AAS degree in Audio Recording Technology is RTVB 2382, Cooperative Education-Radio and Television Broadcasting Technology/Technician.

For more information, call 713-718-5602 or e-mail scott.gehman@hccs.edu.

## AUDIO RECORDING TECHNOLOGY

### AAS

TSI Testing is required prior to first enrollment.

**FIRST YEAR**

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| MUSC | 1427 | Audio Engineering I | 4 |
| MUSC | 1323 | Audio Electronics | 3 |
| MUSI | 1223 | Studio Orchestra | 2 |
| MUSC | 1331 | MIDI I | 3 |
| RTVB | 1421 | TV Field Production | 4 |
| | | **Semester Total** | **16** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| MUSI | 1181 | Piano Class I | 1 |
| MUSI | 1301 | Music Fundamentals | 3 |
| MUSC | 2427 | Audio Engineering II | 4 |
| MUSC | 2355 | MIDI II | 3 |
| RTVB | 1240 | Audio/Radio Production II Lab | 2 |
| MATH | 1314 | College Algebra | 3 |
| | | **Semester Total** | **16** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| RTVB | 2232 | Audio/Radio Production III Lab | 2 |
| MUSC | 2447 | Audio Engineering III | 4 |
| | | **Semester Total** | **6** |

**SECOND YEAR**

| FIRST SEMESTER | | | CREDIT |
|---|---|---|---|
| MUSC | 2201 | Audio Engineering Practices | 2 |
| MUSC | 2448 | Audio Engineering IV | 4 |
| MUSB | 1305 | Survey of the Music Business | 3 |
| ENGL | 1301 | Composition I | 3 |
| XXXX | #3## | Social Science General Education Elective | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| MUSC | 2457 | Audio Engineering V | 4 |
| MUSC | 2201 | Audio Engineering Practices | 2 |
| RTVB | 2382 | Cooperative Education-Radio and Television Broadcasting Technology/Technician | 3 |
| RTVB | 2343 | Commercial Recording Techniques | 3 |
| | | **Semester Total** | **12** |

| THIRD SEMESTER (SUMMER) | | | CREDITS |
|---|---|---|---|
| MUSC | 2201 | Audio Engineering Practices | 2 |
| MUSC | 2458 | Audio Engineering VI | 4 |
| | | **Semester Total** | **6** |
| | | **Program Total** | **71** |

## AUDIO RECORDING TECHNOLOGY

All of the courses in this certificate will apply to the Audio Recording Technology AAS degree plan.

The capstone course for the Audio Recording Technology Certificate is RTVB 2382, Cooperative Education-Radio and Television Broadcasting Technology/Technician.

TSI Testing is required prior to first enrollment.

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| MUSC | 1427 | Audio Engineering I | 4 |
| MUSC | 1323 | Audio Electronics | 3 |
| MUSI | 1223 | Studio Orchestra | 2 |
| MUSC | 1331 | MIDI I | 3 |
| RTVB | 1421 | TV Field Production | 4 |
| | | **Semester Total** | **16** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| MUSI | 1181 | Piano Class I | 1 |
| MUSI | 1301 | Music Fundamentals | 3 |
| MUSC | 2427 | Audio Engineering II | 4 |
| MUSC | 2355 | MIDI II | 3 |
| RTVB | 1240 | Audio/Radio Production II Lab | 2 |
| | | **Semester Total** | **13** |

| THIRD SEMESTER (SUMMER) | | | CREDITS |
|---|---|---|---|
| RTVB | 2232 | Audio/Radio Production III Lab | 2 |
| MUSC | 2447 | Audio Engineering III | 4 |
| RTVB | 2382 | Cooperative Education-Radio and Television Broadcasting Technology/Technician | 3 |
| | | **Semester Total** | **9** |
| | | **Program Total** | **38** |

# ELECTRONIC MUSIC/MIDI

The certificate program emphasizes skills used by MIDI producers and sound designers in MIDI studios, multitrack recording studios and project studios. Some of the courses in this certificate apply to the Audio Recording Technology AAS degree plan.

The capstone course for the Electronic Music/MIDI Certificate is RTVB 2343, Commercial Recording Techniques.

TSI Testing is required prior to first enrollment.

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| MUSI | 1223 | Studio Orchestra | 2 |
| MUSI | 1181 | Piano Class I OR | |
| MUAP | 1169 | Piano | 1 |
| MUSC | 1427 | Audio Engineering I | 4 |
| MUSC | 1331 | MIDI I | 3 |
| RTVB | 1421 | TV Field Production | 4 |
| MUSI | 1301 | Music Fundamentals | 3 |
| | | **Semester Total** | **17** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| MUSI | 1182 | Piano Class II OR | |
| MUAP | 1169 | Piano | 1 |
| RTVB | 1240 | Audio/Radio Production II Lab | 2 |
| MUSC | 2427 | Audio Engineering II | 4 |
| MUSC | 2355 | MIDI II | 3 |
| MUSC | 2345 | Synthesis II | 3 |
| RTVB | 2430 | Film and Video Editing | 4 |
| | | **Semester Total** | **17** |

| THIRD SEMESTER (SUMMER) | | | CREDITS |
|---|---|---|---|
| MUSC | 2433 | Scoring for Video and Film | 4 |
| RTVB | 2343 | Commercial Recording Techniques | 3 |
| MUAP | 1169 | Piano | 1 |
| | | **Semester Total** | **8** |
| | | **Program Total** | **42** |

# ELECTRONIC MUSIC/MIDI

Graduates of the Audio and Recording Technology Program wishing further training in MIDI and video integration may pursue this certificate. The courses emphasize computerized audio/MIDI production and creating music for video.

The capstone course for the Electronic Music/MIDI Enhanced Skills Certificate is MUSC 2433, Scoring for Video and Film.

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| MUSI | 1182 | Piano Class II OR | |
| MUAP | 1169 | Piano | 1 |
| RTVB | 2430 | Film and Video Editing | 4 |
| MUSC | 2345 | Synthesis II | 3 |
| MUSC | 2433 | Scoring for Video and Film | 4 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **12** |

# BROADCAST TECHNOLOGY

The Broadcast Technology program is designed to prepare students for directing, producing, production crew and talent positions in the radio and television industries. Students who complete this program are qualified to work as one or more of the following: camera operator, sound mixer, lighting technician, non-linear and tape-to-tape editor, news anchor, field reporter, or technical director.

The capstone course for the AAS in Broadcast Technology is RTVB 2486, Internship-Radio and Television Broadcasting.

For more information, call 713-718-6725 or e-mail marcelo.gonzalez@hccs.edu.

# BROADCAST TECHNOLOGY

TSI Testing is required prior to first enrollment.

## FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| ENVR | 1301 | Environmental Science | 3 |
| RTVB | 1409 | Audio/Radio Production I | 4 |
| SPCH | 1311 | Fundamentals of Speech | 3 |
| | | **Semester Total** | **13** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1302 | Composition II | 3 |
| RTVB | 1317 | Survey of Broadcast Media | 3 |
| RTVB | 1425 | TV Studio Production | 4 |
| RTVB | 1472 | Videotape Editing | 4 |
| DRAM | 2366 | Survey and History of Film | 3 |
| | | **Semester Total** | **17** |

## SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| RTVB | 1447 | Audio/Radio Production II | 4 |
| RTVB | 1429 | Scriptwriting | 4 |
| RTVB | 1421 | TV Field Production | 4 |
| RTVB | 2430 | Film and Video Editing | 4 |
| | | **Semester Total** | **16** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| SOCI | 1301 | Introduction to Sociology | 3 |
| RTVB | 2435 | TV Production | 4 |
| RTVB | 1401 | Broadcast News Writing | 4 |
| ARTC | 1302 | Digital Imaging OR | |
| GRPH | 1359 | Object Oriented Computer Graphics OR | |
| ARTV | 2341 | Advanced Digital Video | 3 |
| | | **Semester Total** | **14** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| RTVB | 2486 | Internship-Radio and Television Broadcasting | 4 |
| | | **Semester Total** | **4** |
| | | **Program Total** | **64** |

## BROADCAST TECHNOLOGY PRODUCTION SPECIALIZATION

Students enrolled in the Broadcast Technology Production Specialization Certificate Program learn the skills needed to operate cameras, lights, and microphones for use in studio and field television broadcast production. The certificate emphasizes live-to-tape, prerecorded productions and digital television formats.

The capstone course for the Broadcast Technology Production Specialization Certificate is RTVB 2435, TV Production.

For more information, call 713-718-6725 or e-mail marcelo.gonzalez@hccs.edu.

### CERTIFICATE

Course prerequisite needs to be met for English.

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| RTVB | 1317 | Survey of Broadcast Media | 3 |
| RTVB | 1409 | Audio/Radio Production I | 4 |
| RTVB | 1425 | TV Studio Production | 4 |
| ENGL | 1301 | English Composition I | 3 |
| | | **Semester Total** | **14** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| RTVB | 1421 | TV Field Production | 4 |
| RTVB | 1447 | Audio/Radio Production II | 4 |
| RTVB | 1429 | Scriptwriting | 4 |
| | | **Semester Total** | **12** |

| SUMMER SEMESTER | | | CREDITS |
|---|---|---|---|
| RTVB | 2435 | TV Production | 4 |
| | | **Semester Total** | **4** |
| | | **Program Total** | **30** |

## BROADCAST TECHNOLOGY POST-PRODUCTION SPECIALIZATION

Students enrolled in the Broadcast Technology Post-Production Specialization Certificate Program learn the skills needed to edit analog/digital television and video programs for broadcasting, emphasizing problem solving, story telling and creativity.

The capstone course for the Broadcast Technology Post-Production Specialization is RTVB 2430, Film and Video Editing.

For more information, call 713-718-6725 or e-mail marcelo.gonzalez@hccs.edu.

### CERTIFICATE

Course prerequisite needs to be met for English.

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| RTVB | 1317 | Survey of Broadcast Media | 3 |
| RTVB | 1409 | Audio/Radio Production I | 4 |
| RTVB | 1472 | Videotape Editing | 4 |
| ENGL | 1301 | Composition I | 3 |
| | | **Semester Total** | **14** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| RTVB | 1421 | TV Field Production | 4 |
| RTVB | 1429 | Scriptwriting | 4 |
| RTVB | 2430 | Film and Video Editing | 4 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **26** |

## BROADCAST TECHNOLOGY

Students enrolled in the Broadcast Technology Certificate Program learn both production and post-production skills needed to work in broadcast and cable television stations, as well as independent television companies.

The capstone course for the Broadcast Technology Certificate is RTVB 2435, TV Production.

For more information, call 713-718-6725 or e-mail marcelo.gonzalez@hccs.edu.

### CERTIFICATE

Course prerequisites need to be met for academic courses.

## FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| RTVB | 1317 | Survey of Broadcast Media | 3 |
| RTVB | 1472 | Videotape Editing | 4 |
| RTVB | 1425 | TV Studio Production | 4 |
| ENGL | 1301 | Composition I | 3 |
| | | **Semester Total** | **14** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| RTVB | 1421 | TV Field Production | 4 |
| RTVB | 1409 | Audio/Radio Production I | 4 |
| RTVB | 1429 | Scriptwriting | 4 |
| RTVB | 2430 | Film and Video Editing | 4 |
| | | **Semester Total** | **16** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| DRAM | 2366 | Survey and History of Film | 3 |
| ARTC | 1302 | Digital Imaging I OR | |
| GRPH | 1359 | Object Oriented Computer Graphics OR | |
| ARTV | 2341 | Advanced Digital Video | 3 |
| | | **Semester Total** | **6** |

## SECOND YEAR

### FIRST SEMESTER

RTVB  2435  TV Production ................................................................... 4
RTVB  1447  Audio/Radio Production II ................................................ 4

**Semester Total**    **8**

**Program Total**    **44**

# DIGITAL COMMUNICATION

The Digital Communication programs offer students the opportunity to explore innovative new digital media. Business and industry need skilled illustrators and technical communicators to design, write, edit, and produce a wide variety of advertising and technical materials in print and electronic media.

Each of these programs provides students quality instruction in the rapidly evolving technologies which are utilized in numerous regional and global careers and industries.

Multimedia and Web students will acquire skills in animation, digital video and the construction of interactive web pages. Graphic Design students will acquire skills to develop their original concepts and ideas in traditional studio and digital design processes. Students in all specializations will develop portfolios of their work to help prepare them for work in industry after graduation.

## MAJOR PROGRAMS OFFERED

### DIGITAL COMMUNICATION

- AAS
- Level 1 Certificate
- Level 2 Certificate
- Marketable Skills Achievement Award

## Digital Communication with a Specialization in:

### GRAPHIC DESIGN

- AAS
- Level 2 Certificate
- Marketable Skills Achievement Award

### MULTIMEDIA

- AAS
- Level 1 Certificate
- Level 2 Certificate
- Marketable Skills Achievement Award

### WEB PUBLISHING

- AAS
- Level 1 Certificate
- Level 2 Certificate
- Marketable Skills Achievement Award

### TECHNICAL COMMUNICATION

- Technical Communication  AAS
- Technical Writing Certificate
- Online Documentation Certificate
- Marketable Skills Achievement Award

The Digital Communication department provides state-of-the-art curriculum and instruction in graphic design, multimedia development, Web publishing and technical writing. The department uses the latest technologies to facilitate students in meeting professional and personal goals and provides business and industry with a highly skilled workforce.

Two AAS degrees are available: one AAS in Digital Communication with three specializations and one AAS in Technical Communication. Several Level One and Level Two Certificates are offered which are designed to be stepping stones toward completing an AAS degree.

Five Marketable Skills Achievement (MSA) Awards are also available to students who complete a sequence of courses totaling 9–14 semester credit hours. These awards meet the minimum standard for program length specified in the Workforce Investment Act, but the program does not have enough hours to qualify as approved Texas Higher Education Coordinating Board Level 1 or Level 2 certificate programs. Credits earned in a MSA in Digital Communication will apply to related certificates or AAS degrees.

The capstone for the Digital Communication degrees and certificates is IMED 2388, Internship.

For more information, call 713-718-7890 or see our Web site at: http://swc2.hccs.edu/digicom.

# DIGITAL COMMUNICATION

The AAS in Digital Communication prepares students to enter the workforce as generalists in the area of computerized graphic communication. The degree includes generalized training in graphic design, multimedia, and Web technologies. The program prepares students for employment in the fields of print-based media, electronic interactive multimedia, and Web design and authoring.

### AAS

TSI Testing is required prior to first enrollment.

## FIRST YEAR

### FIRST SEMESTER                                 CREDITS

ARTC  1325  Introduction to Computer Graphics ................................... 3
ARTC  1302  Digital Imaging I (Photoshop) ........................................... 3
ARTC  1309  Basic Illustration ............................................................... 3
ARTC  1305  Basic Graphic Design ...................................................... 3
ENGL  1301  Composition I .................................................................... 3
SPCH  1321  Business and Professional Speaking .............................. 3

**Semester Total**    **18**

### SECOND SEMESTER                              CREDITS

ARTC  1353  Computer Illustration (Illustrator) ..................................... 3
ARTC  2311  History of Communication Graphics ................................ 3
IMED  1301  Introduction to Multimedia ............................................... 3
IMED  1316  Web Page Design I ........................................................... 3
XXXX  #3##  Math/Natural Science General Education Elective .......... 3

**Semester Total**    **15**

### THIRD SEMESTER                                 CREDITS

IMED  1341  Interface Design ............................................................... 3
ETWR  1371  Technical Composition ..................................................... 3
ITSE  2313  Web Authoring ................................................................... 3

**Semester Total**    **9**

## SECOND YEAR

### FIRST SEMESTER           CREDITS
| | | | |
|---|---|---|---|
| ARTC | 2313 | Digital Publishing II (InDesign) | 3 |
| ARTC | 2317 | Typographic Design | 3 |
| ARTV | 2301 | 2-D Animation I (Flash) | 3 |
| ARTV | 1351 | Digital Video | 3 |
| XXXX | #3## | Humanities/Fine Arts General Education Elective | 3 |
| | | **Semester Total** | **15** |

### SECOND SEMESTER           CREDITS
| | | | |
|---|---|---|---|
| XXXX | #3## | Social Science General Education Elective | 3 |
| ARTV | 1345 | 3-D Modeling and Rendering I | 3 |
| IMED | 1375 | Writing for the Web | 3 |
| ARTC | 2335 | Portfolio Development for Graphic Design | 3 |
| IMED | 2388 | Internship-Digital Communication and Media/Multimedia | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **72** |

## DIGITAL COMMUNICATION-LEVEL I

The Level 1 Certificate in Digital Communication prepares students to enter the workforce as generalists in the area of computerized graphic communication. The certificate includes generalized training in graphic design, multimedia, and Web technologies and is a basis for the Level 2 Certificate in Digital Communication. The program prepares students for employment in the fields of print-based media, electronic interactive multimedia, and Web publishing.

### CERTIFICATE

## FIRST YEAR

### FIRST SEMESTER           CREDITS
| | | | |
|---|---|---|---|
| ARTC | 1325 | Introduction to Computer Graphics | 3 |
| ARTC | 1302 | Digital Imaging I (Photoshop) | 3 |
| ARTC | 1309 | Basic Illustration | 3 |
| ARTC | 1305 | Basic Graphic Design | 3 |
| | | **Semester Total** | **12** |

### SECOND SEMESTER           CREDITS
| | | | |
|---|---|---|---|
| ARTC | 1353 | Computer Illustration (Illustrator) | 3 |
| ARTC | 2311 | History of Communication Graphics | 3 |
| IMED | 1301 | Introduction to Multimedia | 3 |
| IMED | 1316 | Web Page Design I | 3 |
| | | **Semester Total** | **12** |

### Second Year

### FIRST SEMESTER           CREDITS
| | | | |
|---|---|---|---|
| IMED | 1341 | Interface Design | 3 |
| ETWR | 1371 | Technical Composition | 3 |
| ITSE | 2313 | Web Authoring | 3 |
| | | **Semester Total** | **9** |

### Second Semester           Credits
| | | | |
|---|---|---|---|
| ARTV | 1301 | Animation 2-D | 3 |
| ARTV | 1351 | Digital Video | 3 |
| ARTC | 2335 | Portfolio Development for Graphic Design | 3 |
| | | **Semester Total** | **9** |
| | | **Program Total** | **42** |

## DIGITAL COMMUNICATION-LEVEL II

The Level 2 Certificate in Digital Communication prepares students to enter the workforce as generalists in the area of computerized graphic communication. The certificate includes generalized training in graphic design, multimedia, and Web technologies and is a basis for the AAS degree in Digital Communication. The program prepares students for employment in the fields of print-based media, electronic interactive multimedia, and Web publishing.

### CERTIFICATE

## FIRST YEAR

### FIRST SEMESTER           CREDITS
| | | | |
|---|---|---|---|
| ARTC | 1325 | Introduction to Computer Graphics | 3 |
| ARTC | 1302 | Digital Imaging I (Photoshop) | 3 |
| ARTC | 1309 | Basic Illustration | 3 |
| ARTC | 1305 | Basic Graphic Design | 3 |
| ARTC | 2311 | History of Communication Graphics | 3 |
| | | **Semester Total** | **15** |

### SECOND SEMESTER           CREDITS
| | | | |
|---|---|---|---|
| ARTC | 2313 | Digital Publishing II (InDesign) | 3 |
| ARTC | 1353 | Computer Illustration (Illustrator) | 3 |
| IMED | 1301 | Introduction to Multimedia | 3 |
| ARTV | 1345 | 3-D Modeling and Rendering I | 3 |
| IMED | 1316 | Web Page Design I | 3 |
| | | **Semester Total** | **15** |

### Second Year

### FIRST SEMESTER           CREDITS
| | | | |
|---|---|---|---|
| IMED | 1341 | Interface Design | 3 |
| ETWR | 1371 | Technical Composition | 3 |
| ITSE | 2313 | Web Authoring | 3 |
| | | **Semester Total** | **9** |

### SECOND SEMESTER           CREDITS
| | | | |
|---|---|---|---|
| ARTV | 2301 | 2-D Animation I (Flash) | 3 |
| IMED | 1375 | Writing for the Web | 3 |
| ARTV | 1351 | Digital Video | 3 |
| ARTC | 2335 | Portfolio Development for Graphic Design | 3 |
| IMED | 2388 | Internship-Digital Communication and Media/Multimedia | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **54** |

## DIGITAL COMMUNICATION

The Marketable Skills Achievement Award in Digital Communication offers students an opportunity to gain workforce skills that would assist them in the job market as well as give them a jump-start toward a higher certificate or degree in Digital Communication.

### MSA

(Marketable Skills Achievement Award)

### FIRST SEMESTER           CREDITS
| | | | |
|---|---|---|---|
| ARTC | 1325 | Introduction to Computer Graphics | 3 |
| ARTC | 1305 | Basic Graphic Design | 3 |
| IMED | 1301 | Introduction to Multimedia | 3 |
| IMED | 1316 | Web Page Design I | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **12** |

## DIGITAL COMMUNICATION-GRAPHIC DESIGN SPECIALIZATION

The AAS Graphic Design Specialization provides training in communication concepts, design, layout, and typography using computer technology to prepare print-based materials such as newsletters, brochures, advertisements, and other documents.

### AAS

TSI Testing is required prior to first enrollment.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| ARTC | 1325 | Introduction to Computer Graphics | 3 |
| ARTC | 1302 | Digital Imaging I (Photoshop) | 3 |
| ARTC | 1309 | Basic Illustration | 3 |
| ARTC | 1305 | Basic Graphic Design | 3 |
| XXXX | #3## | Social Science General Education Elective | 3 |
| | | **Semester Total** | **18** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| ARTC | 2311 | History of Communication Graphics | 3 |
| ARTS | 2356 | Photography I | 3 |
| ARTC | 1321 | Illustration Techniques | 3 |
| ARTC | 1353 | Computer Illustration (Illustrator) | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts General Education Elective | 3 |
| | | **Semester Total** | **15** |

### SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ARTC | 1317 | Design Communication I | 3 |
| ARTC | 2313 | Digital Publishing II (InDesign) | 3 |
| ARTC | 2317 | Typographic Design | 3 |
| ARTC | 2340 | Computer Illustration II (Advanced Photoshop) | 3 |
| XXXX | #3## | Math/Natural Science General Education Elective | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| ETWR | 1371 | Technical Composition | 3 |
| ARTC | 2347 | Design Communication II | 3 |
| ARTC | 2348 | Digital Publishing III | 3 |
| IMED | 2388 | Internship-Digital Communication and Media/Multimedia | 3 |
| ARTC | 2335 | Portfolio Development for Graphic Design | 3 |
| SPCH | 1311 | Fundamentals of Speech OR | |
| SPCH | 1321 | Business and Professional Speaking | 3 |
| | | **Semester Total** | **18** |
| | | **Program Total** | **66** |

## DIGITAL COMMUNICATION-GRAPHIC DESIGN SPECIALIZATION-LEVEL II

Courses presented in the Level II Graphic Design Specialization Certificate program offer training in skills needed for producing all types of documents with graphics. Students explore and develop design skills including  page design and layout. All of the courses in this certificate apply to the Graphic Design AAS degree.

### CERTIFICATE

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ARTC | 1305 | Basic Graphic Design | 3 |
| ARTC | 1325 | Introduction to Computer Graphics | 3 |
| ARTC | 1302 | Digital Imaging I (Photoshop) | 3 |
| ARTC | 1309 | Basic Illustration | 3 |
| | | **Semester Total** | **12** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| ARTC | 2311 | History of Communication Graphics | 3 |
| ARTS | 2356 | Photography I | 3 |
| ARTC | 1321 | Illustration Techniques | 3 |
| ARTC | 1353 | Computer Illustration (Illustrator) | 3 |
| | | **Semester Total** | **12** |

### SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ARTC | 1317 | Design Communication I | 3 |
| ARTC | 2313 | Digital Publishing II (InDesign) | 3 |
| ARTC | 2317 | Typographic Design | 3 |
| ARTC | 2340 | Computer Illustration II (Advanced Photoshop) | 3 |
| | | **Semester Total** | **12** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| ETWR | 1371 | Technical Composition | 3 |
| ARTC | 2348 | Digital Publishing III | 3 |
| ARTC | 2347 | Design Communication II | 3 |
| IMED | 2388 | Internship-Digital Communication and Media/Multimedia | 3 |
| ARTC | 2335 | Portfolio Development for Graphic Design | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **51** |

## GRAPHIC DESIGN

The Marketable Skills Achievement Award in Graphic Design offers students an opportunity to gain workforce skills that would benefit them in the job market as well as give them a jump-start toward a higher certificate or degree in Graphic Design. These courses also apply to other certificates and degrees offered by the Digital Communication Department.

### MSA

(Marketable Skills Achievement Award)

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ARTC | 1325 | Introduction to Computer Graphics | 3 |
| ARTC | 1305 | Basic Graphic Design | 3 |
| ARTC | 1353 | Computer Illustration (Illustrator) | 3 |
| ARTC | 1302 | Digital Imaging I (Photoshop) | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **12** |

## DIGITAL COMMUNICATION-MULTIMEDIA SPECIALIZATION

The AAS Multimedia Specialization uses a variety of media such as sound, text, graphics, video, and animation to communicate information in an interactive computer environment. The program prepares students for employment in the fields of advertising, video, animation, marketing presentations, simulations, and interactive software development.

TSI Testing is required prior to first enrollment.

## FIRST YEAR

### FIRST SEMESTER — CREDITS
| | | | |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| SPCH | 1321 | Business and Professional Speaking | 3 |
| ARTC | 1305 | Basic Graphic Design | 3 |
| ARTC | 1325 | Introduction to Computer Graphics | 3 |
| IMED | 1301 | Introduction to Multimedia | 3 |
| | | **Semester Total** | **15** |

### SECOND SEMESTER — CREDITS
| | | | |
|---|---|---|---|
| XXXX | #3## | Math/Natural Science General Education Elective | 3 |
| ARTC | 1302 | Digital Imaging I (Photoshop) | 3 |
| ETWR | 1371 | Technical Composition | 3 |
| IMED | 1316 | Web Page Design I | 3 |
| IMED | 1341 | Interface Design | 3 |
| | | **Semester Total** | **15** |

### THIRD SEMESTER — CREDITS
| | | | |
|---|---|---|---|
| ARTC | 1353 | Computer Illustration (Illustrator) | 3 |
| ARTV | 2301 | 2-D Animation I (Flash) | 3 |
| ARTV | 1345 | 3-D Modeling and Rendering I | 3 |
| IMED | 1345 | Interactive Multimedia I | 3 |
| | | **Semester Total** | **12** |

## SECOND YEAR

### FIRST SEMESTER — CREDITS
| | | | |
|---|---|---|---|
| ARTV | 1341 | 3-D Animation I | 3 |
| IMED | 1375 | Writing for the Web | 3 |
| ARTV | 1351 | Digital Video | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts General Education Elective | 3 |
| XXXX | #3## | Social Science General Education Elective | 3 |
| | | **Semester Total** | **15** |

### SECOND SEMESTER — CREDITS
| | | | |
|---|---|---|---|
| ARTV | 2341 | Advanced Digital Video | 3 |
| ARTV | 2351 | 3-D Animation II | 3 |
| IMED | 2313 | Project Analysis and Design | 3 |
| IMED | 2345 | Interactive Multimedia II | 3 |
| IMED | 2388 | Internship - Digital Communication and Media/Multimedia | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **72** |

## DIGITAL COMMUNICATION-MULTIMEDIA SPECIALIZATION- LEVEL I

The Digital Communication Level 1 Certificate specializing in Multimedia offers training in skills needed to develop 2-D and 3-D animation, sound, and video.

### CERTIFICATE

### FIRST SEMESTER — CREDITS
| | | | |
|---|---|---|---|
| ARTC | 1325 | Introduction to Computer Graphics | 3 |
| IMED | 1301 | Introduction to Multimedia | 3 |
| IMED | 1316 | Web Page Design I | 3 |
| ARTC | 1305 | Basic Graphic Design | 3 |
| ARTC | 1302 | Digital Imaging I (Photoshop) | 3 |
| | | **Semester Total** | **15** |

### SECOND SEMESTER — CREDITS
| | | | |
|---|---|---|---|
| ARTV | 2301 | 2-D Animation I (Flash) | 3 |
| ETWR | 1371 | Technical Composition | 3 |
| IMED | 1341 | Interface Design | 3 |
| ARTC | 1353 | Computer Illustration (Illustrator) | 3 |
| ARTV | 1345 | 3-D Modeling and Rendering I | 3 |
| | | **Semester Total** | **15** |

### THIRD SEMESTER — CREDITS
| | | | |
|---|---|---|---|
| ARTV | 1351 | Digital Video | 3 |
| ARTV | 1341 | 3-D Animation I | 3 |
| IMED | 1345 | Interactive Multimedia I | 3 |
| IMED | 2388 | Internship - Digital Communication and Media/Multimedia | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **42** |

## DIGITAL COMMUNICATION-MULTIMEDIA SPECIALIZATION-LEVEL II

The Digital Communication Level 2 Certificate specializing in Multimedia offers training in skills needed to develop 2-D and 3-D animation, sound, and video.

### CERTIFICATE

### FIRST SEMESTER — CREDITS
| | | | |
|---|---|---|---|
| ARTC | 1325 | Introduction to Computer Graphics | 3 |
| IMED | 1301 | Introduction to Multimedia | 3 |
| IMED | 1316 | Web Page Design I | 3 |
| ARTC | 1305 | Basic Graphic Design | 3 |
| ARTC | 1302 | Digital Imaging I (Photoshop) | 3 |
| | | **Semester Total** | **15** |

### SECOND SEMESTER — CREDITS
| | | | |
|---|---|---|---|
| ARTV | 2301 | 2-D Animation I (Flash) | 3 |
| IMED | 1341 | Interface Design | 3 |
| ARTC | 1353 | Computer Illustration (Illustrator) | 3 |
| ARTV | 1345 | 3-D Modeling and Rendering I | 3 |
| | | **Semester Total** | **12** |

## SECOND YEAR

### FIRST SEMESTER — CREDITS
| | | | |
|---|---|---|---|
| ARTV | 1351 | Digital Video | 3 |
| ARTV | 1341 | 3-D Animation I | 3 |
| IMED | 1345 | Interactive Multimedia I | 3 |
| ETWR | 1371 | Technical Composition | 3 |
| | | **Semester Total** | **12** |

### SECOND SEMESTER — CREDITS
| | | | |
|---|---|---|---|
| IMED | 2345 | Interactive Multimedia II | 3 |
| ARTV | 2341 | Advanced Digital Video | 3 |
| ARTV | 2351 | 3-D Animation II | 3 |
| IMED | 2313 | Project Analysis and Design | 3 |
| IMED | 2388 | Internship - Digital Communication and Media/Multimedia | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **54** |

## MULTIMEDIA

The Marketable Skills Achievement Award in Multimedia offers students an opportunity to gain workforce skills that would benefit them in the job market as well as give them a jump-start toward a higher certificate or degree in Multimedia offered by the Digital Communication Department.

### MSA

MSA (Marketable Skills Achievement Award)

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| IMED | 1301 | Introduction to Multimedia | 3 |
| ARTC | 1325 | Introduction to Computer Graphics | 3 |
| ARTC | 1305 | Basic Graphic Design | 3 |
| ARTC | 1302 | Digital Imaging I (Photoshop) | 3 |
| | | **Semester Total** | **12** |

## DIGITAL COMMUNICATION-WEB PUBLISHING SPECIALIZATION

The AAS Web Publishing Specialization trains students to work as professional Web publishers for the fast-growing and ever-changing Internet community. It offers a series of courses that provide training in designing and deploying interactive, dynamic Web sites for education, business and industry. The degree includes activities that promote teamwork in Web publishing.

### AAS

TSI Testing is required prior to first enrollment.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| SPCH | 1321 | Business and Professional Speaking | 3 |
| ARTC | 1325 | Introduction to Computer Graphics | 3 |
| ARTC | 1305 | Basic Graphic Design | 3 |
| IMED | 1316 | Web Page Design I | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| IMED | 2351 | Multimedia Programming | 3 |
| ETWR | 1371 | Technical Composition | 3 |
| IMED | 1341 | Interface Design | 3 |
| ITSE | 1356 | Extensible Markup Language (XML) | 3 |
| | | **Semester Total** | **12** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| ITSE | 2313 | Web Authoring | 3 |
| XXXX | #3## | Social Science General Education Elective | 3 |
| XXXX | #3## | Math/Natural Science General Education Elective | 3 |
| | | **Semester Total** | **9** |

### SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ARTV | 2301 | 2-D Animation I (Flash) | 3 |
| IMED | 1375 | Writing for the Web | 3 |
| IMED | 2309 | Internet Commerce | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts General Education Elective | 3 |
| | | **Semester Total** | **12** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| ARTV | 2330 | 2-D Animation II | 3 |
| ITSE | 1306 | Computer Programming Using Hypertext Preprocessor (PHP) | 3 |
| IMED | 2349 | Internet Communications | 3 |
| IMED | 2388 | Internship - Digital Communication and Media/Multimedia | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **60** |

## DIGITAL COMMUNICATION-WEB PUBLISHING SPECIALIZATION-LEVEL I

The Digital Communication Level 1 Certificate specializing in Web Publishing trains students to work as professional Web publishers for the fast-growing and ever-changing Internet community. It offers a series of courses that provide training in designing interactive Web sites for education, business and industry. The certificate includes activities that promote teamwork in Web publishing.

### CERTIFICATE

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ARTC | 1325 | Introduction to Computer Graphics | 3 |
| ARTC | 1305 | Basic Graphic Design | 3 |
| IMED | 1316 | Web Page Design I | 3 |
| IMED | 1341 | Interface Design | 3 |
| | | **Semester Total** | **12** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| ITSE | 2313 | Web Authoring | 3 |
| IMED | 2351 | Multimedia Programming | 3 |
| ITSE | 1356 | Extensible Markup Language (XML) | 3 |
| ETWR | 1371 | Technical Composition | 3 |
| | | **Semester Total** | **12** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| IMED | 1375 | Writing for the Web | 3 |
| ARTV | 2301 | 2-D Animation I (Flash) | 3 |
| IMED | 2309 | Internet Commerce | 3 |
| IMED | 2388 | Internship - Digital Communication and Media/Multimedia | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **36** |

## DIGITAL COMMUNICATION-WEB PUBLISHING SPECIALIZATION-LEVEL II

The Digital Communication Level 2 Certificate specializing in Web Publishing trains students to work as professional Web publishers for the fast-growing and ever-changing Internet community. It offers a series of courses that provide training in designing and deploying interactive , dynamic Web sites for education, business and industry. The certificate includes activities that promote teamwork in Web publishing.

### CERTIFICATE

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ARTC | 1325 | Introduction to Computer Graphics | 3 |
| ARTC | 1305 | Basic Graphic Design | 3 |
| IMED | 1316 | Web Page Design I | 3 |
| ETWR | 1371 | Technical Composition | 3 |
| | | **Semester Total** | **12** |

## SECOND SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| IMED | 1341 | Interface Design | 3 |
| IMED | 2351 | Multimedia Programming | 3 |
| ITSE | 1356 | Extensible Markup Language (XML) | 3 |
| IMED | 1375 | Writing for the Web | 3 |
| | | **Semester Total** | **12** |

## SECOND YEAR

### FIRST SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| ITSE | 2313 | Web Authoring | 3 |
| ARTV | 2301 | 2-D Animation I (Flash) | 3 |
| IMED | 2309 | Internet Commerce | 3 |
| | | **Semester Total** | **9** |

### SECOND SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| ARTV | 2330 | 2-D Animation II | 3 |
| ITSE | 1306 | Computer Programming Using Hypertext Preprocessor (PHP) | 3 |
| IMED | 2349 | Internet Communications | 3 |
| IMED | 2388 | Internship - Digital Communication and Media/Multimedia | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **45** |

## WEB PUBLISHING

The Marketable Skills Achievement Award in Digital Communication specializing in Web Publishing offers students an opportunity to gain workforce skills that would benefit them in the job market as well as give them a jump-start toward a higher certificate or degree in Web Publishing. These courses also apply to other certificates and degrees offered by the Digital Communication Department.

(Marketable Skills Achievement Award)

### FIRST SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| ARTC | 1325 | Introduction to Computer Graphics | 3 |
| ARTC | 1305 | Basic Graphic Design | 3 |
| IMED | 1316 | Web Page Design I | 3 |
| IMED | 1341 | Interface Design | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **12** |

## FILMMAKING

Students experience all phases of Filmmaking, including pre-production, production and post-production, in this innovative hands-on program. Students work with DV and 16mm film cameras and edit with both non-linear digital and traditional equipment. During their academic career at HCC, students perform every function necessary to complete theatrical, documentary, and docu-drama style films: scriptwriting, producing, directing, acting, shooting, budgeting, managing and serving as crew. After their first year, students refine their skills through the rigorous application of their craft in advanced areas of theatrical, feature and documentary film production. Upon graduation, students pursue careers in all levels of the film industry.

The capstone course for the AAS degree and certificate in Filmmaking is FLMC 2380, Cooperative Education.

For more information, call 713-718-5602 rick.harrington@hccs.edu or e-mail scott.gehman@hccs.edu.

## FILMMAKING

TSI Testing is required prior to first enrollment.

### FIRST YEAR

#### FIRST SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| MUSC | 1427 | Audio Engineering I | 4 |
| ENGL | 1301 | Composition I | 3 |
| MUSB | 2355 | Legal Aspects of the Entertainment Industry | 3 |
| RTVB | 1421 | TV Field Production | 4 |
| FLMC | 1300 | Production Management | 3 |
| | | **Semester Total** | **17** |

#### SECOND SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| RTVB | 2437 | TV Production Workshop I | 4 |
| RTVB | 1429 | Scriptwriting | 4 |
| DRAM | 2366 | Survey and History of Film | 3 |
| RTVB | 2430 | Film and Video Editing | 4 |
| DRAM | 1330 | Basic Theater Practice I OR | |
| DRAM | 1351 | Acting I | 3 |
| | | **Semester Total** | **18** |

#### THIRD SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| FLMC | 2335 | Screenwriting for Features, Shorts and Documentaries | 3 |
| FLMC | 1373 | Advanced Non-linear Editing | 3 |
| | | **Semester Total** | **6** |

### SECOND YEAR

#### FIRST SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| FLMC | 2334 | Directing for Film or Video | 3 |
| FLMC | 1304 | Lighting for Film or Video | 3 |
| FLMC | 2308 | Film Business and Marketing | 3 |
| FLMC | 2333 | Cinematography | 3 |
| XXXX | #3## | Social Science General Education Elective | 3 |
| | | **Semester Total** | **15** |

#### SECOND SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| FLMC | 2330 | Audio Post Production | 3 |
| FLMC | 2342 | Film Editing and Sound Synchronization | 3 |
| FLMC | 2336 | Production Development/Producing | 3 |
| XXXX | #3## | Math/Natural Science General Education Elective | 3 |
| | | **Semester Total** | **12** |

#### THIRD SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| FLMC | 2380 | Cooperative Education - Cinematography and Film-Video Production | 3 |
| | | **Semester Total** | **3** |
| | | **Program Total** | **71** |

## FILMMAKING

Students wishing for a complete education in film production without the academic courses required by an associate degree should pursue this certificate. All of the courses in this certificate apply towards the AAS in Filmmaking.

## FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| FLMC | 1300 | Production Management | 3 |
| MUSB | 1301 | Legal Aspects of the Entertainment Industry | 3 |
| MUSC | 1427 | Audio Engineering I | 4 |
| RTVB | 1421 | TV Field Production | 4 |
| | | **Semester Total** | **17** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| DRAM | 2366 | Survey and History of Film | 3 |
| RTVB | 2437 | TV Production Workshop I | 4 |
| RTVB | 1429 | Scriptwriting | 4 |
| RTVB | 2430 | Film and Video Editing | 4 |
| | | **Semester Total** | **15** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| FLMC | 1373 | Advanced Non-linear Editing | 3 |
| | | **Semester Total** | **3** |

## SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| FLMC | 2334 | Directing for Film or Video | 3 |
| FLMC | 1304 | Lighting for Film or Video | 3 |
| FLMC | 2308 | Film Business and Marketing | 3 |
| FLMC | 2333 | Cinematography | 3 |
| | | **Semester Total** | **12** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| FLMC | 2342 | Film Editing Sound Synchronization | 3 |
| FLMC | 2330 | Audio Post Production | 3 |
| FLMC | 2336 | Production Development/Producing | 3 |
| | | **Semester Total** | **9** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| FLMC | 2380 | Cooperative Education - Cinematography and Film-Video Production | 3 |
| | | **Semester Total** | **3** |
| | | **Program Total** | **59** |

## FILMMAKING/AUDIO POST-PRODUCTION

Graduates with an AAS in Filmmaking learn advanced audio post-production techniques such as Surround Sound, DTS and Dolby Digital encoding, Pro Tools TDM, Foley, ADR, and sound effects through this certificate. Students acquire more than one hundred and fifty lab hours in the Pro Tools studios.

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| RTVB | 1240 | Audio/Radio Production II Lab | 2 |
| MUSC | 1331 | MIDI I | 3 |
| MUSC | 2427 | Audio Engineering II | 4 |
| MUSC | 2351 | Audio for Video | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **12** |

## FILMMAKING
## EDITING SPECIALIZATION

Students will prepare for a career in film editing by acquiring hundreds of hours using linear, non-linear video and film editors. The certificate also includes courses in audio post production using computer programs such as Pro Tools. All of the courses in this certificate apply towards the AAS in Filmmaking.

The capstone course is FLMC 1373, Advanced Non-linear Editing.

## FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| MUSC | 1427 | Audio Engineering I | 4 |
| MUSB | 2355 | Legal Aspects of the Entertainment Industry | 3 |
| RTVB | 1421 | TV Field Production | 4 |
| FLMC | 2308 | Film Business and Marketing | 3 |
| FLMC | 1300 | Production Management | 3 |
| | | **Semester Total** | **17** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| DRAM | 2366 | Survey and History of Film | 3 |
| RTVB | 2430 | Film and Video Editing | 4 |
| FLMC | 2330 | Audio Post Production | 3 |
| FLMC | 2342 | Film Editing and Sound Synchronization | 3 |
| FLMC | 1373 | Advanced Non-linear Editing | 3 |
| | | **Semester Total** | **16** |
| | | **Program Total** | **33** |

## FILMMAKING
## PRODUCTION SPECIALIZATION

Students will prepare for a career in film production by acquiring hundreds of production hours. Courses include video and 16mm film cinematography, general production and lighting. All of the courses in this certificate apply towards the AAS in Filmmaking.

The capstone course is FLMC 2336, Production Development/Producing.

## FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| MUSB | 2355 | Legal Aspects of the Entertainment Industry | 3 |
| RTVB | 1421 | TV Field Production | 4 |
| MUSC | 1427 | Audio Engineering I | 4 |
| FLMC | 2308 | Film Business and Marketing | 3 |
| FLMC | 1300 | Production Management | 3 |
| | | **Semester Total** | **17** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| DRAM | 2366 | Survey and History of Film | 3 |
| RTVB | 2437 | TV Production Workshop I | 4 |
| FLMC | 1304 | Lighting for Film or Video | 3 |
| FLMC | 2333 | Cinematography | 3 |
| FLMC | 2336 | Production Development/Producing | 3 |
| | | **Semester Total** | **16** |
| | | **Program Total** | **33** |

## FILMMAKING SCREENWRITING SPECIALIZATION

Students interested in a career in script writing should choose this option since it emphasizes skills used when writing scripts for film and video productions. All of the courses in this certificate apply towards the AAS in Filmmaking.

The capstone course is FLMC 2335, Screenwriting for Features, Shorts and Documentaries.

### CERTIFICATE

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| MUSB | 1301 | Legal Aspects of the Entertainment Industry | 3 |
| ENGL | 1301 | Composition I | 3 |
| DRAM | 2366 | Survey and History of Film | 3 |
| RTVB | 1421 | TV Field Production | 4 |
| FLMC | 1300 | Production Management | 3 |
| | | **Semester Total** | **16** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| RTVB | 1429 | Scriptwriting | 4 |
| FLMC | 2308 | Film Business and Marketing | 3 |
| RTVB | 2430 | Film and Video Editing | 4 |
| DRAM | 1330 | Basic Theater Practice I OR | |
| DRAM | 1351 | Acting I | 3 |
| FLMC | 2335 | Screenwriting for Features, Shorts and Documentaries | 3 |
| | | **Semester Total** | **17** |
| | | **Program Total** | **33** |

## TECHNICAL COMMUNICATION

The AAS degree in Technical Communication offers training in technical writing and the preparing of documents that utilize both the written word and graphic presentations. The curriculum trains the specialist to work collaboratively on the various aspects of digital communication, including researching and organizing information, writing it coherently, editing, producing, and presenting it orally.

For more information, call 713-718-7890 or 713-7187895 or see our Web site at http://swc2.hccs.edu/digicom.

### AAS

TSI Testing is required prior to first enrollment.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| XXXX | #3## | Computer Applications Elective* | 3 |
| POFT | 1301 | Business English OR | |
| ENGL | 1311 | Business English | 3 |
| ARTC | 1313 | Digital Publishing I | 3 |
| ARTC | 1305 | Basic Graphic Design | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1302 | Composition II | 3 |
| ARTC | 2313 | Digital Publishing II (InDesign) | 3 |
| XXXX | #3## | Math/Natural Science General Education Elective | 3 |
| ETWR | 1371 | Technical Composition | 3 |
| IMED | 1316 | Web Design I | 3 |
| | | **Semester Total** | **15** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| IMED | 1301 | Introduction to Multimedia | 3 |
| SPCH | 1321 | Business and Professional Speaking | 3 |
| ARTC | 1302 | Digital Imaging I | 3 |
| ETWR | 2301 | Technical Writing OR | |
| ENGL | 2311 | Technical and Industrial Correspondence and Report Writing | 3 |
| | | **Semester Total** | **12** |

### SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ETWR | 1372 | Technical Writing II | 3 |
| ETWR | 1373 | Online Documentation | 3 |
| XXXX | #3## | Social Science General Education Elective | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts General Education Elective | 3 |
| | | **Semester Total** | **12** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| ETWR | 1374 | Proposal Writing | 3 |
| IMED | 2388 | Internship - Digital Communication and Media/Multimedia | 3 |
| XXXX | #3## | Department Approved Elective | 3 |
| | | **Semester Total** | **9** |
| | | **Program Total** | **63** |

*The Computer Applications Elective may be chosen from the following courses: ITSC 1309, Integrated Software Applications I; POFI 1301, Computer Applications I; or BCIS 1405, Business Computer Application.

## TECHNICAL WRITING

The Technical Writing Certificate prepares students to work as specialized writers and editors. The curriculum trains the specialist to work collaboratively on the various aspects of technical writing, including researching and organizing information, writing coherently, editing, producing, and presenting it orally.

### CERTIFICATE

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| SPCH | 1321 | Business and Professional Speaking | 3 |
| XXXX | #3## | Computer Applications Elective* | 3 |
| POFT | 1301 | Business English OR | |
| ENGL | 1311 | Business English | 3 |
| ARTC | 1305 | Basic Graphic Design | 3 |
| ARTC | 1313 | Digital Publishing I | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| IMED | 1316 | Web Design I | 3 |
| ETWR | 1371 | Technical Composition | 3 |
| ETWR | 2301 | Technical Writing OR | |
| ENGL | 2311 | Technical and Business Writing | 3 |
| ARTC | 2313 | Digital Publishing II (InDesign) | 3 |
| | | **Semester Total** | **12** |

## THIRD SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| ETWR | 1373 | Online Documentation | 3 |
| ETWR | 1374 | Proposal Writing | 3 |
| ETWR | 1372 | Technical Writing II | 3 |
| IMED | 2388 | Internship - Digital Communication and Media/Multimedia | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **39** |

*The Computer Applications Elective may be chosen from the following courses: ITSC 1309, Integrated Software Applications I; POFI 1301, Computer Applications I; or BCIS 1405, Business Computer Application.

## ONLINE DOCUMENTATION

The Online Documentation Certificate is designed for the person desiring high-level, specialized training and skills in the development of computerized digital documentation. The certificate prepares the specialist to work collaboratively as a member of a team of developers specializing in the field of technical writing.

### CERTIFICATE

**FIRST SEMESTER — CREDITS**

| | | | |
|---|---|---|---|
| ETWR | 1371 | Technical Composition | 3 |
| XXXX | #3## | Computer Applications Elective* | 3 |
| ARTC | 1305 | Basic Graphic Design | 3 |
| ARTC | 1313 | Digital Publishing I | 3 |
| IMED | 1316 | Web Design I | 3 |
| | | **Semester Total** | **15** |

**SECOND SEMESTER — CREDITS**

| | | | |
|---|---|---|---|
| IMED | 1301 | Introduction to Multimedia | 3 |
| SPCH | 1321 | Business and Professional Speaking | 3 |
| ETWR | 2301 | Technical Writing OR | |
| ENGL | 2311 | Technical and Business Writing | 3 |
| ARTC | 1302 | Digital Imaging I | 3 |
| | | **Semester Total** | **12** |

**THIRD SEMESTER — CREDITS**

| | | | |
|---|---|---|---|
| ETWR | 1373 | Online Documentation | 3 |
| ETWR | 1374 | Proposal Writing | 3 |
| ETWR | 1372 | Technical Writing II | 3 |
| IMED | 2388 | Internship - Digital Communication and Media/Multimedia | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **39** |

*The Computer Applications Elective may be chosen from the following courses: ITSC 1309, Integrated Software Applications I; POFI 1301, Computer Applications I; or BCIS 1405, Business Computer Application.

## TECHNICAL COMMUNICATION

The Marketable Skills Achievement Award in Technical Communication offers students an opportunity to gain workforce skills that would benefit them in the job market as well as give them a jump start toward a higher certificate or AAS degree in On-line Documentation or Technical Writing or the AAS in Technical Communication, all of which are offered by the Digital Communication Department.

### MSA

(Marketable Skills Achievement Award)

**FIRST SEMESTER — CREDITS**

| | | | |
|---|---|---|---|
| ETWR | 1371 | Technical Composition | 3 |
| ARTC | 1313 | Digital Publishing I | 3 |
| ENGL | 1311 | Business English OR | |
| POFT | 1301 | Business English | 3 |
| | | **Semester Total** | **9** |
| | | **Program Total** | **9** |

## VISUAL & PERFORMING ARTS

## FASHION DESIGN

The Fashion Design Program prepares students for careers in fashion related fields. Creative studies in design fundamentals, fashion analysis, fashion history, textiles, color, and sketching, along with technical training in draping, pattern making, pattern grading, and clothing construction provide the training required for entry-level employment by the mass production ready-to-wear industry or for custom design business operations.

The capstone course is FSHD 2266, Field Experience.

For more information, call 713-718-6152 or e-mail nancy.cassel@hccs.edu.

## FASHION DESIGN

### AAS

TSI Testing is required prior to first enrollment.

### FIRST YEAR

**FIRST SEMESTER — CREDITS**

| | | | |
|---|---|---|---|
| FSHD | 1302 | Introduction to Fashion | 3 |
| FSHD | 1313 | Art for Fashion | 3 |
| FSHD | 1308 | Fashion Trends | 3 |
| FSHD | 1324 | Ready-to-Wear Construction | 3 |
| FSHN | 1301 | Textiles | 3 |
| | | **Semester Total** | **15** |

**SECOND SEMESTER — CREDITS**

| | | | |
|---|---|---|---|
| FSHD | 1311 | Fashion History | 3 |
| FSHD | 1318 | Apparel Computer Systems | 3 |
| FSHD | 1322 | Fashion Sketching | 3 |
| FSHD | 1351 | Design Construction Techniques | 3 |
| FSHD | 1328 | Flat Pattern Design I | 3 |
| | | **Semester Total** | **15** |

**SUMMER SEMESTER — CREDITS**

| | | | |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| XXXX | #3## | Social Science General Education Elective | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts General Education Elective | 3 |
| XXXX | #3## | Math/Natural Science General Education Elective | 3 |
| | | **Semester Total** | **12** |

### SECOND YEAR

**FIRST SEMESTER — CREDITS**

| | | | |
|---|---|---|---|
| FSHD | 1355 | Flat Pattern Design II | 3 |
| FSHD | 2306 | Draping | 3 |
| FSHD | 2337 | Couture Dressmaking | 3 |
| FSHD | 2343 | Fashion Collection Design | 3 |
| FREN | 1300 | Beginning French (Fashion Emphasis) | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| FSHD | 1305 | Apparel Alterations | 3 |
| FSHD | 2171 | Field Experience Lecture | 1 |
| FSHD | 2266 | Field Experience | 2 |
| FSHD | 2341 | Pattern Grading | 3 |
| FSHD | 2344 | Fashion Collection Production | 3 |
| FSHD | 1332 | Custom Patterns OR | |
| FSHN | 1329 | Basic Men's Tailoring | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **72** |

## APPAREL CONSTRUCTION

The Apparel Construction Marketable Skills Achievement Award prepares the student for entry-level work in sewing for a designer, altering garments for a store alteration's department or dry cleaners or production sewing in a garment factory. All courses in this certificate apply to the AAS degree. The capstone course is FSHD 1324, Ready-to-Wear Construction.

### MSA

(Marketable Skills Achievement Award)

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| FSHN | 1305 | Apparel Alterations | 3 |
| FSHD | 1324 | Ready-to-Wear Construction | 3 |
| FSHN | 1301 | Textiles | 3 |
| | | **Semester Total** | **9** |
| | | **Program Total** | **9** |

## CUSTOM DRESSMAKING AND ALTERATIONS

The Custom Dressmaking and Alterations Certificate Program prepares the student for entry-level work in ladies' clothing alterations, custom dressmaking, and designer's sample sewing. All courses in this certificate apply to the AAS degree.

The capstone course is FSHD 2266, Field Experience.

### CERTIFICATE

#### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| FSHD | 1302 | Introduction to Fashion | 3 |
| FSHD | 1313 | Art for Fashion | 3 |
| FSHD | 1324 | Ready-to-Wear Construction | 3 |
| FSHN | 1301 | Textiles | 3 |
| FSHD | 1318 | Apparel Computer Systems | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| FSHD | 1322 | Fashion Sketching | 3 |
| FSHD | 1332 | Custom Patterns | 3 |
| FSHD | 1351 | Design Construction Techniques | 3 |
| FSHN | 1305 | Apparel Alterations | 3 |
| FSHD | 2306 | Draping | 3 |
| | | **Semester Total** | **15** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|

| | | | |
|---|---|---|---|
| FSHD | 2337 | Couture Dressmaking | 3 |
| FSHD | 2171 | Field Experience Lecture | 1 |
| FSHD | 2266 | Field Experience | 2 |
| | | **Semester Total** | **6** |
| | | **Program Total** | **36** |

## MEN'S TAILORING AND ALTERATIONS

The Men's Tailoring and Alterations Certificate Program prepares the student for entry-level work in men's clothing alterations and custom tailoring. All courses in this certificate apply to the AAS degree.

The capstone course is FSHD 2266, Field Experience.

### CERTIFICATE

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| FSHD | 1302 | Introduction to Fashion | 3 |
| FSHD | 1318 | Apparel Computer Systems | 3 |
| FSHD | 1324 | Ready-to-Wear Construction | 3 |
| FSHN | 1301 | Textiles | 3 |
| | | **Semester Total** | **12** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| FSHN | 1305 | Apparel Alterations | 3 |
| FSHN | 1329 | Basic Men's Tailoring | 3 |
| FSHD | 2171 | Field Experience Lecture | 1 |
| FSHD | 2266 | Field Experience | 2 |
| | | **Semester Total** | **9** |
| | | **Program Total** | **21** |

## PATTERN-MAKING

The Pattern-Making Certificate Program prepares the student for entry-level work in ladies' ready-to-wear pattern-making, pattern grading and pattern marker making. All courses in this certificate apply to the AAS degree.

The capstone course is FSHD 2266, Field Experience.

### CERTIFICATE

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| FSHD | 1313 | Art for Fashion | 3 |
| FSHD | 1328 | Flat Pattern Design I | 3 |
| FSHD | 2341 | Pattern Grading | 3 |
| FSHN | 1301 | Textiles | 3 |
| FSHD | 1318 | Apparel Computer Systems | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| FSHD | 1332 | Custom Patterns | 3 |
| FSHD | 1355 | Flat Pattern Design II | 3 |
| FSHD | 2306 | Draping | 3 |
| FSHD | 2171 | Field Experience Lecture | 1 |
| FSHD | 2266 | Field Experience | 2 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **27** |

## THEATRICAL COSTUME DESIGN SPECIALIZATION

The Theatrical Costume Design AAS prepares the student for entry-level work in a theatrical costume workshop.

The capstone course is FSHD 2266, Field Experience.

### AAS

TSI Testing is required prior to first enrollment.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| FSHD | 1313 | Art for Fashion | 3 |
| FSHD | 1318 | Apparel Computer Systems | 3 |
| FSHD | 1324 | Ready-to-Wear Construction | 3 |
| FSHN | 1301 | Textiles | 3 |
| DRAM | 1310 | Introduction to Theatre | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| FSHD | 1235 | Millinery | 2 |
| FSHD | 1311 | Fashion History | 3 |
| FSHD | 1322 | Fashion Sketching | 3 |
| FSHD | 1328 | Flat Pattern Design I | 3 |
| FSHD | 1351 | Design Construction Techniques | 3 |
| | | **Semester Total** | **14** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts General Education Elective | 3 |
| | | **Semester Total** | **6** |

### Second Year

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| FSHN | 1329 | Basic Men's Tailoring | 3 |
| FSHD | 2315 | Bustier Construction | 3 |
| FSHD | 2306 | Draping | 3 |
| FSHD | 2310 | Fabric Design | 3 |
| FSHD | 2312 | Theatrical Costume Design | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | |
|---|---|---|---|
| FSHD | 1332 | Custom Patterns | 3 |
| FSHD | 2171 | Field Experience-Lecture | 1 |
| FSHD | 2266 | Practicum (or Field Experience) | 2 |
| XXXX | #3## | Math/Natural Science General Education Elective | 3 |
| XXXX | #3## | Social Science General Education Elective | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **62** |

## THEATRICAL COSTUME CRAFTS

The Theatrical Costume Crafts Marketable Skills Achievement Award prepares the student for entry-level work in costume crafts for theatrical performance or for costume sales and rentals. All courses in this certificate apply to the AAS degree specialization.

The capstone course is FSHD 1311, Fashion History.

### MSA

(Marketable Skills Achievement Award)

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| FSHN | 1235 | Millinery | 2 |
| FSHD | 1311 | Fashion History | 3 |
| FSHD | 2315 | Bustier Construction | 3 |
| FSHD | 2310 | Fabric Design | 3 |
| | | **Semester Total** | **11** |
| | | **Program Total** | **11** |

## THEATRICAL COSTUME DESIGN

The Theatrical Costume Design Certificate prepares the student for entry-level work in a theatrical costume workshop. All courses in this certificate apply to the AAS degree specialization.

The capstone course is FSHD 2266, Field Experience.

### CERTIFICATE

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| FSHN | 1301 | Textiles | 3 |
| DRAM | 1310 | Introduction to Theatre | 3 |
| FSHD | 1313 | Art for Fashion | 3 |
| FSHD | 1322 | Fashion Sketching | 3 |
| FSHD | 1324 | Ready-to-Wear Construction | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| FSHD | 1235 | Millinery | 2 |
| FSHD | 1328 | Flat Pattern Design I | 3 |
| FSHD | 1351 | Design Construction Techniques | 3 |
| FSHD | 2315 | Bustier Construction | 3 |
| FSHD | 1332 | Custom Patterns | 3 |
| FSHD | 1311 | Fashion History | 3 |
| | | **Semester Total** | **17** |

### SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| FSHD | 2306 | Draping | 3 |
| FSHD | 2310 | Fabric Design | 3 |
| FSHN | 1329 | Basic Men's Tailoring | 3 |
| FSHD | 2312 | Theatrical Costume Design | 3 |
| FSHD | 2171 | Field Experience Lecture | 1 |
| FSHD | 2266 | Field Experience | 2 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **47** |

## FASHION MERCHANDISING

The Fashion Merchandising curriculum offers an opportunity for students to prepare for careers in fashion retailing or wholesale operations through basic training in merchandising techniques along with creative development. All of the courses in the Fashion Merchandising Certificates apply to this AAS degree.

The capstone course is FSHN 2266, Field Experience.

For more information, call 713-718-6152 or e-mail suzette.brimmer@hccs.edu.

# FASHION MERCHANDISING

**AAS**

TSI Testing is required prior to first enrollment.

## FIRST YEAR

### FIRST SEMESTER — CREDITS
| | | | |
|---|---|---|---|
| FSHN | 1301 | Textiles | 3 |
| FSHD | 1302 | Introduction to Fashion | 3 |
| FSHD | 1308 | Fashion Trends | 3 |
| FSHD | 1324 | Ready-to-Wear Construction | 3 |
| FSHN | 1342 | Visual Merchandising | 3 |
| | | **Semester Total** | **15** |

### SECOND SEMESTER — CREDITS
| | | | |
|---|---|---|---|
| FSHN | 1320 | Fashion Selling | 3 |
| FSHD | 1311 | Fashion History | 3 |
| FSHD | 1313 | Art for Fashion | 3 |
| FSHD | 1318 | Apparel Computer Systems | 3 |
| ENGL | 1301 | Composition I | 3 |
| | | **Semester Total** | **15** |

### SUMMER SEMESTER — CREDITS
| | | | |
|---|---|---|---|
| XXXX | #3## | Social Science General Education Elective | 3 |
| XXXX | #3## | Math/Natural Science General Education Elective | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts Elective | 3 |
| | | **Semester Total** | **9** |

## SECOND YEAR

### FIRST SEMESTER — CREDITS
| | | | |
|---|---|---|---|
| FSHN | 2303 | Fashion Buying | 3 |
| FSHN | 2307 | Fashion Advertising and Communication | 3 |
| MRKG | 1311 | Principles of Marketing | 3 |
| SPCH | 1321 | Business and Professional Speaking | 3 |
| FREN | 1300 | Beginning French (Fashion Emphasis) | 3 |
| | | **Semester Total** | **15** |

### SECOND SEMESTER — CREDITS
| | | | |
|---|---|---|---|
| FSHN | 2171 | Field Experience Lecture | 1 |
| FSHN | 2266 | Field Experience | 2 |
| FSHN | 2301 | Fashion Promotion | 3 |
| FSHN | 2305 | Fashion Retailing | 3 |
| BMGT | 1301 | Supervision | 3 |
| FSHD | 1322 | Fashion Sketching OR | |
| FSHN | 2309 | Fashion Image | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **69** |

## FASHION IMAGE CONSULTANT

The Fashion Image Consultant Certificate Program develops the students' awareness of personal style while preparing them to advise clients on color, line, design, silhouette, and total wardrobe planning. All of the courses in this certificate will apply to the Fashion Merchandising AAS degree plan.

The capstone course for the Fashion Image Consultant Certificate is FSHN 2266, Field Experience.

**CERTIFICATE**

### FIRST SEMESTER — CREDITS
| | | | |
|---|---|---|---|
| FSHN | 1301 | Textiles | 3 |
| FSHD | 1302 | Introduction to Fashion | 3 |
| FSHD | 1308 | Fashion Trends | 3 |
| FSHD | 1313 | Art for Fashion Design | 3 |
| FSHD | 1324 | Ready-to-Wear Construction | 3 |
| | | **Semester Total** | **15** |

### SECOND SEMESTER — CREDITS
| | | | |
|---|---|---|---|
| FSHN | 1320 | Fashion Selling | 3 |
| FSHN | 2301 | Fashion Promotion | 3 |
| FSHN | 2309 | Fashion Image | 3 |
| FSHD | 1311 | Fashion History | 3 |
| FSHD | 1318 | Apparel Computer Systems | 3 |
| | | **Semester Total** | **15** |

### THIRD SEMESTER — CREDITS
| | | | |
|---|---|---|---|
| FSHN | 2171 | Field Experience Lecture | 1 |
| FSHN | 2266 | Field Experience | 2 |
| | | **Semester Total** | **3** |
| | | **Program Total** | **33** |

## FASHION SALES ASSOCIATE

The Fashion Sales Associate Marketable Skills Achievement Award prepares the student for entry-level work in retail fashion sales for a small boutique or large department store.

The capstone course for the Fashion Sales Associate MSA is FSHN 2305, Fashion Retailing.

**MSA**

(Marketable Skills Achievement Award)

### FIRST SEMESTER — CREDITS
| | | | |
|---|---|---|---|
| FSHD | 1302 | Introduction to Fashion | 3 |
| FSHN | 1320 | Fashion Selling | 3 |
| FSHN | 2305 | Fashion Retailing | 3 |
| FSHD | 1324 | Ready-to-Wear Construction | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **12** |

## VISUAL MERCHANDISING

The Visual Merchandising Certificate Program develops the students' technical window and interior display skills and understanding of aesthetic principles and applications, preparing them for entry-level positions as visual merchandisers in retail stores. Studies are concentrated on window and interior display, including computer applications. All of the courses in this certificate will apply to the Fashion Merchandising AAS.

The capstone course for the Visual Merchandising Certificate is FSHN 2266, Field Experience.

**CERTIFICATE**

### FIRST SEMESTER — CREDITS
| | | | |
|---|---|---|---|
| FSHN | 1301 | Textiles | 3 |
| FSHN | 2303 | Fashion Buying | 3 |
| FSHD | 1302 | Introduction to Fashion | 3 |
| FSHD | 1313 | Art for Fashion Design | 3 |
| FSHN | 1342 | Visual Merchandising | 3 |
| | | **Semester Total** | **15** |

## SECOND SEMESTER

| | | | CREDITS |
|---|---|---|---|
| FSHN | 2305 | Fashion Retailing | 3 |
| FSHD | 1308 | Fashion Trends | 3 |
| FSHD | 1318 | Apparel Computer Systems | 3 |
| FSHD | 1322 | Fashion Sketching | 3 |
| FSHN | 2301 | Fashion Promotion | 3 |
| | | **Semester Total** | **15** |

## THIRD SEMESTER

| | | | CREDITS |
|---|---|---|---|
| FSHN | 2171 | Field Experience Lecture | 1 |
| FSHN | 2266 | Field Experience | 2 |
| FSHN | 2307 | Fashion Advertising and Communication | 3 |
| | | **Semester Total** | **6** |
| | | **Program Total** | **36** |

# INTERIOR DESIGN

The Interior Design curriculum, culminating in an AAS degree, provides a balance of technical, creative, and business training necessary for a career in the interior design profession.

The Interior Design program consists of four (4) semesters and two (2) summers of study in interior design with 15 semester hours of academic core courses which qualify the graduate to enter the profession of interior design and decoration. Please be aware of course sequencing and prerequisite as this is a skills-based program.

The capstone course for the AAS degree is INDS 2386, Internship. All interior design majors are encouraged to consult with the Interior Design Department before registering for classes.

If one is seeking to register as an interior designer by the state of Texas, please contact the Texas Board of Architectural Examiners, 333 Guadalupe, Suite 350, Austin, TX, 78701-3942, phone 512-305-8535.

For additional information, please call 713-718-6152 or e-mail nancy. cassel@hccs.edu.

## INTERIOR DESIGN

### AAS

TSI Testing is required prior to first enrollment.

### FIRST YEAR

#### FIRST SEMESTER

| | | | CREDITS |
|---|---|---|---|
| INDS | 1311 | Fundamentals of Interior Design | 3 |
| INDS | 1319 | Technical Drawing | 3 |
| INDS | 1301 | Basic Elements of Design | 3 |
| INDS | 2321 | Presentation Drawing | 3 |
| INDS | 1351 | History of Interiors I | 3 |
| | | **Semester Total** | **15** |

#### SECOND SEMESTER

| | | | CREDITS |
|---|---|---|---|
| INDS | 1349 | Fundamentals of Space Planning | 3 |
| INDS | 1341 | Color Theory and Application | 3 |
| INDS | 1352 | History of Interiors II | 3 |
| INDS | 2317 | Rendering Techniques | 3 |
| INDS | 2305 | Interior Design Graphics | 3 |
| | | **Semester Total** | **15** |

#### THIRD SEMESTER

| | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| ARTS | 1303 | Art History I | 3 |
| | | **Semester Total** | **6** |

## SECOND YEAR

### FIRST SEMESTER

| | | | CREDITS |
|---|---|---|---|
| INDS | 1315 | Materials, Methods and Estimating | 3 |
| INDS | 2313 | Residential Design I | 3 |
| INDS | 2307 | Textiles for Interior Design | 3 |
| INDS | 2315 | Lighting for Interior Design | 3 |
| XXXX | #3## | Math/Science General Education Elective | 3 |
| | | **Semester Total** | **15** |

### SECOND SEMESTER

| | | | CREDITS |
|---|---|---|---|
| INDS | 1345 | Commercial Design I | 3 |
| INDS | 2337 | Portfolio Presentation | 3 |
| INDS | 2325 | Professional Practices for Interior Designers | 3 |
| INDS | 2330 | Interior Design Building Systems | 3 |
| XXXX | #3## | Social Science General Education Elective | 3 |
| | | **Semester Total** | **15** |

### THIRD SEMESTER

| | | | CREDITS |
|---|---|---|---|
| INDS | 2386 | Internship | 3 |
| ARTS | 1304 | Art History II | 3 |
| | | **Semester Total** | **6** |
| | | **Program Total** | **72** |

# INTERIOR DECORATING

The Interior Decorating Marketable Skills Achievement Award prepares the student for the field of interior decorating, specifying finishes and fabrics and operating a small interior decorating business. All courses in this certificate apply to the AAS degree.

The capstone course is INDS 2325, Professional Practice for Interior Designers.

### MSA

(Marketable Skills Achievement Award)

#### FIRST SEMESTER

| | | | CREDITS |
|---|---|---|---|
| INDS | 1311 | Fundamentals of Interior Design | 3 |
| INDS | 1341 | Color Theory and Application | 3 |
| INDS | 1315 | Materials, Methods and Estimating | 3 |
| INDS | 2325 | Professional Practices for Interior Designers | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **12** |

# INTERIOR DESIGN OFFICE ASSISTANT

The Office Assistant Marketable Skills Achievement Award prepares the student for entry-level work in the administrative and/or technical areas in interior design. All courses in this certificate apply to the AAS degree.

The capstone course is INDS 2325, Professional Practices for Interior Designers.

### MSA

(Marketable Skills Achievement Award)

#### FIRST SEMESTER

| | | | CREDITS |
|---|---|---|---|
| INDS | 1311 | Fundamentals of Interior Design | 3 |
| INDS | 1315 | Materials, Methods and Estimating | 3 |
| INDS | 2307 | Textiles for Interior Design | 3 |
| INDS | 2325 | Professional Practices for Interior Designers | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **12** |

## INTERIOR DESIGN COLORIST

The Interior Design Colorist Marketable Skills Achievement Award prepares the student for specialized entry-level work in the areas of textiles, materials and color styling in interior design. All courses in this certificate apply to the AAS degree.

The capstone course is INDS 1315, Materials, Methods and Estimating.

| MSA | | |
|---|---|---|
| (Marketable Skills Achievement Award) | | |

| FIRST SEMESTER | | CREDITS |
|---|---|---|
| INDS 1311 | Fundamentals of Interior Design | 3 |
| INDS 1341 | Color Theory and Application | 3 |
| INDS 1301 | Basic Elements of Design | 3 |
| INDS 1315 | Materials, Methods and Estimating | 3 |
| | **Semester Total** | **12** |
| | **Program Total** | **12** |

## INTERIOR DESIGN PROFESSIONAL

The Advanced Technical Certificate may be taken upon completion of a degree in interior design. The Advanced Technical Certificate allows the interior design degree graduate to pursue additional interior design as well as academic course work toward the bachelor's degree required for title registration by the Texas Board of Architectural Examiners, 333 Guadalupe, Suite 350, Austin, TX 78701-3942, 512-305-8535.

The capstone course is INDS 2387, Internship.

| ADVANCED TECHNICAL CERTIFICATE | | |
|---|---|---|

| FIRST SEMESTER | | CREDITS |
|---|---|---|
| INDS 2335 | Residential Design II | 3 |
| INDS 1391 | Special Topics-Interior Design* | 3 |
| XXXX #3## | Academic Elective | 3 |
| XXXX #3## | Academic Elective | 3 |
| | **Semester Total** | **12** |

| SECOND SEMESTER | | CREDITS |
|---|---|---|
| INDS 2331 | Commercial Design II | 3 |
| INDS 2311 | Interior Environmental Factors | 3 |
| XXXX #3## | Academic Elective | 3 |
| XXXX #3## | Academic Elective | 3 |
| | **Semester Total** | **12** |

| THIRD SEMESTER | | CREDITS |
|---|---|---|
| INDS 2387 | Internship | 3 |
| XXXX #3## | Academic Elective | 3 |
| | **Semester Total** | **6** |
| | **Program Total** | **30** |

*Prerequisite: department approval

## MUSIC ARRANGING, COMPOSITION AND PRODUCTION

Composers and arrangers who earn this degree experience a well-rounded approach to music writing for commercial venues. They develop a solid feel for recording studio operations and familiarity with the fast changing technology of the music industry. In addition, graduates have recordings of their original music composed and performed in a highly professional environment.

The capstone course for the AAS degree and certificate is MUSP 1201, Applied Commercial Music: Arranging and Composition.

For more information, call 713-718-5620 or e-mail aubrey.tucker@hccs.edu.

### PRODUCTION SPECIALIZATION

| AAS | | |
|---|---|---|

TSI Testing is required prior to first enrollment.

### FIRST YEAR

| FIRST SEMESTER | | CREDITS |
|---|---|---|
| ENGL 1301 | Composition I | 3 |
| MUSI 1216 | Elementary Ear Training I | 2 |
| MUSI 1211 | Theory I | 2 |
| MUSI 1181 | Piano Class I | 1 |
| MUSP 1201 | Applied Commercial Music: Arranging and Composition** | 2 |
| SPCH 1311 | Fundamentals of Speech OR | |
| SPCH 1315 | Public Speaking OR | |
| SPCH 1321 | Business and Professional Speaking | 3 |
| XXXX #3## | Math/Natural Science General Education Elective | 3 |
| | **Semester Total** | **16** |

| SECOND SEMESTER | | CREDITS |
|---|---|---|
| MUSC 1331 | MIDI I | 3 |
| MUSI 1217 | Ear Training/Sight-Singing II | 2 |
| MUSI 1212 | Theory II | 2 |
| MUSI 1182 | Piano Class II | 1 |
| MUSP 1201 | Applied Commercial Music: Arranging and Composition** | 2 |
| PSYC 2301 | Introduction to Psychology OR | |
| XXXX #3## | Social Science General Education Elective | 3 |
| MUSC 1427 | Audio Engineering I | 4 |
| | **Semester Total** | **17** |

| THIRD SEMESTER | | CREDITS |
|---|---|---|
| MUSB 1305 | Survey of the Music Business | 3 |
| MUSC 2355 | MIDI II | 3 |
| | **Summer Total** | **6** |

### SECOND YEAR

| FIRST SEMESTER | | CREDITS |
|---|---|---|
| MUSI 2216 | Ear Training/Sight-Singing III | 2 |
| MUSI 2211 | Theory III | 2 |
| MUSI 2181 | Piano Class III | 1 |
| MUSC 2427 | Audio Engineering II | 4 |

| RTVB | 1240 | Audio/Radio Production II Lab | 2 |
| MUSC | 1330 | Computer Music Notation I | 3 |
| MUSP | 1201 | Applied Commercial Music: Arranging and Composition** | 2 |
| MUSP | 12## | Commercial Music Ensemble* | 2 |
| | | **Semester Total** | **18** |

**SECOND SEMESTER**     CREDITS

| MUSC | 2350 | Computer Music Notation II | 3 |
| MUSI | 2182 | Piano Class IV | 1 |
| MUSI | 2212 | Theory IV | 2 |
| MUSI | 2217 | Ear Training/Sight Singing IV | 2 |
| MUSP | 12## | Commercial Music Ensemble* | 2 |
| MUSP | 1201 | Applied Commercial Music: Arranging and Composition (Recital)** | 2 |
| RTVB | 2343 | Commercial Recording Techniques | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **72** |

*Required twice. **Required four times.

## ARRANGING AND COMPOSITION SPECIALIZATION

The AAS and certificate in the Arranging and Composition Specialization allow students the choice to concentrate more on music courses and less on production and audio technology.

### AAS

TSI Testing is required prior to first enrollment.

### FIRST YEAR

**FIRST SEMESTER**     CREDITS

| ENGL | 1301 | Composition I | 3 |
| MUSI | 1216 | Elementary Ear Training I | 2 |
| MUSI | 1211 | Theory I | 2 |
| MUSC | 1330 | Computer Music Notation I | 3 |
| MUSC | 2141 | Forum/Recital* | 1 |
| MUSI | 1181 | Piano Class I | 1 |
| MUSI | 11## | Ensemble | 1 |
| MUSP | 1201 | Applied Commercial Music: Arranging and Composition** | 2 |
| | | **Semester Total** | **15** |

**SECOND SEMESTER**     CREDITS

| MUSC | 1331 | MIDI I | 3 |
| MUSC | 2141 | Forum/Recital* | 1 |
| MUSI | 1217 | Ear Training/Sight-Singing II | 2 |
| MUSI | 1212 | Theory II | 2 |
| MUSI | 1182 | Piano Class II | 1 |
| MUSI | 11## | Ensemble | 1 |
| MUSP | 1201 | Applied Commercial Music: Arranging and Composition** | 2 |
| PSYC | 2301 | Introduction to Psychology OR | |
| XXXX | #3## | Social Science General Education Elective | 3 |
| | | **Semester Total** | **15** |

**THIRD SEMESTER**     CREDITS

| MUSI | 1306 | Music Appreciation | 3 |
| XXXX | #3## | Math/Natural Science General Education Elective | 3 |
| | | **Summer Total** | **6** |

## SECOND YEAR

**FIRST SEMESTER**     CREDITS

| MUSB | 1305 | Survey of the Music Business | 3 |
| MUSI | 2216 | Ear Training/Sight-Singing III | 2 |
| MUSI | 2211 | Theory III | 2 |
| MUSC | 2350 | Computer Music Notation II | 3 |
| MUSI | 2181 | Piano Class III | 1 |
| MUSP | 1201 | Applied Commercial Music: Arranging and Composition** | 2 |
| SPCH | 1311 | Fundamentals of Speech OR | |
| SPCH | 1315 | Public Speaking OR | |
| SPCH | 1321 | Business and Professional Speaking | 3 |
| | | **Semester Total** | **16** |

**SECOND SEMESTER**     CREDITS

| MUSB | 2381 | Cooperative Education-Music Management and Merchandising | 3 |
| MUSI | 2217 | Ear Training/Sight Singing IV | 2 |
| MUSI | 2212 | Theory IV | 2 |
| MUSI | 2182 | Piano Class IV | 1 |
| MUSI | 1310 | History and Literature of Recorded Music in America | 3 |
| MUSP | 1201 | Applied Commercial Music: Arranging and Composition (Recital)** | 2 |
| | | **Semester Total** | **13** |
| | | **Program Total** | **65** |

*Required twice. **Required four times.

## ARRANGING, COMPOSITION AND PRODUCTION

The Arranging, Composition and Production Level 1 Certificate gives the student a solid foundation in his or her specialization, and is a goal attainable in two semesters. Courses earned may be applied to the Music Arranging, Composition, and Production AAS degree.

The capstone course is MUSP 1201, Applied Commercial Music: Arranging and Composition.

### CERTIFICATE

**FIRST SEMESTER**     CREDIT

| MUSI | 1301 | Music Fundamentals | 3 |
| MUSC | 1331 | MIDI I | 3 |
| MUSI | 1181 | Piano Class I | 1 |
| MUSP | 1201 | Applied Commercial Music: Arranging and Composition* | 2 |
| | | **Semester Total** | **9** |

**SECOND SEMESTER**     CREDIT

| MXXX | #4## | MUSB, MUSC, MUSI, OR MUSP Elective** | 4 |
| MUSP | 1201 | Applied Commercial Music: Arranging and Composition* | 2 |
| | | **Semester Total** | **6** |
| | | **Program Total** | **15** |

*Required twice

**May be any MUSB, MUSC, MUSI, or MUSP course(s) with Department approval.

# MUSIC BUSINESS

The Music Business Specialization provides the student with the knowledge and experience to gain employment in the exciting fields of the music entertainment industry. In addition to the workforce and academic core, the student becomes familiar with the wide scope of the music business and gains industry experience in an approved internship.

The capstone course for the Music Business AAS degree is MUSB 2381 Cooperative Education-Music Management and Merchandising.

The capstone course for the Music Business Certificate is MUSB 2309, The Record Industry.

For more information, call 713-718-5620 or e-mail aubrey.tucker@hccs.edu.

## MUSIC BUSINESS

### AAS

TSI Testing is required prior to first enrollment.

#### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| MUSB | 1305 | Survey of the Music Business | 3 |
| MUSI | 1181 | Piano Class I | 1 |
| MUSI | 1211 | Theory I | 2 |
| MUSI | 1216 | Elementary Ear Training I | 2 |
| MUSP | 12## | Applied Commercial Music* | 2 |
| ITSC | 1309 | Integrated Software Applications I OR | |
| POFI | 1301 | Computer Applications I OR | |
| BCIS | 1405 | Business Computer Applications | 3 |
| | | **Semester Total** | **16** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| BUSG | 1301 | Introduction to Business | 3 |
| ENGL | 1302 | Composition II | 3 |
| HRPO | 1311 | Human Relations | 3 |
| XXXX | #3## | Math/Natural Science General Education Elective | 3 |
| MUSP | 12## | Applied Commercial Music* | 2 |
| MUSI | 12## | Ensemble OR | |
| MUSP | 12## | Commercial Music Ensemble | 2 |
| | | **Semester Total** | **16** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| MUSB | #3## | Approved MUSB Elective** | 3 |
| MUSI | 1306 | Music Appreciation OR | |
| MUSI | 1310 | History and Literature of Recorded Music in America | 3 |
| | | **Summer Total** | **6** |

#### SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| BMGT | 1303 | Principles of Management | 3 |
| MUSB | #3## | Approved MUSB Elective** | 3 |
| MUSC | 1331 | MIDI I | 3 |
| RTVB | 1321 | TV Field Production | 3 |
| MUSC | 1427 | Audio Engineering I | 4 |
| | | **Semester Total** | **16** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| ACCT | 2301 | Principles of Accounting I OR | |
| ACNT | 1303 | Introduction to Accounting I | 3 |
| BUSG | 2305 | Business Law/Contracts | 3 |
| ECON | 2302 | Principles of Economics | 3 |
| MUSB | #3## | Approved MUSB Elective** | 3 |
| MUSB | 2381 | Cooperative Education-Music Management and Merchandising | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **69** |

*Required twice. **Required three times.

**Program-related electives (9 semester hours) may be chosen from the following courses: MUSB 1341, Concert Promotion and Venue Management; MUSB 1391, Special Topics in Music Business; MUSB 2301, Music Marketing and Merchandising; MUSB 2305, Music Publishing; MUSB 2309, The Record Industry; MUSB 2345, Live Music and Talent Management; MUSB 2355, Legal Aspects of the Entertainment Industry.

## MUSIC BUSINESS

The Music Business Certificate gives the student a solid foundation in the Music Business program, and is a goal attainable in two semesters. Courses earned may be applied to the Music Business AAS degree. The capstone course is MUSB 2309, The Record Industry.

### CERTIFICATE

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| MUSB | 1305 | Survey of the Music Business | 3 |
| MUSB | 2355 | Legal Aspects of the Entertainment Industry | 3 |
| | | **Semester Total** | **6** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| MUSB | 2309 | The Record Industry | 3 |
| MUSB | #3## | Music Business Elective* | 3 |
| MXXX | #3## | MUSC, MUSI, or MUSP Elective** | 3 |
| | | **Semester Total** | **9** |
| | | **Program Total** | **15** |

*Music Business Elective to be taken from the following courses: MUSB 1341, Concert Promotion and Venue Management; MUSB 1391, Special Topics in Music Business; MUSB 2301, Music Marketing and Merchandising; MUSB 2305, Music Publishing; MUSB 2309, The Record Industry; MUSB 2345, Live Music and Talent Management; MUSB 2355, Legal Aspects of the Entertainment Industry: MUSB 2381 Cooperative Education-Music Management and Merchandising.

**May be any MUSI, MUSC, or MUSP course(s) with Department approval.

## MUSIC IN PERFORMANCE

The Music in Performance AAS Program is designed for those students who wish to devote a concentrated two years preparing themselves for professional or semiprofessional careers in music. Seven specializations are offered so that the student may concentrate on a chosen performance area: commercial voice, conducting, instrumental, jazz studies, musical theater, piano studio, and voice. A Certificate in Music in Performance is available. A wide variety of performance opportunities are available to the student through performing and networking with recognized professionals in music performance.

The capstone courses for the Music in Performance awards are as follows: Conducting Specialization AAS, MUSC 2249, Applied Conducting II (Recital); Instrumental Specialization AAS, MUSP 12##,

Applied Commercial Music (Recital); Jazz Studies Specialization AAS, MUSP 12##, Applied Commercial Music (Recital); Music Theater Specialization AAS, MUSP 2338, Music Theater II; Piano Studio Specialization AAS, MUSP 1210, Applied Commercial Music: Piano (Recital) Voice Specialization AAS, MUSP 1227, Applied Commercial Music: Voice (recital).

The capstone course for the Music in Performance Level 1 Certificate is MUSP 12## or MUAP 12## (2nd Semester)

For more information, call 713-718-5620 or e-mail aubrey.tucker@hccs.edu.

## CONDUCTING SPECIALIZATION

The AAS degree in the Conducting Specialization is a two-year program stressing the rudiments of conducting and a general study of music to prepare students to conduct vocal or instrumental ensembles.

### AAS

TSI Testing is required prior to first enrollment.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| MUSI | 1216 | Elementary Ear Training I | 2 |
| MUSI | 1211 | Theory | 2 |
| MUSC | 1309 | Conducting Class | 3 |
| MUSC | 2141 | Forum/Recital* | 1 |
| MUSI | 1181 | Piano Class I | 1 |
| MUSI | 1308 | Music Literature I | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| MUSC | 1249 | Applied Music: Conducting I | 2 |
| MUSC | 2141 | Forum/Recital* | 1 |
| MUSI | 1217 | Ear Training/Sight-Singing II | 2 |
| MUSI | 1212 | Theory II | 2 |
| MUSI | 1182 | Piano Class II | 1 |
| MUSI | 2241 | Community College Chorus OR | |
| MUSI | 1227 | Community College Band* | 2 |
| MUSC | 1331 | MIDI I | 3 |
| PSYC | 2301 | Introduction to Psychology OR | |
| XXXX | #3## | Social Science General Education Elective | 3 |
| | | **Semester Total** | **16** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| MUSI | 1309 | Music Literature II | 3 |
| XXXX | #3## | Math/Natural Science General Education Elective | 3 |
| | | **Summer total** | **6** |

### SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| MUSB | 1305 | Survey of the Music Business | 3 |
| MUSI | 2216 | Ear Training/Sight-Singing III | 2 |
| MUSI | 2211 | Theory III | 2 |
| MUSI | 2241 | Community College Chorus OR | |
| MUSI | 1227 | Community College Band* | 2 |
| MUSI | 2181 | Piano Class III | 1 |
| MUSC | 2249 | Applied Music Conducting II* | 2 |
| SPCH | 1311 | Fundamentals of Speech OR | |
| SPCH | 1315 | Public Speaking OR | |
| SPCH | 1321 | Business and Professional Speaking | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| MUSC | 1330 | Computer Music Notation I | 3 |
| MUSI | 2217 | Ear Training/Sight Singing IV | 2 |
| MUSI | 2212 | Theory IV | 2 |
| MUSI | 2182 | Piano Class IV | 1 |
| MUSI | 1310 | History and Literature of Recorded Music in America | 3 |
| MUSC | 2249 | Applied Music: Conducting II | 2 |
| | | **Semester Total** | **13** |
| | | **Program Total** | **65** |

*Required twice.

## INSTRUMENTAL SPECIALIZATION

The AAS degree and certificate in the Instrumental Specialization prepare students for performance of music composed for the literature of bands, orchestras and chamber music.

### AAS

TSI Testing is required prior to first enrollment.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| MUSP | 12## | Applied Commercial Music: Instrument** | 2 |
| MUSI | 1216 | Elementary Ear Training I | 2 |
| MUSI | 1211 | Theory I | 2 |
| MUSC | 2141 | Forum/Recital* | 1 |
| MUSI | 1181 | Piano Class I | 1 |
| MUSI | 11## | Ensemble | 1 |
| MUSP | 1329 | Live Performance Presentation | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| MUSC | 12## | Applied Commercial Music: Instrument** | 2 |
| MUSC | 1331 | MIDI I | 3 |
| MUSC | 2141 | Forum/Recital* | 1 |
| MUSI | 1217 | Ear Training/Sight-Singing II | 2 |
| MUSI | 1212 | Theory II | 2 |
| MUSI | 1182 | Piano Class II | 1 |
| MUSI | 11## | Ensemble | 1 |
| PSYC | 2301 | Introduction to Psychology OR | |
| XXXX | #3## | Social Science General Education Elective | 3 |
| | | **Semester Total** | **15** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| MUSI | 1306 | Music Appreciation | 3 |
| XXXX | #3## | Math/Natural Science General Education Elective | 3 |
| | | **Summer Total** | **6** |

### SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| MUSP | 12## | Applied Commercial Music: Instrument** | 2 |
| MUSB | 1305 | Survey of the Music Business | 3 |
| MUSC | 2141 | Forum/Recital | 1 |
| MUSI | 2216 | Ear Training/Sight-Singing III | 2 |
| MUSI | 2211 | Theory III | 2 |
| MUSI | 11## | Ensemble | 1 |
| MUSI | 2181 | Piano Class III | 1 |
| SPCH | 1311 | Fundamentals of Speech OR | |
| SPCH | 1315 | Public Speaking OR | |
| SPCH | 1321 | Business and Professional Speaking | 3 |
| | | **Semester Total** | **15** |

## SECOND SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| MUSP | 12## | Applied Commercial Music: | 2 |
| MUSC | 1330 | Computer Music Notation I | 3 |
| MUSI | 2217 | Ear Training/Sight Singing IV | 2 |
| MUSI | 2212 | Theory IV | 2 |
| MUSI | 11## | Ensemble | 1 |
| MUSI | 2182 | Piano Class IV | 1 |
| MUSI | 1310 | History and Literature of Recorded Music in America | 3 |
| | | **Semester Total** | **14** |
| | | **Program Total** | **65** |

*Required three times. **Required four times.

## JAZZ STUDIES SPECIALIZATION

The AAS degree and certificate in the Jazz Studies Specialization prepare students to be jazz musicians. Particular emphasis is given to jazz improvisation, theory and ensembles.

### AAS

TSI Testing is required prior to first enrollment.

### FIRST YEAR

#### FIRST SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| MUSP | 12## | Applied Commercial Music** | 2 |
| MUSI | 1216 | Elementary Ear Training I | 2 |
| MUSI | 1211 | Theory I | 2 |
| MUSC | 2141 | Forum/Recital* | 1 |
| MUSI | 1181 | Piano Class I | 1 |
| MUSP | 1250 | Small Commercial Music Ensemble: Jazz | 2 |
| MUSC | 2214 | Improvisation Theory I | 2 |
| | | **Semester Total** | **15** |

#### SECOND SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| MUSP | 12## | Applied Commercial Music** | 2 |
| MUSC | 1331 | MIDI I | 3 |
| MUSC | 2141 | Forum/Recital* | 1 |
| MUSI | 1217 | Ear Training/Sight-Singing II | 2 |
| MUSI | 1212 | Theory II | 2 |
| MUSI | 1182 | Piano Class II | 1 |
| MUSI | 11## | Ensemble* | 1 |
| PSYC | 2301 | Introduction to Psychology OR | |
| XXXX | #3## | Social Science General Education Elective | 3 |
| | | **Semester Total** | **15** |

#### THIRD SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| MUSI | 1305 | Survey of the Music Business | 3 |
| XXXX | #3## | Math/Natural Science General Education Elective | 3 |
| | | **Summer Total** | **6** |

## SECOND YEAR

### FIRST SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| MUSP | 12## | Applied Commercial Music: Instrument(Recital)** | 2 |
| MUSC | 2141 | Forum/Recital* | 1 |
| MUSI | 2216 | Ear Training/Sight-Singing III | 2 |
| MUSI | 2211 | Theory III | 2 |
| MUSI | 11## | Ensemble* | 1 |
| MUSI | 2181 | Piano Class III | 1 |
| MUSI | 1310 | History and Literature of Recorded Music in America | 3 |
| SPCH | 1311 | Fundamentals of Speech OR | |
| SPCH | 1315 | Public Speaking OR | |
| SPCH | 1321 | Business and Professional Speaking | 3 |
| | | **Semester Total** | **15** |

### SECOND SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| MUAP | 22## | Applied Commercial Music (Recital)** | 2 |
| MUSC | 1330 | Computer Music Notation I | 3 |
| MUSI | 2217 | Ear Training/Sight Singing IV | 2 |
| MUSI | 2212 | Theory IV | 2 |
| MUSI | 2182 | Piano Class IV | 1 |
| MUSI | 11## | Ensemble* | 1 |
| MUSP | 1329 | Live Performance Presentation | 3 |
| | | **Semester Total** | **14** |
| | | **Program Total** | **65** |

*Required three times. **Required four times.

## MUSIC THEATER SPECIALIZATION

The AAS degree and certificate in the Music Theater Specialization prepare students to be singers, actors and dancers for musical stage productions with emphasis on musical training.

### AAS

TSI Testing is required prior to first enrollment.

### FIRST YEAR

#### FIRST SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| DANC | 1347 | Jazz Dance I | 3 |
| ENGL | 1301 | Composition I | 3 |
| MUSI | 1216 | Elementary Ear Training I | 2 |
| MUSI | 1211 | Theory I | 2 |
| MUSC | 2141 | Forum/Recital* | 1 |
| MUSI | 1181 | Piano Class I | 1 |
| MUSP | 1227 | Applied Commercial Music: Voice* | 2 |
| | | **Semester Total** | **14** |

#### SECOND SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| MUSC | 2141 | Forum/Recital* | 1 |
| MUSI | 1217 | Ear Training/Sight-Singing II | 2 |
| MUSI | 1212 | Theory II | 2 |
| MUSI | 11## | Ensemble | 1 |
| MUSI | 1182 | Piano Class II | 1 |
| MUSP | 1227 | Applied Commercial Music: Voice* | 2 |
| DRAM | 1351 | Acting I | 3 |
| PSYC | 2301 | Introduction to Psychology OR | |
| XXXX | #3## | Social Science General Education Elective | 3 |
| | | **Semester Total** | **15** |

## THIRD SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| MUSB | 1305 | Survey of the Music Business | 3 |
| XXXX | #3## | Math/Natural Science General Education Elective | 3 |
| | | **Summer Total** | **6** |

## SECOND YEAR

### FIRST SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| MUSC | 2141 | Forum/Recital* | 1 |
| MUSI | 2216 | Ear Training/Sight-Singing III | 2 |
| MUSI | 2211 | Theory III | 2 |
| MUSP | 1308 | Music Theater I | 3 |
| MUSI | 2181 | Piano Class III | 1 |
| MUSP | 1227 | Applied Commercial Music: Voice* | 2 |
| SPCH | 1311 | Fundamentals of Speech OR | |
| SPCH | 1315 | Public Speaking OR | |
| SPCH | 1321 | Business and Professional Speaking | 3 |
| | | **Semester Total** | **14** |

### SECOND SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| MUSI | 11## | Ensemble | 1 |
| MUSC | 2141 | Forum/Recital* | 1 |
| MUSC | 1330 | Computer Music Notation I | 3 |
| MUSC | 1331 | MIDI I | 3 |
| MUSI | 1310 | History and Literature of Recorded Music in America | 3 |
| MUSP | 1227 | Applied Commercial Music: Voice (Recital)* | 2 |
| MUSP | 2338 | Music Theater II | 3 |
| | | **Semester Total** | **16** |
| | | **Program Total** | **65** |

*Required four times.

## PIANO STUDIO SPECIALIZATION

The AAS degree and certificate in the Piano Studio Specialization prepare students for employment or self-employment as piano and keyboard instructors and as operators of piano studios. Instruction includes training in music business practices.

### AAS

TSI Testing is required prior to first enrollment.

### FIRST YEAR

### FIRST SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| MUSP | 1210 | Applied Commercial Music: Piano** | 2 |
| MUSI | 1216 | Elementary Ear Training I | 2 |
| MUSI | 1211 | Theory I | 2 |
| MUSC | 2141 | Forum/Recital* | 1 |
| MUSI | 1181 | Piano Class I | 1 |
| MUSP | 1292 | Special Topics in Music-Piano and Organ Performance** | 2 |
| | | **Semester Total** | **13** |

### SECOND SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| MUSP | 1210 | Applied Commercial Music: Piano** | 2 |
| MUSC | 1331 | MIDI I | 3 |
| MUSC | 2141 | Forum/Recital* | 1 |
| MUSI | 1217 | Ear Training/Sight-Singing II | 2 |
| MUSI | 1212 | Theory II | 2 |
| MUSI | 1182 | Piano Class II | 1 |
| MUSP | 1292 | Special Topics in Music-Piano and Organ Performance** | 2 |
| PSYC | 2301 | Introduction to Psychology OR | |
| XXXX | #3## | Social Science General Education Elective | 3 |
| | | **Semester Total** | **16** |

## THIRD SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| MUSI | 1306 | Music Appreciation | 3 |
| XXXX | #3## | Math/Natural Science General Education Elective | 3 |
| | | **Summer Total** | **6** |

## SECOND YEAR

### FIRST SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| MUSI | 11## | Ensemble | 1 |
| MUSI | 2216 | Ear Training/Sight-Singing III | 2 |
| MUSI | 2211 | Theory III | 2 |
| MUSI | 2181 | Piano Class III | 1 |
| MUSP | 1292 | Special Topics in Music: Piano (Improvisation)** | 2 |
| MUSP | 1210 | Applied Commercial Music: Piano** | 2 |
| MUSP | 2304 | Piano Studio I | 3 |
| SPCH | 1311 | Fundamentals of Speech OR | |
| SPCH | 1315 | Public Speaking OR | |
| SPCH | 1321 | Business and Professional Speaking | 3 |
| | | **Semester Total** | **16** |

### SECOND SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| MUSC | 2141 | Forum/Recital* | 1 |
| MUSC | 1330 | Computer Music Notation I | 3 |
| MUSI | 2217 | Ear Training/Sight Singing IV | 2 |
| MUSI | 2212 | Theory IV | 2 |
| MUSI | 2182 | Piano Class IV | 1 |
| MUSP | 1210 | Applied Commercial Music: Piano (Recital)** | 2 |
| MUSP | 2344 | Piano Studio II | 3 |
| | | **Semester Total** | **14** |
| | | **Program Total** | **65** |

*Required three times. **Required four times.

## VOICE SPECIALIZATION

The AAS degree and certificate in Voice Specialization offers options in Voice and Commercial Voice studies. The Voice option concentrates on development of classical vocal techniques appropriate for operatic, Broadway musical and chamber music singing. The Commercial Voice option trains students for the on-microphone singing of popular music and jazz. Students interested in the Commercial Voice option should contact the department or counselor to make appropriate substitutions.

Voice Option: MUSI 1160, MUSI 1161 and MUSI 2160
Commercial Voice Option: substitute MUSI 1310
Voice Option: MUSP 2308
Commercial Voice Option: substitute MUSI 1329
Voice Option: MUSP 2339
Commercial Voice Option: substitute MUSI 11## (Required twice) and MUSC 2141
Voice Option: MUSP 2161
Commercial Voice Option: substitute MUSC 2141

TSI Testing is required prior to first enrollment.

## FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| MUSP | 1227 | Applied Commercial Music: Voice** | 2 |
| MUSI | 1216 | Elementary Ear Training I | 2 |
| MUSI | 1211 | Theory I | 2 |
| MUSI | 11## | Ensemble* | 1 |
| MUSC | 2141 | Forum/Recital | 1 |
| MUSI | 1160 | Italian Diction | 1 |
| MUSI | 1181 | Piano Class I | 1 |
| MUSI | 1306 | Music Appreciation | 3 |
| | | **Semester Total** | **16** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| MUSP | 1227 | Applied Commercial Music: Voice** | 2 |
| MUSC | 1331 | MIDI I | 3 |
| MUSI | 1217 | Ear Training/Sight-Singing II | 2 |
| MUSI | 1212 | Theory II | 2 |
| MUSI | 1161 | English Diction | 1 |
| MUSI | 1182 | Piano Class II | 1 |
| MUSI | 11## | Ensemble* | 1 |
| PSYC | 2301 | Introduction to Psychology OR | |
| XXXX | #3## | Social Science General Education Elective | 3 |
| | | **Semester Total** | **15** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| SPCH | 1311 | Fundamentals of Speech OR | |
| SPCH | 1321 | Business and Professional Speaking OR | |
| SPCH | 1315 | Public Speaking | 3 |
| XXXX | #3## | Math/Natural Science General Education Elective | 3 |
| | | **Summer Total** | **6** |

## SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| MUSB | 1305 | Survey of the Music Business | 3 |
| MUSP | 1227 | Applied Commercial Music: Voice** | 2 |
| MUSI | 2216 | Ear Training/Sight-Singing III | 2 |
| MUSI | 2211 | Theory III | 2 |
| MUSI | 2160 | German Diction | 1 |
| MUSI | 2181 | Piano Class III | 1 |
| MUSP | 2308 | Opera Workshop I | 3 |
| | | **Semester Total** | **14** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| MUSP | 1227 | Applied Commercial Music: Voice (Recital)** | 2 |
| MUSC | 1330 | Computer Music Notation I | 3 |
| MUSI | 2217 | Ear Training/Sight Singing IV | 2 |
| MUSI | 2212 | Theory IV | 2 |
| MUSI | 2161 | French Diction | 1 |
| MUSI | 2182 | Piano Class IV | 1 |
| MUSP | 2339 | Opera Workshop II | 3 |
| | | **Semester Total** | **14** |
| | | **Program Total** | **65** |

*Required twice. **Required four times.

## MUSIC IN PERFORMANCE

The Music in Performance Level 1 Certificate gives the student a solid foundation in his or her specialization, and is a goal attainable in two semesters. Courses earned may be applied to the Music in Performance AAS degree. The capstone course is MUSP 12## or MUAP 12## (2nd Semester).

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| MUSP | 12## | Applied Commercial Music OR | |
| MUAP | 12## | Applied Music* | 2 |
| MUSI | 1301 | Music Fundamentals | 3 |
| MUSI | 1181 | Piano Class I | 1 |
| MUSP | 12## | Applied Commercial Music OR | |
| MUSI | 12## | Ensemble* | 2 |
| | | **Semester Total** | **8** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| MUSP | 12## | Applied Commercial Music OR | |
| MUAP | 12## | Applied Music* | 2 |
| MXXX | #3## | MUSB, MUSC, MUSI, OR MUSP Elective** | 3 |
| MUSP | 12## | Applied Commercial Music OR | |
| MUSI | 12## | Ensemble* | 2 |
| | | **Semester Total** | **7** |
| | | **Program Total** | **15** |

* Required twice; private lesson on instrument or voice

** May be any MUSB, MUSC, MUSI, or MUSP course(s) with Commercial Music Department approval

# Business, Management and Administration

**Accounting**
**Business Management**
**Business Technology**
**International Business**
**(See Academic Degrees and Certificates 33-47)**

## Business, Management and Administration

A Career Cluster is a grouping of occupations and broad industries based on commonalities. The Business, Management and Administration career cluster is concerned with providing knowledge and skills related to planning, organizing, directing and evaluating business functions essential to efficient and productive business operations. Business Management and Administration career opportunities are available in every sector of the economy. This would include careers related to Accounting, Business Info Systems, International Business, Management, Office Administration, Human Resources and Real Estate.

Every HCC Workforce Educational program contains a "capstone," an experience for the student to "put it all together." The capstone might consist of an external learning experience (e.g., co-op, clinical, etc.), a course especially designed to help students synthesize knowledge and skills, or a licenser exam as appropriate.

## ACCOUNTING

The Accounting Department provides students with occupational and technical instruction, continuing education, college-parallel courses, professional assistance, and resources for learning. This program prepares students for careers as paraprofessionals in accounting firms, to assist certified public accountants as generalists, to do tax preparations, to perform audits, and to prepare financial statements.

The capstone for the AAS in Accounting and the Accounting Certificate is ACNT 2382, Cooperative Education.

The Accounting program offers courses that will qualify students for the CPA exam. The State of Texas' State Board of Public Accountancy has accredited these courses for CPA candidates.

For more information, call 713-718-7905 or e-mail marina.grau@hccs.edu.

## ACCOUNTING

### AAS

TSI Testing is required prior to first enrollment.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ECON | 2301 | Principles of Economics (Macro) | 3 |
| ENGL | 1301 | Composition I | 3 |
| ACCT | 2301 | Principles of Accounting I* | 3 |
| XXXX | #3## | Computer Applications Elective** | 3 |
| HRPO | 2301 | Human Resources Management | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| ITSW | 2334 | Advanced Spreadsheets | 3 |
| ENGL | 1302 | Composition II | 3 |
| PSYC | 2301 | Introduction to Psychology | 3 |
| BUSG | 2305 | Business Law/Contracts | 3 |
| ACCT | 2302 | Principles of Accounting II | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts Elective | 3 |
| | | **Semester Total** | **18** |

### SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| MATH | 1314 | College Algebra | 3 |
| ACNT | 2331 | Internal Control and Auditing OR | |
| ACNT | 1313 | Computerized Accounting Applications | 3 |
| ACNT | 2303 | Intermediate Accounting I | 3 |
| ACNT | 1331 | Federal Income Tax: Individual | 3 |
| ACNT | 1382 | Cooperative Education-Accounting Technician | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| BMGT | 1303 | Principles of Management | 3 |
| ACNT | 2304 | Intermediate Accounting II | 3 |
| ACNT | 2309 | Cost Accounting OR | |
| ACNT | 1392 | Small Business Accounting | 3 |
| ACNT | 1347 | Federal Income Tax for Partnerships and Corporations | 3 |
| ACNT | 2382 | Cooperative Education-Accounting Technician | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **63** |

*Recommended Prerequisite: ACNT 1303, high school accounting or bookkeeping or department approval based on business experience.

**The Computer Applications Elective may be chosen from the following courses: ITSC 1309, Integrated Software Applications I; POFI 1301 Computer Applications I; or BCIS 1405, Business Computer Application.

## ACCOUNTING

### CERTIFICATE

Course prerequisite needs to be met for math.

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ACCT | 2301 | Principles of Accounting I* | 3 |
| XXXX | #3## | Computer Applications Elective** | 3 |
| HRPO | 2301 | Human Resources Management | 3 |
| MATH | 1314 | College Algebra | 3 |
| | | **Semester Total** | **12** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| ACCT | 2302 | Principles of Accounting II | 3 |
| ACNT | 2331 | Internal Control and Auditing OR | |
| ACNT | 1313 | Computerized Accounting Applications | 3 |
| ACNT | 1331 | Federal Income Tax: Individual | 3 |
| ACNT | 1382 | Cooperative Education-Accounting Technician | 3 |
| | | **Semester Total** | **12** |

## THIRD SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| ACNT | 2303 | Intermediate Accounting I | 3 |
| ACNT | 2309 | Cost Accounting OR | |
| ACNT | 1392 | Special Topics in Accounting Technician-Small Business Accounting | 3 |
| ITSW | 2334 | Advanced Spreadsheets | 3 |
| ACNT | 1347 | Federal Income Tax for Partnerships and Corporations | 3 |
| ACNT | 2382 | Cooperative Education-Accounting Technician | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **39** |

*Recommended Prerequisite: ACNT 1303, high school accounting or bookkeeping or department approval based on business experience.

**The Computer Applications Elective may be chosen from the following courses: ITSC 1309, Integrated Software Applications I; POFI 1301 Computer Applications I; or BCIS 1405, Business Computer Application.

## PAYROLL SPECIALIST

The Payroll Specialist Marketable Skills Achievement Award prepares the student to perform activities associated with human resources, payroll transactions, payroll tax compliance and filing of all quarterly and yearly payroll tax reports required by company policies and government regulations.

### MSA

## FIRST YEAR

### FIRST SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| ACNT | 1303 | Introduction to Accounting I | 3 |
| ACNT | 1329 | Payroll Accounting | 3 |
| POFT | 1301 | Computer Applications OR | |
| ITSC | 1309 | Integrated Software Applications | 3 |
| BMGT | 1391 | Introduction to HR/PeopleSoft Applications I OR | |
| ITSW | 2334 | Advanced Spreadsheets OR | |
| ACNT | 1313 | Computerized Accounting Applications | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **12** |

# BUSINESS ADMINISTRATION

The AAS in Management provides up-to-date management skills for the Houston business and industrial community and anyone seeking first-line business positions as well as upgrading the skills of those presently in the industry. The degree offers management, marketing and academic core courses. For students interested in the Logistics and Global Supply Chain Management Certificate, see the International Business section of the catalog.

The capstones in Business Administration are as follows:

Management AAS—BUSG 2381, Cooperative Education II.

Management Certificate—BUSG 2380, Cooperative Education I.

Human Resource Management Specialization AAS—BUSG 2381, Cooperative Education II.

Human Resource Management Certificate—BUSG 2380, Cooperative Education I.

For more information, call 713-718-5222 or e-mail rudy.soliz@hccs.edu.

# MANAGEMENT

### AAS

TSI Testing is required prior to first enrollment.

## FIRST YEAR

### FIRST SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| BMGT | 1303 | Principles of Management | 3 |
| BUSG | 1301 | Introduction to Business | 3 |
| ENGL | 1301 | Composition I | 3 |
| XXXX | #3## | General Education Elective* | 3 |
| MATH | 1314 | College Algebra OR | |
| XXXX | #3## | Approved Math/Natural Science Elective | 3 |
| | | **Semester Total** | **15** |

### SECOND SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| ENGL | 1302 | Composition II | 3 |
| BMGT | 1301 | Supervision | 3 |
| HRPO | 1311 | Human Relations | 3 |
| XXXX | #3## | Computer Applications Elective** | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts Elective | 3 |
| ACNT | 1303 | Introduction to Accounting I OR | |
| ACCT | 2301 | Principles of Accounting I | 3 |
| | | **Semester Total** | **18** |

## SECOND YEAR

### FIRST SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| MRKG | 1311 | Principles of Marketing | 3 |
| XXXX | #3## | General Education Elective* | 3 |
| BUSG | 2380 | Cooperative Education I | 3 |
| BUSG | 2305 | Business Law/Contracts | 3 |
| HRPO | 2301 | Human Resource Management | 3 |
| | | **Semester Total** | **15** |

### SECOND SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| BUSG | 2381 | Cooperative Education II | 3 |
| BUSG | 1370 | Personal Financial Planning | 3 |
| HRPO | 2307 | Organizational Behavior | 3 |
| ECON | 2302 | Principles of Economics (Micro) | 3 |
| BUSG | 2309 | Small Business Management | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **63** |

*See Page 44 for the General Education Elective options.

**The Computer Applications Elective may be chosen from the following courses: ITSC 1309, Integrated Software Applications I; POFI 1301 Computer Applications I; or BCIS 1405, Business Computer Application.

## MANAGEMENT

The Management Certificate provides the student with the knowledge and skills required for entry-level positions in management. This certificate can apply to the Management AAS.

### CERTIFICATE

### FIRST SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| BUSG | 2305 | Business Law/Contracts | 3 |
| HRPO | 1311 | Human Relations | 3 |
| HRPO | 2301 | Human Resource Management | 3 |
| BMGT | 1303 | Principles of Management | 3 |
| | | **Semester Total** | **12** |

## SECOND SEMESTER

| | | | CREDITS |
|---|---|---|---|
| BUSG | 2380 | Cooperative Education I | 3 |
| BUSG | 1301 | Introduction to Business | 3 |
| BMGT | 1301 | Supervision | 3 |
| | | **Semester Total** | **9** |
| | | **Program Total** | **21** |

## HUMAN RESOURCE MANAGEMENT SPECIALIZATION

The Human Resource Management Specialization AAS will provide the student with the knowledge and skills necessary to pursue a career in the human resource area including benefits, compensation, and other aspects of human resource management.

### AAS

TSI Testing is required prior to first enrollment.

### FIRST YEAR

#### FIRST SEMESTER

| | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| BMGT | 1303 | Principles of Management | 3 |
| BUSG | 1301 | Introduction to Business | 3 |
| XXXX | #3## | Approved General Education Elective | 3 |
| XXXX | #3## | Computer Applications Elective* | 3 |
| MATH | 1314 | College Algebra OR | |
| XXXX | #3## | Approved Math/Natural Science Elective | 3 |
| | | **Semester Total** | **18** |

#### SECOND SEMESTER

| | | | CREDITS |
|---|---|---|---|
| ENGL | 1302 | Composition II | 3 |
| BMGT | 1301 | Supervision | 3 |
| HRPO | 1311 | Human Relations | 3 |
| ACNT | 1303 | Introduction to Accounting I OR | |
| ACCT | 2301 | Principles of Accounting I | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts Elective | 3 |
| | | **Semester Total** | **15** |

### SECOND YEAR

#### FIRST SEMESTER

| | | | CREDITS |
|---|---|---|---|
| BUSG | 2380 | Cooperative Education I | 3 |
| BUSG | 2305 | Business Law/Contracts | 3 |
| HRPO | 1302 | Human Resources Training and Development | 3 |
| XXXX | #3## | Program-Related Elective** | 3 |
| HRPO | 2301 | Human Resource Management | 3 |
| | | **Semester Total** | **15** |

#### SECOND SEMESTER

| | | | CREDITS |
|---|---|---|---|
| BUSG | 2381 | Cooperative Education II | 3 |
| HRPO | 2371 | Recruitment, Interviewing and Placement of Human Resources | 3 |
| HRPO | 2372 | Wage and Salary Administration | 3 |
| HRPO | 1305 | Management and Labor Relations | 3 |
| ECON | 2302 | Principles of Economics (Micro) | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **63** |

*The Computer Applications Elective may be chosen from the following courses: ITSC 1309, Integrated Software Applications I; POFI 1301 Computer Applications I; or BCIS 1405, Business Computer Application.

**Program-Related Electives may be chosen from the following: BUSG, BMGT, HRPO, IBUS, MRKG, or LMGT.

## HUMAN RESOURCE MANAGEMENT

The Human Resource Management Certificate will provide the student with the knowledge and ability to apply individual technical skills within the defined area. This certificate can also apply to the Human Resource Management AAS.

### CERTIFICATE

#### FIRST SEMESTER

| | | | CREDITS |
|---|---|---|---|
| HRPO | 1302 | Human Resources Training and Development | 3 |
| HRPO | 2371 | Recruiting, Interviewing, and Placement | 3 |
| HRPO | 1305 | Management and Labor Relations | 3 |
| BMGT | 1303 | Principles of Management | 3 |
| | | **Semester Total** | **12** |

#### SECOND SEMESTER

| | | | CREDITS |
|---|---|---|---|
| HRPO | 2372 | Wage and Salary Administration | 3 |
| HRPO | 2301 | Human Resource Management | 3 |
| BUSG | 2380 | Cooperative Education I | 3 |
| | | **Semester Total** | **9** |
| | | **Program Total** | **21** |

## BUSINESS TECHNOLOGY

The Business Technology curricula are designed to provide students an opportunity to develop the knowledge, skills, and abilities required for assuming administrative assistant and other office positions in today's competitive workplace. The curricula are competency-based and organized to teach industry-driven educational outcomes.

The AAS degree in Business Technology has specializations in the following four areas: General Office Administration, General Office Administration-Bilingual Option, Microsoft Office Technology, Legal Office Assistant and Medical Office Specialist.

The Business Technology certificates have specializations in the following areas: Bilingual Business Technology, Human Resources/PeopleSoft, General Office Administration, Microsoft Office Technology, Legal Office Assistant, Medical Coding/Transcription Specialist.

All courses in the Business Technology Certificate programs may apply toward the AAS in Business Technology.

A Certified Administrative Professional (formerly Certified Professional Secretary) will be granted 15 semester hours credit for the following courses: POFT 1392, Special Topics: Introduction to Office Technology; POFT 2301, Document Formatting and Skill Building; ACNT 1303, Introduction to Accounting I; POFT 1325, Business Math and Machine Applications; POFT 2331, Administrative Systems.

To receive credit, the applicant must:

1. Request that direct notification be given to the College by the Institute for Certifying Secretaries that the applicant has passed all sections of the exam;

2. Earn 15 hours of credit for courses within the Houston Community College.

The capstones in Business Technology are as follows:

General Office Administration Specialization AAS, POFT 2380, Cooperative Education II.

General Office Administration Specialization Certificate, POFI 2301, Computer Applications I.

General Office Administration Specialization-Bilingual Option AAS, POFT 2380, Cooperative Education II.

Bilingual Business Technology Specialization Certificate, POFT 2331, Administrative Systems.

Human Resources/PeopleSoft Specialization Certificate , POFT 2331, Administrative Systems.

Microsoft Office Technology Specialization AAS, POFI 2380, Cooperative Education II.

Microsoft Office Technology Specialization Certificate, POFI 2331, Desktop Publishing for the Office.

Legal Office Assistant Specialization AAS, POFT 2380, Cooperative Education II.

Legal Office Assistant Specialization Certificate , POFI 2301, Computer Applications I.

Medical Office Specialist Specialization AAS, POFT 2380, Cooperative Education II.

Medical Coding/Transcription Specialist Specialization Certificate, POFT 2331, Administrative Systems.

For more information, call 713-718-7807 or e-mail willie.caldwell@hccs.edu.

# GENERAL OFFICE ADMINISTRATION SPECIALIZATION

## AAS

TSI Testing is required prior to first enrollment.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| POFI | 1301 | Computer Applications I OR | |
| ITSC | 1309 | Integrated Software Applications I | 3 |
| ENGL | 1301 | Composition I | 3 |
| POFT | 1329 | Beginning Keyboarding | 3 |
| POFT | 1392 | Special Topics-Introduction to Office Technology | 3 |
| POFT | 1325 | Business Math and Machine Applications | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| ACNT | 1303 | Introduction to Accounting I | 3 |
| POFT | 1319 | Records and Information Management I | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts General Education Elective | 3 |
| POFT | 2301 | Intermediate Keyboarding | 3 |
| POFI | 1341 | Computer Applications II | 3 |
| | | **Semester Total** | **15** |

## SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| POFT | 1345 | Shorthand/Notetaking | 3 |
| POFT | 2359 | Records and Information Management III | 3 |
| BMGT | 1325 | Office Management | 3 |
| POFI | 1349 | Spreadsheets | 3 |
| POFT | 1380 | Cooperative Education I | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| HRPO | 1311 | Human Relations | 3 |
| POFT | 2331 | Administrative Systems | 3 |
| POFT | 2380 | Cooperative Education II | 3 |
| POFI | 2331 | Desktop Publishing for the Office | 3 |
| PSYC | 2301 | Introduction to Psychology | 3 |
| | | **Semester Total** | **15** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| XXXX | #3## | Math/Science General Education Elective | 3 |
| ECON | 2301 | Principles of Economics (Macro) OR | |
| ECON | 2302 | Principles of Economics (Micro) OR | |
| ECON | 1301 | Introduction to Economics | 3 |
| | | **Semester Total** | **6** |
| | | **Program Total** | **66** |

# GENERAL OFFICE ADMINISTRATION SPECIALIZATION

## CERTIFICATE

Course prerequisite needs to be met for English.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| POFT | 1325 | Business Math and Machine Applications | 3 |
| POFT | 1329 | Beginning Keyboarding | 3 |
| POFI | 1301 | Computer Applications I OR | |
| ITSC | 1309 | Integrated Software Applications I | 3 |
| | | **Semester Total** | **9** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| POFT | 1319 | Records and Information Management I | 3 |
| ENGL | 1301 | Composition I | 3 |
| POFT | 1392 | Special Topics-Introduction to Office Technology | 3 |
| POFT | 2301 | Intermediate Keyboarding | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **21** |

## GENERAL OFFICE ADMINISTRATION BILINGUAL OPTION

### AAS

TSI Testing is required prior to first enrollment.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| POFI | 1301 | Computer Applications I OR | |
| ITSC | 1309 | Integrated Software Applications I | 3 |
| ENGL | 1301 | Composition I | 3 |
| POFT | 1329 | Beginning Keyboarding | 3 |
| POFT | 1392 | Special Topics-Introduction to Office Technology | 3 |
| POFT | 1325 | Business Math and Machine Applications | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| ACNT | 1303 | Introduction to Accounting I | 3 |
| POFT | 1319 | Records and Information Management I | 3 |
| SPAN | 1411 | Beginning Spanish I | 4 |
| POFT | 2301 | Intermediate Keyboarding | 3 |
| POFI | 1341 | Computer Applications II | 3 |
| | | **Semester Total** | **16** |

### SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| POFT | 1345 | Shorthand/Notetaking | 3 |
| POFT | 2359 | Records and Information Management III | 3 |
| BMGT | 1325 | Office Management | 3 |
| POFI | 1349 | Spreadsheets | 3 |
| POFT | 1380 | Cooperative Education I | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| SPAN | 1412 | Beginning Spanish II | 4 |
| POFT | 2331 | Administrative Systems | 3 |
| POFT | 2380 | Cooperative Education II | 3 |
| POFI | 2331 | Desktop Publishing for the Office | 3 |
| PSYC | 2301 | Introduction to Psychology | 3 |
| | | **Semester Total** | **16** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| XXXX | #3## | Math/Science General Education Elective | 3 |
| ECON | 2301 | Principles of Economics (Macro) OR | |
| ECON | 2302 | Principles of Economics (Micro) OR | |
| ECON | 1301 | Introduction to Economics | 3 |
| | | **Semester Total** | **6** |
| | | **Program Total** | **68** |

## BILINGUAL BUSINESS TECHNOLOGY SPECIALIZATION

### CERTIFICATE

Course prerequisite needs to be met for English.

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| POFT | 1392 | Special Topics-Introduction to Office Technology | 3 |
| POFT | 1329 | Beginning Keyboarding | 3 |
| POFI | 1301 | Computer Applications I OR | |
| ITSC | 1309 | Integrated Software Applications I | 3 |
| SPAN | 1300 | Beginning Spanish Conversation I | 3 |
| | | **Semester Total** | **12** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| POFI | 1341 | Computer Applications II | 3 |
| SPAN | 1310 | Beginning Spanish Conversation II | 3 |
| BMGT | 1325 | Office Management | 3 |
| POFT | 2331 | Administrative Systems | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **27** |

## FINANCIAL PEOPLESOFT

The Financial PeopleSoft Marketable Skills Achievement Award prepares the student for financial accounting positions in Human Resources departments. Financial departments, executives in corporations and in independently owned businesses, constantly search for trained PeopleSoft end-users, qualified to successfully integrate PeopleSoft software and effectively demonstrate Human Resources processes, using PeopleSoft functions. These secure positions offer good working conditions and numerous fringe benefits. All courses apply toward the Human Resources/Peoplesoft Specialization Certificate.

### MSA

Marketable Skills Achievement Award.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| BMGT | 1391 | Special Topics-Introduction to HR/PeopleSoft Applications | 3 |
| POFI | 1301 | Computer Applications I | 3 |
| BMGT | 2310 | Financial Management/PeopleSoft Applications | 3 |
| POFT | 1325 | Business Math and Machine Applications | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **12** |

## HUMAN RESOURCES/PEOPLESOFT SPECIALIZATION

### CERTIFICATE

TSI Testing is required prior to first enrollment.

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| BMGT | 1391 | Special Topics-Introduction to HR/PeopleSoft Applications | 3 |
| POFT | 1329 | Beginning Keyboarding | 3 |
| POFI | 1301 | Computer Applications I OR | |
| ITSC | 1309 | Integrated Software Applications I | 3 |
| | | **Semester Total** | **9** |

## SECOND SEMESTER        CREDITS

| | | | |
|---|---|---|---|
| POFI | 1341 | Computer Applications II | 3 |
| BMGT | 1394 | Special Topics-Intermediate HR/PeopleSoft Applications | 3 |
| BMGT | 2305 | Advanced Communications in Management/PeopleSoft Applications | 3 |
| | | **Semester Total** | **9** |

## THIRD SEMESTER        CREDITS

| | | | |
|---|---|---|---|
| BMGT | 2331 | Total Quality Management/PeopleSoft Applications | 3 |
| BMGT | 2310 | Financial Management/PeopleSoft Applications | 3 |
| POFT | 2331 | Administrative Systems | 3 |
| | | **Semester Total** | **9** |
| | | **Program Total** | **27** |

# MICROSOFT OFFICE TECHNOLOGY SPECIALIZATION

**AAS**

TSI Testing is required prior to first enrollment.

## FIRST YEAR

### FIRST SEMESTER        CREDITS

| | | | |
|---|---|---|---|
| POFT | 1329 | Beginning Keyboarding | 3 |
| POFT | 1392 | Special Topics-Introduction to Office Technology | 3 |
| BMGT | 1325 | Office Management | 3 |
| ENGL | 1301 | Composition I | 3 |
| POFI | 1301 | Computer Applications I OR | |
| ITSC | 1309 | Integrated Software Applications I | 3 |
| | | **Semester Total** | **15** |

### SECOND SEMESTER        CREDITS

| | | | |
|---|---|---|---|
| POFI | 1341 | Computer Applications II | 3 |
| BUSG | 1301 | Introduction to Business | 3 |
| POFT | 2301 | Intermediate Keyboarding | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts General Education Elective | 3 |
| POFT | 1325 | Business Math and Machine Applications | 3 |
| | | **Semester Total** | **15** |

## SECOND YEAR

### FIRST SEMESTER        CREDITS

| | | | |
|---|---|---|---|
| POFI | 1380 | Cooperative Education I | 3 |
| POFI | 1349 | Spreadsheets | 3 |
| POFT | 1319 | Records and Information Management I | 3 |
| ACNT | 1303 | Introduction to Accounting I | 3 |
| | | **Semester Total** | **12** |

### SECOND SEMESTER        CREDITS

| | | | |
|---|---|---|---|
| POFI | 2331 | Desktop Publishing for the Office | 3 |
| ACCT | 2301 | Principles of Accounting I | 3 |
| POFI | 2380 | Cooperative Education II | 3 |
| HRPO | 1311 | Human Relations | 3 |
| ECON | 2301 | Principles of Economics (Macro) OR | |
| ECON | 2302 | Principles of Economics (Micro) OR | |
| ECON | 1301 | Introduction to Economics | 3 |
| | | **Semester Total** | **15** |

## THIRD SEMESTER        CREDITS

| | | | |
|---|---|---|---|
| BUSG | 2305 | Business Law/Contracts | 3 |
| POFT | 2331 | Administrative Systems | 3 |
| PSYC | 2301 | Introduction to Psychology | 3 |
| XXXX | #3## | Math/Science General Education Elective | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **69** |

# MICROSOFT OFFICE TECHNOLOGY SPECIALIZATION

**CERTIFICATE**

TSI Testing is required prior to first enrollment.

## FIRST SEMESTER        CREDITS

| | | | |
|---|---|---|---|
| POFI | 1301 | Computer Applications I OR | |
| ITSC | 1309 | Integrated Software Applications I | 3 |
| POFI | 1341 | Computer Applications II | 3 |
| POFT | 1329 | Beginning Keyboarding | 3 |
| | | **Semester Total** | **9** |

## SECOND SEMESTER        CREDITS

| | | | |
|---|---|---|---|
| POFI | 1349 | Spreadsheets | 3 |
| POFI | 2331 | Desktop Publishing for the Office | 3 |
| POFT | 1325 | Business Math and Machine Applications | 3 |
| | | **Semester Total** | **9** |
| | | **Program Total** | **18** |

# LEGAL OFFICE ASSISTANT SPECIALIZATION

**AAS**

TSI Testing is required prior to first enrollment.

## FIRST YEAR

### FIRST SEMESTER        CREDITS

| | | | |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| POFT | 1329 | Beginning Keyboarding | 3 |
| POFT | 1325 | Business Math and Machine Applications | 3 |
| POFT | 1392 | Special Topics-Introduction to Office Technology | 3 |
| POFL | 1305 | Legal Terminology | 3 |
| | | **Semester Total** | **15** |

### SECOND SEMESTER        CREDITS

| | | | |
|---|---|---|---|
| POFT | 1319 | Records and Information Management I | 3 |
| POFT | 2301 | Intermediate Keyboarding | 3 |
| POFI | 1301 | Computer Applications I OR | |
| ITSC | 1309 | Integrated Software Applications I | 3 |
| POFT | 1345 | Shorthand/Notetaking | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts General Education Elective | 3 |
| | | **Semester Total** | **15** |

## SECOND YEAR

### FIRST SEMESTER CREDITS
POFL 2305 Legal Research...........................................................3
POFI 2331 Desktop Publishing for the Office...................................3
POFT 1380 Cooperative Education I..............................................3
HRPO 1311 Human Relations ........................................................3
POFL 1359 Legal Transcription......................................................3
**Semester Total 15**

### SECOND SEMESTER CREDITS
POFT 2380 Cooperative Education II.............................................3
BMGT 1325 Office Management.....................................................3
BUSG 1301 Introduction to Business.............................................3
POFT 2331 Administrative Systems...............................................3
ACNT 1303 Introduction to Accounting I.......................................3
ECON 2301 Principles of Economics (Macro) OR
ECON 2302 Principles of Economics (Micro) OR
ECON 1301 Introduction to Economics..........................................3
**Semester Total 18**

### THIRD SEMESTER CREDITS
PSYC 2301 Introduction to Psychology..........................................3
XXXX #3## Math/Science General Education Elective.....................3
BUSG 2305 Business Law/Contracts .............................................3
**Semester Total 9**
**Program Total 72**

## LEGAL OFFICE ASSISTANT SPECIALIZATION

### CERTIFICATE

### FIRST SEMESTER CREDITS
POFL 1305 Legal Terminology......................................................3
POFT 1345 Shorthand/Notetaking.................................................3
POFL 1359 Legal Transcription......................................................3
POFI 1301 Computer Applications I OR
ITSC 1309 Integrated Software Applications I ...............................3
**Semester Total 12**

### SECOND SEMESTER CREDITS
BUSG 2305 Business Law/Contracts .............................................3
POFL 2305 Legal Research...........................................................3
POFT 2301 Intermediate Keyboarding...........................................3
**Semester Total 9**
**Program Total 21**

## MEDICAL OFFICE SPECIALIST SPECIALIZATION

### AAS

TSI Testing is required prior to first enrollment.

## FIRST YEAR

### FIRST SEMESTER CREDITS
POFT 1329 Beginning Keyboarding...............................................3
MDCA 1313 Medical Terminology ...................................................3
POFT 1392 Special Topics-Introduction to Office Technology.............3
ENGL 1301 Composition I.............................................................3

PSYC 2302 Applied Psychology OR
PSYC 2301 Introduction to Psychology..........................................3
**Semester Total 15**

### SECOND SEMESTER CREDITS
POFT 2301 Intermediate Keyboarding...........................................3
POFI 1301 Computer Applications I OR
ITSC 1309 Integrated Software Applications I ...............................3
MRMT 1307 Medical Transcription I................................................3
XXXX #3## Approved Humanities/Fine Arts
General Education Elective..........................................3
POFT 1325 Business Math and Machine Applications.......................3
**Semester Total 15**

## SECOND YEAR

### FIRST SEMESTER CREDITS
POFT 1380 Cooperative Education I..............................................3
HRPO 1311 Human Relations ........................................................3
POFI 1341 Computer Applications II.............................................3
BMGT 1325 Office Management.....................................................3
POFT 1319 Records and Information Management I.........................3
**Semester Total 15**

### SECOND SEMESTER CREDITS
ACNT 1303 Introduction to Accounting I.......................................3
POFT 2331 Administrative Systems...............................................3
POFM 1300 Medical Coding Basics................................................3
POFT 2380 Cooperative Education II.............................................3
BIOL 1308 Introductory Biology I .................................................3
**Semester Total 15**

### THIRD SEMESTER CREDITS
POFM 2333 Medical Document Production (Coding II) ......................3
ECON 2301 Principles of Economics (Macro) OR
ECON 2302 Principles of Economics (Micro) OR
ECON 1301 Introduction to Economics..........................................3
**Semester Total 6**
**Program Total 66**

## MEDICAL CODING/TRANSCRIPTION SPECIALIST SPECIALIZATION*

### CERTIFICATE

TSI Testing is required prior to first enrollment.

### FIRST SEMESTER CREDITS
MDCA 1313 Medical Terminology ...................................................3
POFI 1301 Computer Applications I OR
ITSC 1309 Integrated Software Applications I ...............................3
POFT 2301 Intermediate Keyboarding...........................................3
POFM 1300 Medical Coding Basics................................................3
**Semester Total 12**

### SECOND SEMESTER CREDITS
SPAN 1300 Beginning Spanish Conversation I.................................3
MRMT 1307 Medical Transcription I................................................3
POFT 2331 Administrative Systems...............................................3
POFM 2333 Medical Document Production (Coding II) ......................3
**Semester Total 12**
**Program Total 24**

*Complete certificate also offered through Distance Education.

# INTERNATIONAL BUSINESS

The International Business program will provide the student with the knowledge and ability to apply individual technical skills necessary to pursue a career in areas such as freight forwarding, shipping, international logistics management and other areas involved in import/export.

The capstone for the AAS degree in International Business is BUSG 2381, Cooperative Education II.

For more information, call 713-718-5222 or e-mail rudy.soliz@hccs.edu.

## INTERNATIONAL BUSINESS

### AAS

TSI Testing is required prior to first enrollment.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| IBUS | 2341 | Intercultural Management | 3 |
| BUSG | 1301 | Introduction to Business | 3 |
| MATH | 1314 | College Algebra OR | |
| XXXX | #3## | General Education Science Elective | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts Elective | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1302 | Composition II | 3 |
| IBUS | 1305 | Introduction to International Business and Trade | 3 |
| IBUS | 1301 | Principles of Exports | 3 |
| IBUS | 1370 | Economic Geography OR | |
| ANTH | 2351 | Cultural Anthropology* | 3 |
| XXXX | #3## | Computer Applications Elective** | 3 |
| | | **Semester Total** | **15** |

### SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| IBUS | 2335 | International Business Law | 3 |
| MRKG | 2380 | Cooperative Education I | 3 |
| BUSG | 2309 | Small Business Management | 3 |
| LMGT | 1345 | Economics of Transportation and Distribution | 3 |
| IBUS | 1354 | International Marketing Management | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| BUSG | 2381 | Cooperative Education II | 3 |
| ECON | 2302 | Principles of Economics (Micro) | 3 |
| IBUS | 1302 | Principles of Imports | 3 |
| LMGT | 1319 | Introduction to Business Logistics | 3 |
| XXXX | #3## | General Education Elective | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **60** |

*Recommended for transfer.

**The Computer Applications Elective may be chosen from the following courses: ITSC 1309, Integrated Software Applications I; POFI 1301, Computer Applications I; or BCIS, 1405 Business Computer Application.

# INTERNATIONAL BUSINESS

The International Business Certificate will provide the student with the knowledge and ability to apply individual technical skills for an entry-level position in international business. The certificate can also be applied to the International Business AAS.

The capstone for the International Business Certificate is IBUS 2341, Intercultural Management.

### CERTIFICATE*

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| IBUS | 1305 | Introduction to International Business and Trade | 3 |
| IBUS | 1354 | International Marketing Management | 3 |
| IBUS | 1301 | Principles of Exports | 3 |
| IBUS | 2335 | International Business Law | 3 |
| | | **Semester Total** | **12** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| XXXX | #3## | Computer Applications Elective** | 3 |
| IBUS | 1302 | Principles of Imports | 3 |
| IBUS | 2341 | Intercultural Management | 3 |
| | | **Semester Total** | **9** |
| | | **Program Total** | **21** |

**The Computer Applications Elective may be chosen from the following courses: ITSC 1309, Integrated Software Applications I; POFI 1301, Computer Applications I; or BCIS, 1405 Business Computer Application.

*Pending Approval of the Texas Higher Education Coordinating Board.

# LOGISTICS AND GLOBAL SUPPLY CHAIN MANAGEMENT CERTIFICATE

The Logistics and Global Supply Chain Management Certificate will provide the student with the knowledge and ability to apply individual technical skills for an entry-level position.

The capstone for the certificate is IBUS 1341, Global Supply Chain Management.

### CERTIFICATE*

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| LMGT | 1319 | Introduction to Business Logistics | 3 |
| IBUS | 1301 | Principles of Exports | 3 |
| LMGT | 1321 | Introduction to Materials Handling | 3 |
| IBUS | 2335 | International Business Law | 3 |
| | | **Semester Total** | **12** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| LMGT | 1323 | Domestic and International Transportation Management | 3 |
| IBUS | 1341 | Global Supply Chain Management | 3 |
| IBUS | 1302 | Principles of Imports | 3 |
| LMGT | 1325 | Warehouse and Distribution Center Management | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **24** |

*Pending Approval of the Texas Higher Education Coordinating Board

# Education and Schools

## Child Development
## (See Academic Degrees and Certificates 33-47)

### Education and Schools
A Career Cluster is a grouping of occupations and broad industries based on commonalities. The Education and Schools career cluster is concerned with providing knowledge and skills related to planning, managing and providing education and training services, and related learning support services. This would include careers related to Early Childhood Paraprofessional, Childcare Provider, Teacher Certification, Teacher Aide, Librarian, Instructional Technology, Learning Support and School Counselor.

Every HCC Workforce Educational program contains a "capstone," an experience for the student to "put it all together." The capstone might consist of an external learning experience (e.g., co-op, clinical, etc.), a course especially designed to help students synthesize knowledge and skills, or a licenser exam as appropriate.

## CHILD DEVELOPMENT
The Child Development curricula are designed to provide academic background and practical work experience necessary for successful care and guidance of young children. Students completing this program will be qualified to serve as the following: day care teachers or assistants; foster parents; paraprofessionals; or, with appropriate work experience, childcare center directors. Some courses also apply to certification of K-4 teachers. (See General Information, Academic Degrees and Certificates, for field of study information.) The degree requires completion of 60 semester hours. All of the courses in the Child Development Administration, Early Childhood, and In-Home Specialist/Nanny Certificate Programs may apply to this AAS degree. The Child Development AAS degree is approved as a Tech Prep award.

Child Development would not be appropriate for anyone who falls into the following category as noted by the Texas Department of Protective and Regulatory Service. "No person with a conviction or who is under indictment for, or is the subject of an official criminal complaint alleging violation of any of the crimes listed as a felony against the person or a felony violation of the Texas Controlled Substance Act may be present while children are in care."

The capstones for the Child Development AAS award is CDEC 2380, Cooperative Education-Child Care Provider/Assistant.

For more information, call 713-718-6303 or e-mail vanese.delahoussaye@hccs.edu.

## CHILD DEVELOPMENT
### AAS
TSI Testing is required prior to first enrollment.

Course prerequisites need to be met for academic and TECA courses.

### FIRST YEAR
| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| TECA | 1311 | Educating Young Children | 3 |
| TECA | 1354 | Child Growth and Development | 3 |
| CDEC | 1356 | Emergent Literacy for Early Childhood | 3 |
| CDEC | 2326 | Administration of Programs for Children I | 3 |
| | | **Semester Total** | **15** |

### SECOND SEMESTER
| | | | |
|---|---|---|---|
| XXXX | #3## | Directed Elective* | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts Elective | 3 |
| CDEC | 1358 | Creative Arts for Early Childhood | 3 |
| SOCI | 1301 | Introduction to Sociology OR | |
| SOCI | 2301 | Marriage and Family | 3 |
| CDEC | 1319 | Child Guidance | 3 |
| | | **Semester Total** | **15** |

### SECOND YEAR
| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| PSYC | 2301 | Introduction to Psychology | 3 |
| TECA | 1303 | Family, School, and Community | 3 |
| CDEC | 2307 | Math and Science for Early Childhood | 3 |
| CDEC | 1359 | Children with Special Needs | 3 |
| XXXX | #3## | Directed Elective* | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| XXXX | #3## | Free Elective | 3 |
| XXXX | #3## | Approved Math/Natural Science Elective | 3 |
| TECA | 1318 | Wellness of the Young Child | 3 |
| CDEC | 2380 | Cooperative Education - Child Care Provider/Assistant | 3 |
| XXXX | #3## | Directed Elective* | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **60** |

*Directed Electives: CDEC 1323, 1393, 1391, 1321, 1313, 1394, 1317, 2322, 2324, 2328, 2341; BUSG 1370 and BMGT 1301; POFI 1301, ITSC 1309, or BCIS 1405, all EDUC courses. Alternative electives may be chosen with prior departmental approval.

** Field internship must be a total of 3 semester hours (total of 240 lab hours and may be taken 1, 2, or 3 credits at a time).

NOTE: The laboratory component of all courses requiring laboratory must be completed in order to fulfill degree requirements.

## CHILD DEVELOPMENT ADMINISTRATION
The Child Development Administration Certificate is designed for students who have appropriate experience and whose goals include the administration of programs for young children whether in a day care or institutional setting. The certificate focuses upon the interpersonal skills needed to supervise childcare staff; business management practices; the ability to maintain the minimum standards in a child care setting; and an awareness of the importance of parent, staff, and community interactions. All of the courses in this certificate will apply to the Child Development AAS degree plan.

The capstone for the Child Development Administration Certificate is CDEC 2328, Administration of Programs for Children II.

### CERTIFICATE
Course prerequisites need to be met for English and TECA courses.

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| CDEC | 1313 | Curriculum Resource for Early Childhood Programs | 3 |
| BMGT | 1301 | Supervision | 3 |
| TECA | 1354 | Child Growth and Development | 3 |
| CDEC | 2326 | Administration of Programs for Children I | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | CREDITS |
|---|---|
| CDEC 1319 Child Guidance | 3 |
| CDEC #3## Elective | 3 |
| TECA 1303 Family, School, and Community | 3 |
| TECA 1318 Wellness of the Young Child | 3 |
| **Semester Total** | **12** |

| THIRD SEMESTER | CREDITS |
|---|---|
| XXXX #3## Computer Applications Elective* | 3 |
| CDEC 2328 Administration of Programs for Children II | 3 |
| **Semester Total** | **6** |
| **Program Total** | **33** |

*The Computer Applications Elective may be chosen from the following courses: ITSC 1309, Integrated Software Applications I; POFI 1301, Computer Applications I; or BCIS, 1405 Business Computer Application.

## CHILD DEVELOPMENT ASSOCIATE TRAINING

Criteria for the Marketable Skills Achievement Award are to satisfactorily complete all three courses which may be taken individually or concurrently. Students are encouraged to complete the sequence, if possible, in a maximum of three semesters.

### MSA

(Marketable Skills Achievement Award)

Prerequisite: Testing for reading required.

| FIRST SEMESTER | CREDITS |
|---|---|
| CDEC 1317 Child Development Associate Training I | 3 |
| CDEC 2322 Child Development Associate Training II | 3 |
| CDEC 2324 Child Development Associate Training III | 3 |
| **Program Total** | **9** |

## EARLY CHILDHOOD

The Early Childhood Certificate is designed to give students a practical working knowledge of basic child development principles that will assist them in the everyday planning and implementation of developmentally appropriate activities and environments for young children. The certificate is meant to integrate with the goals and courses required for the AAS degree in Child Development. All of the courses in this certificate will apply to the Child Development AAS degree plan.

The capstone for the Early Childhood Certificate is TECA 1354, Child Growth and Development.

### CERTIFICATE

Course prerequisites need to be met for English and TECA courses.

| FIRST SEMESTER | CREDITS |
|---|---|
| ENGL 1301 Composition I | 3 |
| TECA 1311 Educating Young Children | 3 |
| TECA 1318 Wellness of the Young Child | 3 |
| CDEC 1356 Emergent Literacy for Early Childhood | 3 |
| **Semester Total** | **12** |

| SECOND SEMESTER | CREDITS |
|---|---|
| PSYC 2301 Introduction to Psychology OR | |
| SOCI 1301 Introduction to Sociology OR | |
| CDEC 1359 Children with Special Needs | 3 |
| CDEC 1319 Child Guidance | 3 |
| CDEC 2307 Math and Science for Early Childhood | 3 |
| CDEC 1358 Creative Arts for Early Childhood | 3 |
| **Semester Total** | **12** |

| THIRD SEMESTER | CREDITS |
|---|---|
| CDEC 2326 Administration of Programs for Children I | 3 |
| CDEC #3## Elective | 3 |
| TECA 1354 Child Growth and Development | 3 |
| **Semester Total** | **9** |
| **Program Total** | **33** |

## IN-HOME SPECIALIST/NANNY

The In-Home Specialist/Nanny Program focuses upon the skills necessary to provide developmentally appropriate care for individual or small groups of young children in a home setting. Study focuses on the health, safety, environment, activity, and guidance needs of young children. The professional development of the student in the areas of contracts, responsibilities, and adult communication is emphasized. All of the courses in this certificate will apply to the Child Development AAS degree plan.

The capstone for the In-Home Specialist/Nanny Certificate is TECA 1318, Wellness of the Young Child.

### CERTIFICATE

Course prerequisites need to be met for English and TECA courses.

| FIRST SEMESTER | CREDITS |
|---|---|
| ENGL 1301 Composition I | 3 |
| TECA 1354 Child Growth and Development | 3 |
| CDEC 1358 Creative Arts for Early Childhood OR | |
| CDEC 1356 Emergent Literacy for Early Childhood | 3 |
| CDEC 1319 Child Guidance | 3 |
| **Semester Total** | **12** |

| SECOND SEMESTER | CREDITS |
|---|---|
| CDEC 1391 Special Topics in Family Life and Relationships OR | |
| ENGL 1302 Composition II | 3 |
| CDEC 1321 The Infant and Toddler | 3 |
| CDEC 1359 Children with Special Needs | 3 |
| CDEC 2307 Math and Science for Early Childhood | 3 |
| CDEC 1393 Special Topics in Family Living and Parenthood | 3 |
| **Semester Total** | **15** |

| THIRD SEMESTER | CREDITS |
|---|---|
| CDEC #3## Elective | 3 |
| BUSG 1370 Personal Finance Planning | 3 |
| TECA 1318 Wellness of the Young Child | 3 |
| **Semester Total** | **9** |
| **Program Total** | **36** |

## THE EARLY CHILDHOOD PARAPROFESSIONAL (EPC)

The Early Childhood Paraprofessional Certificate is designed to prepare students for entrance into the teaching profession as public school aides, assistant teachers in Early Learning Facilities or to transfer to a four-year institution. The certificate focuses upon the skills and abilities needed to work with young children. The certificate may be modified through electives to help the student who wants to work with special needs children or other special populations. The capstone class for this certificate is EDUC 1325, Multicultural Education.

### CERTIFICATE

Course prerequisite need to be met for academic and TECA courses.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| TECA | 1354 | Child Growth and Development | 3 |
| CDEC | 1323 | Observation and Assessment | 3 |
| ENGL | 1301 | Composition I | 3 |
| TECA | 1311 | Educating Young Children | 3 |
| CDEC | 1356 | Emergent Literacy for Early Childhood | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| CDEC | 1319 | Child Guidance | 3 |
| XXXX | #3## | Department Approved Elective | 3 |
| EDUC | 1301 | Introduction to Education | 3 |
| EDUC | 2301 | Introduction to Special Education | 3 |
| SOCI | 1301 | Introduction to Sociology OR | |
| TECA | 1303 | Family, School, and Community | 3 |
| | | **Semester Total** | **15** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| EDUC | 1325 | Multicultural Education | 3 |
| | | **Semester Total** | **3** |
| | | **Program Total** | **33** |

### Electives include:

| | | |
|---|---|---|
| CDEC | 1359 | Children with Special Needs or other departmental approved courses |
| ITSC | 1309 | Integrated Software Applications I |
| POFI | 1301 | Computer Applications |
| BCIS | 1405 | Business Computer Application |
| PSYC | 1301 | Intro to Psychology |
| SOCI | 1301 | Intro to Sociology |
| SLNG | 1317 | Intro to the Deaf Community |
| SLNG | 1315 | Visual/Gesture Communication |
| SPAN | 1411 | Beginning Spanish |
| CDEC | 1393 | Special Topics in Parenting and Family Living |
| CDEC | 1321 | The Infant and Toddler |
| CDEC | 2341 | The School Age Child |
| EDUC | 1300 | Learning Frameworks |
| PSYC | 1300 | Learning Framework |

# Finance

## Finance (Banking)
### (See Academic Degrees and Certificates 33-47)

### Finance
A Career Cluster is a grouping of occupations and broad industries based on commonalities. The Finance career cluster is concerned with providing knowledge and skills related to planning, services for financial and investment planning, banking, insurance, and business financial management. This would include careers related to Banking and Finance.

Every HCC Workforce Educational program contains a "capstone," an experience for the student to "put it all together." The capstone might consist of an external learning experience (e.g., co-op, clinical, etc.), a course especially designed to help students synthesize knowledge and skills, or a licenser exam as appropriate.

## FINANCE (BANKING)
The AAS in Finance provides strong training in the financial services industry. The HCC School of Finance is fortunate to have a long standing relationship (over 33 years) with the American Institute of Banking, the educational branch of the American Bankers' Association (AIB). This link is provided by the Texas Banker's Association (TBA), which is the local training provider for the ABA and helps with assistance and placement within the finance industry. The program also has firm ties to the local securities industry, representatives of which include Wachovia Securities, Stanford Group, First Investors and other securities companies. The Financial Securities Certificate prepares students for an entry level sales associate position within a securities firm.

Although the major emphasis of the program is on commercial banking, the AAS degree may be used in a broad range of financial service areas. Upon consultation with the Department Chair, the student may tailor his or her curriculum to fit the type of financial business desired.

The capstone for the AAS is BNKG 2374, Financial Business Administration. The capstone for each of the certificates is BNKG 2380, Cooperative Education I-Banking and Financial Support Services.

For more information, call 713-718-5404 or e-mail earl.smith@hccs.edu.

## FINANCE (BANKING)

### AAS
TSI Testing is required prior to first enrollment.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| BNKG | 1303 | Principles of Bank Operation | 3 |
| ECON | 2302 | Principles of Economics (Micro) | 3 |
| BUSG | 1301 | Introduction to Business | 3 |
| MATH | 1314 | College Algebra OR | |
| XXXX | #3## | General Education Science Elective | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| XXXX | #3## | Approved Humanities/Fine Arts Elective | 3 |
| XXXX | #3## | General Education Elective | 3 |
| BNKG | 1340 | Money and Banking | 3 |
| BMGT | 1303 | Principles of Management | 3 |
| BUSG | 2305 | Business Law Contracts | 3 |
| | | **Semester Total** | **15** |

## SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| HRPO | 1311 | Human Relations | 3 |
| ACCT | 2301 | Principles of Accounting I | 3 |
| XXXX | #3## | Computer Applications Elective* | 3 |
| BNKG | 2380 | Cooperative Education I-Banking and Financial Support ServicesI | 3 |
| BNKG | 1349 | Commercial Lending OR | |
| BNKG | 1345 | Consumer Lending | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| BNKG | 1356 | Analyzing Financial Statements I | 3 |
| BUSG | 1303 | Principles of Finance | 3 |
| BNKG | 2374 | Financial Business Administration | 3 |
| BNKG | #3## | Banking Elective | 3 |
| BNKG | 2381 | Cooperative Education II-Banking and Financial Support Services | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **60** |

*The Computer Applications Elective may be chosen from the following courses: ITSC 1309, Integrated Software Applications I; POFI 1301 Computer Applications I; or BCIS 1405, Business Computer Application.

## FINANCIAL LENDING

The Financial Lending Certificate is designed to provide the student with a solid foundation for a career in the financial lending industry. For those students who wish to pursue a four-year degree, both the certificate and the AAS can be tailored to their best advantage. Most courses with the BNKG prefix earn dual credit for those students who are members of the American Institute of Banking (AIB).

For more information, call 713-718-5404 or e-mail earl.smith@hccs.edu.

### CERTIFICATE

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| BNKG | 1303 | Principles of Bank Operation | 3 |
| BNKG | 1340 | Money and Banking | 3 |
| BNKG | 1351 | Selling Bank Products and Services | 3 |
| IBUS | 2339 | International Banking and Finance | 3 |
| | | **Semester Total** | **12** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| BNKG | 1356 | Analyzing Financial Statements I | 3 |
| BNKG | 1349 | Commercial Lending | 3 |
| BNKG | 1345 | Consumer Lending | 3 |
| BNKG | 2380 | Cooperative Education I-Banking and Financial Support Services | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **24** |

# FINANCIAL OPERATIONS

The Financial Operations Certificate is designed to provide the student with a solid foundation for a career in the retail banking industry. For those students who wish to pursue a four-year degree, both the certificate and the AAS can be tailored to their best advantage. Most courses with the BNKG prefix earn dual credit for those students who are members of the American Institute of Banking (AIB).

For more information, call 713-718-5404 or e-mail earl.smith@hccs.edu.

## CERTIFICATE

Course prerequisite needs to be met for English.

### FIRST SEMESTER                                    CREDITS
| | | | |
|---|---|---|---|
| BNKG | 1303 | Principles of Bank Operation | 3 |
| BNKG | 1340 | Money and Banking | 3 |
| BNKG | 1351 | Selling Bank Products and Services | 3 |
| | | **Semester Total** | **9** |

### SECOND SEMESTER                                   CREDITS
| | | | |
|---|---|---|---|
| BUSG | 1303 | Principles of Finance | 3 |
| ENGL | 1301 | Composition I | 3 |
| BNKG | 2380 | Cooperative Education I-Banking and Financial Support Services | 3 |
| | | **Semester Total** | **9** |
| | | **Program Total** | **18** |

# FINANCIAL SECURITIES CERTIFICATE

The Financial Securities Certificate is designed to provide the student with a solid foundation for a career in the securities industry. A student would be prepared to enter the job market as a sales associate with a securities firm. This certificate does not prepare a student to take the series 7 securities exam; however, it will familiarize students with terminology and key information needed to understand materials in a preparatory course.

For more information, call 713-718-5404 or e-mail earl.smith@hccs.edu.

## CERTIFICATE

### FIRST SEMESTER                                    CREDITS
| | | | |
|---|---|---|---|
| BNKG | 1340 | Money and Banking | 3 |
| BUSG | 1371 | Principles of Securities Operations | 3 |
| BUSG | 1372 | Communications for Securities Professionals | 3 |
| XXXX | #3## | Computer Applications Elective | 3 |
| | | **Semester Total** | **12** |

### SECOND SEMESTER                                   CREDITS
| | | | |
|---|---|---|---|
| BUSG | 1303 | Principles of Finance | 3 |
| BNKG | 2374 | Financial Business Administration | 3 |
| BNKG | 2380 | Cooperative Education I-Banking and Financial Support Services | 3 |
| | | **Semester Total** | **9** |
| | | **Program Total** | **21** |

# TELLER TRAINING

The entry level teller training prepares the student for employment in a financial institution as a teller. Training starts multiple times in a semester. Contact the office for specific start dates.

For more information, call 713-718-5404 or e-mail earl.smith@hccs.edu.

## MSA

(Marketable Skills Achievement Award)

### FIRST SEMESTER                                    CREDITS
| | | | |
|---|---|---|---|
| BNKG | 1305 | Teller Training | 3 |
| BNKG | 1373 | Teller Training Lab | 3 |
| BNKG | 2380 | Cooperative Education I- Banking and Financial Support Services | 3 |
| | | **Program Total** | **9** |

# Government and Public Administration

## Public Administration
### (See Academic Degrees and Certificates 33-47)

### Government and Public Administration

A Career Cluster is a grouping of occupations and broad industries based on commonalities. The Government and Public Administration career cluster is concerned with providing knowledge and skills related to executing governmental functions to include governance; national security; foreign service; planning; revenue and taxation; regulation; and management and administration at the local, state, and federal levels. This would include careers related to Public Administration, International Relations, and Political Science.

Every HCC Workforce Educational program contains a "capstone," an experience for the student to "put it all together." The capstone might consist of an external learning experience (e.g., co-op, clinical, etc.), a course especially designed to help students synthesize knowledge and skills, or a licenser exam as appropriate.

## PUBLIC ADMINISTRATION

The degree and certificate programs in Public Administration will prepare individuals to serve as technicians and assistants to managers in the executive arm of local, state, and federal government offices. The program includes instruction in the roles, development, and principles of public administration; the management of public policy; executive-legislative relations; public budgetary processes and financial management; administrative law; public personnel management; professional ethics; and research methods.

The capstone for the Public Administration AAS is PBAD 2381, Cooperative Education. The capstone for the Public Administration Certificate is PBAD 2380, Cooperative Education.

For more information, call 713-864-8549 or e-mail max.beauregard@hccs.edu.

## PUBLIC ADMINISTRATION

### AAS

TSI Testing required prior to first enrollment.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| GOVT | 2301 | American Government: National, State, Local I | 3 |
| PBAD | 1321 | Public Administration | 3 |
| BMGT | 1303 | Principles of Management | 3 |
| XXXX | #3## | Math/Natural Science General Education Elective | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| GOVT | 2302 | American Government: National, State, Local II | 3 |
| PBAD | 2311 | Public Sector Supervision | 3 |
| PBAD | 1341 | Governmental Agencies | 3 |
| PBAD | 2305 | Public Sector Management | 3 |
| XXXX | #3## | Computer Applications Elective* | 3 |
| | | **Semester Total** | **15** |

### SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| PBAD | 2331 | Budgeting in the Public Sector | 3 |
| PBAD | 2341 | Legal Aspects of Public Management | 3 |
| PBAD | 2301 | Public Relations for the Public Sector | 3 |
| PBAD | 2339 | Human Resource Management in the Public Sector | 3 |
| ACNT | 1391 | Special Topics - Government and Non-Profit Accounting | 3 |
| PBAD | 2380 | Cooperative Education - Public Administration | 3 |
| | | **Semester Total** | **18** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| PBAD | 2335 | Ethics in the Public Sector | 3 |
| PBAD | 2381 | Cooperative Education - Public Administration | 3 |
| SPCH | 1321 | Business and Professional Speaking | 3 |
| HRPO | 1392 | Special Topics in Labor/Personnel Relations and Studies | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts General Education Elective | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **63** |

*The Computer Applications Elective may be chosen from the following courses: ITSC 1309, Integrated Software Applications I; POFI 1301, Computer Applications I; or BCIS 1405, Business Computer Application.

## PUBLIC ADMINISTRATION

### CERTIFICATE

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| PBAD | 1321 | Public Administration | 3 |
| BMGT | 1303 | Principles of Management | 3 |
| PBAD | 1341 | Governmental Agencies | 3 |
| PBAD | 2305 | Public Sector Management | 3 |
| XXXX | #3## | Computer Applications Elective* | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| PBAD | 2301 | Public Relations for the Public Sector | 3 |
| PBAD | 2335 | Ethics in the Public Sector | 3 |
| PBAD | 2339 | Human Resource Management in the Public Sector | 3 |
| ACNT | 1391 | Special Topics - Government and Non-Profit Accounting | 3 |
| PBAD | 2380 | Cooperative Education - Public Administration | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **15** |

*Computer Applications Elective may be chosen from the following courses: ITSC 1309 Integrated Software Applications I, POFI 1301 Computer Applications I, BCIS 1405, Business Computer Application.

# PUBLIC ADMINISTRATION

(Marketable Skills Achievement Award)

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| PBAD | 1321 | Public Administration | 3 |
| BMGT | 1303 | Principles of Management | 3 |
| PBAD | 1341 | Governmental Agencies | 3 |
| PBAD | 2305 | Public Sector Management | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **12** |

# PUBLIC ADMINISTRATION - BUDGETING

## FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ACNT | 1391 | Special Topics - Government and Non-Profit Accounting | 3 |
| PBAD | 2331 | Budgeting in the Public Sector | 3 |
| PBAD | 1321 | Public Administration | 3 |
| XXXX | #3## | Computer Applications Elective* | 3 |
| | | **Semester Total** | **12** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| PBAD | 2341 | Legal Aspects of Public Management | 3 |
| PBAD | 2335 | Ethics in the Public Sector | 3 |
| PBAD | 2380 | Cooperative Education - Public Administration | 3 |
| | | **Semester Total** | **9** |
| | | **Program Total** | **21** |

*The Computer Applications Elective may be chosen from the following courses: ITSC 1309, Integrated Software Applications I;  POFI 1301, Computer Applications I; or BCIS 1405, Business Computer Application.

# PUBLIC ADMINISTRATION - PUBLIC SECTOR BUDGETING

(Marketable Skills Achievement Award)

## FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ACNT | 1391 | Special Topics - Government and Non-Profit Accounting | 3 |
| PBAD | 2331 | Budgeting in the Public Sector | 3 |
| PBAD | 2380 | Cooperative Education - Public Administration OR | |
| BMGT | 1303 | Principles of Management | 3 |
| XXXX | #3## | Computer Applications Elective* | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **12** |

* The Computer Applications Elective may be chosen from the following courses: ITSC 1309, Integrated Software Applications I;  POFI 1301, Computer Applications I; or BCIS 1405, Business Computer Application.

# Health and Medical Sciences

General Application Procedures
Cardiovascular Technology
Clinical Laboratory Technician
Dental Assisting
Diagnostic Medical Sonography
Emergency Medical Services
Health & Fitness Instructor
Health Information Technology
Histologic Technician
Medical Assistant
Nuclear Medicine Technology
Nursing
Occupational Therapy Assistant
Pharmacy Technician
Physical Therapist Assistant
Radiography
Respiratory Therapist
Surgical Technology
Vocational Nursing
(See Academic Degrees and Certificates 33-47)

## Health and Medical Sciences

A Career Cluster is a grouping of occupations and broad industries based on commonalities. The Health and Medical Sciences career cluster is concerned with providing knowledge and skills related to planning, managing, and providing therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development. This would include careers related to Health, Fitness, Medical, Dental, Diagnostic Services, Nursing, Health Care, Health Information, Medical Therapies, Health Administration, Emergency Care and Paramedics.

Every HCC Workforce Educational program contains a "capstone," an experience for the student to "put it all together." The capstone might consist of an external learning experience (e.g., co-op, clinical, etc.), a course especially designed to help students synthesize knowledge and skills, or a licenser exam as appropriate.

## GENERAL APPLICATION PROCEDURES FOR HEALTH SCIENCES PROGRAMS

Courses in the Health Sciences programs are offered in a sequence which begins in the fall term each year unless indicated otherwise on the following chart. Most students are required to attend classes full-time. Students are expected to complete certificate programs within 12 months and associate degree programs within 24 months. Health Science students are required to have a background check and drug screening prior to clinical training.

NOTE: Review the accompanying chart to identify the specific requirements associated with your program of choice.

# HEALTH SCIENCES PROGRAMS

| Requirements for Admission | AAS Cardiovascular Technology (CVTT) 21 Months FT/Day | CERT Chemical Dependency Counselor (DAAC) 26 Credit Hours FT & PT/Day & Evening | AAS Clinical Laboratory Technician (MLAB) 24 Months FT & PT/Day | ESC Computed Tomography 1 Semester FT/Evenings | CERT Dental Assisting (DNTA) FT & PT/Day & Evening | ATC Diagnostic Medical Sonographer (DMSO) 15 1/2 Months FT/Day | CERT Emergency Medical Services (EMSP) 6 Weeks FT/Day & Evening | AAS Emergency Medical Services (EMSP) FT & PT/Day & Evening |
|---|---|---|---|---|---|---|---|---|
| Prerequisites | Current CPR (HCP) BIOL 2401, ENGL 1301, PSYC 2301, Computer Applications Elective & Approved Humanities/Fine Arts Elective | NONE | NONE | Graduate of Radiography, Radiation Therapy or Nuclear Medicine program | HPRS 1201 | Graduate of 2-year Allied Health Program or BA degree See program narrative. | Current CPR (HCP) | For Paramedic completed BTLS certificate |
| Application Deadline & Terms students admitted | June 1 (Fall) ) | NONE Admit Fall/Spring | July 15 (Fall) | June 1, Fall October 1, Spring | Aug. 15 (Fall) Dec. 1 (Spring) | Priority Deadline June 1, Regular Deadline August 1, Admit Fall | NONE Admit several dates/year | NONE Admit several dates/year |
| High School Grad. or GED Required | YES | YES | YES | YES | YES | YES | YES | YES |
| High School Transcript GED Scores on File | YES | YES | YES | NO | YES | NO | NO | NO |
| TSI Testing Required | YES unless exempt from TSI | YES unless exempt from TSI | YES unless exempt from TSI | N/A | YES unless exempt from TSI | exempt from TSI | YES unless exempt from TSI | YES unless exempt from TSI |
| TSI Complete before Admission | YES | NO | YES (unless exempt) | N/A | NO | N/A | N/A | YES for A.A.S. |
| CELSA Required for non-USA High School Graduates | YES | YES All remediation complete | YES | N/A | YES | N/A | YES All remediation complete | YES All remediation complete |
| Math/Algebra Requirement | Eligible to enroll in MATH 1314 | NONE | College Level | N/A | MATH 0306 or higher | MATH 1314 | NONE | College Level |
| Reading Requirement | College Level | GUST 0342 or higher | College Level | N/A | GUST 0342 or higher | N/A | GUST 0342 or higher | College Level |
| English Requirement | College Level | ENGL 0310 or higher | College Level | N/A | ENGL 0310 | N/A | NONE | College Level |
| Other Tests or Requirements | NO | NONE | NONE | TDH-MRT & ARRT | NONE | See Program Narrative | Immunization & TB Skin Test | Immunization & TB Skin Test |
| College/University Transcripts on file | YES (submit with application) | YES | YES | YES | YES | YES | NO | YES |
| Personal Narrative | NO | NO | YES | NO | NO | NO | NO | NO |
| Personal Interview | YES | YES | YES | NO | YES | YES | YES | YES |
| Health Care Experience or Observation | NO | NO | NO | YES | NO | YES | NO | Recommend |
| No. of Applicants accepted/year | 40/year | Open Admission | 24/year | 16/year | 25/year | 15/year | 25-40/year | 25-40/year |

## AFTER ACCEPTANCE FOR ENROLLMENT, APPLICANT MUST PROVIDE THE FOLLOWING:

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Physical/Health Status Report (form provided) | YES | NO | YES | YES | YES Dental Exam | YES | YES | YES |
| Current CPR Certification | YES | NO | NO | YES | YES | YES | YES health care provider | YES health care provider |
| Proof of Hepatitis-B Vaccine | YES | NO | YES | YES | YES | YES | YES | YES |
| Health Care Insurance | YES | NO | Recommend | Recomment | YES | YES | YES | YES |
| Medical Malpractice Insur. (paid at registration) | YES | YES | YES | YES | YES | YES | YES | YES |
| First Aid Training | NO | N/A | N/A | N/A | N/A | N/A | N/A | N/A |
| Background Checks Drug Screening | YES | YES | YES | YES | YES | YES | YES | YES |

**HEALTH AND MEDICAL SCIENCES DEGREES AND CERTIFICATES**

# HEALTH SCIENCES PROGRAMS

| Requirements for Admission | AAS Health Information Technology (HITT) 24 Months FT/Evening | AAS Histologic Technician (HLAB) 21 Months FT & PT/Day | AAS Human Services Technology (CMSW, GERS & DAAC) 24 Months FT & PT/Day & Evening | AAS/CERT Interpreting/ Sign Language (SLNG/SGNL) 21 Months FT & PT Day & Evening | CERT Medical Assistant (MDCA) 12 Months FT & PT/Day | ATC Nuclear Medicine Technology (NMTT) 18 1/2 Months FT/Day | AAS Nuclear Medicine Technology (NMTT) 24/18 1/2 Months FT/Day | AAS Nursing: LVN to RN Transition (RNSG) 12 Months FT/Day |
|---|---|---|---|---|---|---|---|---|
| Prerequisites | NONE | NONE | NONE | NONE | NONE | Completion of a JRC-Accredited Radiologic Science Program | NONE | Current VOCN License & Work, entire Academic Core RNSG 1301 |
| Application Deadline & Terms students admitted | November 1 Admit Spring June 1 Admit Fall | July 15 (Fall) | NONE Admit Fall/ Spring/Summer | NONE Admit Fall/Spring | Aug. 1 (Fall) Dec. 1 (Spring) May 15 (Summer) | June 1 Fall | June 1 Fall | December 1 Admit Summer |
| High School Grad. or GED Required | YES | YES | YES | YES | YES | YES | YES | YES |
| High School Transcript GED Scores on File | YES | YES | YES | YES | YES | NO | YES | YES |
| TSI Testing Required | YES | YES unless exempt from TSI | YES unless exempt from TSI | YES unless exempt from TSI | YES unless exempt from TSI | exempt from TSI | YES unless exempt from TSI | YES unless exempt from TSI |
| TSI Complete before Admission | YES (unless exempt | YES (unless exempt) | YES (unless exempt) | YES | YES | N/A | YES (unless exempt) | YES (unless exempt) |
| CELSA Required for non-USA High School Graduates | YES | YES | YES All courses completed | YES | YES | N/A | YES | NO |
| Math/Algebra Requirement | MATH 0312 or higher | College Level | N/A | NONE | Completed MATH 0308 or higher | Completed MATH 0312 or higher | Completed MATH 0312 or higher | TSI Requirements |
| Reading Requirement | College Level | College Level | GUST 0342 or higher | GUST 0342 or higher | College Level | College Level | College Level | College Level |
| English Requirement | College Level | College Level | ENGL 0310 or higher | Completed ENGL 0310 or higher | College Level | College Level | College Level | ENGL 1301 completed |
| Other Tests or Requirements | NONE | NONE | NONE | NONE | NONE | NONE | NONE | HESI Test: Math 75, Read 70, Grammar 75, A&P 60; TOEFL (non-English as first Language) |
| College/University Transcripts on file | YES | YES | YES | YES | YES | YES | YES | YES |
| Personal Narrative | NO | YES | NO | NO | NO | YES | YES | NO |
| Personal Interview | YES | YES | YES | NO | YES | YES | YES | NO |
| Health Care Experience or Observation | NO | NO | NO | NO | NO | YES | Recommend | YES |
| No. of Applicants accepted/year | 30/year | 15 | Open Admission | Open Admission | 50/class | 20-25/year | 20-25/year | 30/year |
| AFTER ACCEPTANCE FOR ENROLLMENT, APPLICANT MUST PROVIDE THE FOLLOWING: | | | | | | | | |
| Physical/Health Status Report (form provided) | YES | YES | NO | NO | YES | YES | YES | YES |
| Current CPR Certification | NO | NO | NO | NO | NO | NO | NO | |
| Proof of Hepatitis-B Vaccine | YES | YES | NO | NO | YES | YES | YES | YES |
| Health Care Insurance | NO | Recommend | NO | NO | YES | Recommend | Recommend | Recommend |
| Medical Malpractice Insur. (paid at registration) | YES | YES | YES | NO | YES | YES | YES | YES |
| First Aid Training | N/A | N/A | N/A | NO | N/A | N/A | N/A | NO |
| Background Checks Drug Screening | YES | YES | YES | YES | YES | YES | YES | YES |

**HEALTH AND MEDICAL SCIENCES  DEGREES AND CERTIFICATES**

# HEALTH SCIENCES PROGRAMS

| Requirements for Admission | AAS Nursing:General (RNSG) 24 Months FT/Day & Evening | AAS/CERT Occupational Therapy Assistant (OTHA) 12 Months FT/Day | CERT Pharmacy Technician (PHRA) 6 Months FT 12 Months PT Day | AAS Physical Therapist Assistant (PTHA) 24 Months FT/Day | AAS Radiography (RADR) 24 Months FT/Day | AAS Respiratory Therapist (RSPT) 24 Months FT/Day | CERT Surgical Technology (SRGT) 12 Months FT/Day | CERT Vocational Nursing (VNSG) 12 Months FT/Day |
|---|---|---|---|---|---|---|---|---|
| Prerequisites | BIOL 2401 ENGL 1301 PSYC 2301 RNSG 1301 | OTHA 1301 | HPRS 1201 | BIOL 2401 or 2402 (taken within 5 years or department approval), ENGL 1301, PSYC 2301 or 2314 Mandatory Information Sessions | Mandatory Information Sessions MATH 1314 ENGL 1301 After Fall 2007, add BIOL 2401, RADR 1201, HPRS 1106 | MATH 1314 ENGL 1301 | HPRS 1201 | VNSG 1320 VNSG 1216 |
| Application Deadline & Terms students admitted | April 1 Admit August August 1 Admit January | July 1 Admit Fall | July 1 Admit Fall, December 1 Admit Spring | March 1 Priority Deadline, June 1 Regular Deadline Admit Fall | April 1, 2007 for Fall 2007 February 1, 2008 for Summer 2008 | June 1 Admit Fall | July 1 Admit Fall | June 1 Admit Fall October 1 Admit Spring |
| High School Grad. or GED Required | YES | YES | YES | YES | YES | YES | YES | YES |
| High School Transcript GED Scores on File | YES | YES | YES | NO | YES | YES | YES | YES |
| TSI Testing Required | YES unless exempt from TSI | YES unless exempt from TSI | YES unless exempt from TSI | YES unless exempt from TSI | YES unless exempt from TSIpt | YES unless exempt from TSI | YES unless exempt from TSI | TSI Testing deferred |
| TSI Complete before Admission | YES (unless exempt) | YES | NO | YES (unless exempt) | YES (unless exempt) | YES (unless exempt) | NO | N/A |
| CELSA Required for non-USA High School Graduates | Only for placement Academic Courses | YES | YES | YES | YES | YES | YES | YES |
| Math/Algebra Requirement | Completed MATH 0308 or higher | Completed MATH 0308 or higher | MATH 0308 or higher | MATH 0308 or higher | MATH 1314 | MATH 1314 | MATH 0308 or higher | N/A |
| Reading Requirement | College Level | College Level | Completed GUST 0341 | College Level | College Level | College Level | GUST 0342 or higher | N/A |
| English Requirement | College Level | College Level | Completed ENGL 0310 or higher | College Level | Completed ENGL 1301 | College Level | College Level | N/A |
| Other Tests or Requirements | HESI Test: Read 70, Grammar 75, A&P 60, Math 70; TOEFL (non-English as first Language) | ASSET or Compass | NONE | YES | NONE | NONE | ASSET or Compass | NET Math 70 Reading 60 |
| College/University Transcripts on file | YES | YES | YES | YES | YES | YES | YES | YES |
| Personal Narrative | NO | YES | NO | YES | NO | NO | NO | YES |
| Personal Interview | NO | YES & 3 reference letters | YES | YES | YES Written Only | YES | YES | YES |
| Health Care Experience or Observation | NO | YES | NO | YES | Recommend | Recommend | NO | YES |
| No. of Applicants accepted/year | 150 per class max. | 20/year | 45/class | 40/year | 40 per class | 30-35/year | 30-35/year | 135/year |
| **AFTER ACCEPTANCE FOR ENROLLMENT, APPLICANT MUST PROVIDE THE FOLLOWING:** | | | | | | | | |
| Physical/Health Status Report (form provided) | YES | YES | YES | Recommend | YES | YES | YES | YES |
| Current CPR Certification | YES | YES | NO | Recommend | YES | YES | YES | YES |
| Proof of Hepatitis-B Vaccine | YES | YES | NO | YES | YES | YES | YES | YES |
| Health Care Insurance | Recommend | Recommend | Recommend | Recommend | Recommend | Recommend | YES | Recommend |
| Medical Malpractice Insur. (paid at registration) | YES | YES | YES | YES | YES | YES | YES | YES |
| First Aid Training | NO | YES | N/A | Recommend | N/A | YES | N/A | N/A |
| Background Checks Drug Screening | YES | YES | YES | YES | YES | YES | YES | YES |

**HEALTH AND MEDICAL SCIENCES DEGREES AND CERTIFICATES**

# CARDIOVASCULAR TECHNOLOGY

The Cardiovascular Technology Program, leading to an AAS degree, encompasses a five-semester course of study requiring a total of 70 semester hours of credit. Students attend classes on campus at the Coleman College for Health Sciences located in the Texas Medical Center and clinical education classes in hospital settings.

The program is in the process of pursuing fully-accredited status with the Commission on Accreditation of Allied Health Education Programs (CAAHEP), 1361 Park St. Clearwater, FL. 33756-6039, (727) 210-2350, FAX (727) 210-2354, (www.caahep.org) and the Joint Review Committee on Education in Cardiovascular Technology (JRCECT). Graduates of the program will be eligible to apply for certification through Cardiovascular Credentialing International (CCI).

Cardiovascular Technology students study theory and techniques used in diagnosis, treatment, and follow-up of cardiovascular disease. Program graduates work in cardiac catheterization laboratories and assist the cardiologist in performing intracardiac pressure and electrical measurement, oximetry determination, angiocardiography, and assessment of cardiac function. The technologist assists in all phases of the catheterization procedure including catheter insertion, operation of monitoring equipment, and the calculation of cardiac data to be used by the physician in diagnosis and treatment of cardiovascular disease.

Admission requirements must be met by all applicants. Refer to the **General Application Procedures** for Health Science programs for further information.

All students who have been accepted into the program must attend a mandatory new student orientation and will be required to pay fees at the time of registration for medical liability insurance and the radiation monitoring badge. Students must earn a minimum of a 'C' in all CVTT courses to continue in the program. Each semester is a prerequisite for the next semester.

Clinical assignments are made in more than one hospital. All students are expected to rotate through each assigned clinical affiliate. Transportation among locations is the responsibility of the student.

It is the policy for all Health Sciences programs that each student accepted to enroll in a specific program provide a physical examination report completed by a physician with documentation of required immunizations. Students enrolling in the Cardiovascular Technology program must also show proof of Hepatitis B vaccination completion, and personal health care insurance. Students who are accepted into the program must successfully pass a drug screen and background check before they begin course work.

Persons interested in applying must attend an information session held at the Coleman College for Health Sciences. For further information, contact a counselor at Coleman College for Health Sciences.

The capstone for the Cardiovascular Technology AAS is CVTT 2470, RCIS Exam Review.

For additional information, call Tomye Geringer at 713-718-7359, or e-mail tomye.geringer@hccs.edu.

## CARDIOVASCULAR TECHNOLOGY

### AAS

TSI Testing is required prior to first enrollment.

| PREREQUISITES | | CREDITS |
|---|---|---|
| BIOL 2401 | Anatomy and Physiology I* | 4 |
| ENGL 1301 | Composition I | 3 |
| XXXX #3## | Computer Applications Elective** | 3 |
| PSYC 2301 | Introduction to Psychology | 3 |
| XXXX #3## | Approved Humanities/Fine Arts Elective | 3 |
| | **Prerequisite Total** | **16** |

### FIRST YEAR

| FIRST SEMESTER | | CREDITS |
|---|---|---|
| BIOL 2402 | Anatomy and Physiology II | 4 |
| CVTT 1201 | Introduction to Cardiovascular Technology | 2 |
| CVTT 1304 | Cardiovascular Anatomy and Physiology | 3 |
| CVTT 1371 | Patient Care Procedures in Cardiac Cath Lab | 3 |
| | **Semester Total** | **12** |

| SECOND SEMESTER | | CREDITS |
|---|---|---|
| CVTT 1340 | Cardiovascular Pathophysiology | 3 |
| CVTT 1313 | Catheterization Lab Fundamental I | 3 |
| CVTT 1307 | Cardiovascular Instrumentation | 3 |
| CVTT 1260 | Clinical-Cardiovascular Technology/Technologist | 2 |
| CVTT 1110 | Cardiac Catheterization I | 1 |
| | **Semester Total** | **12** |

| THIRD SEMESTER | | CREDITS |
|---|---|---|
| CVTT 1153 | Catheterization Lab Fundamentals II | 1 |
| ECRD 1211 | Electrocardiography | 2 |
| CVTT 2361 | Clinical-Cardiovascular Technology/Technologist | 3 |
| | **Semester Total** | **6** |

### SECOND YEAR

| FIRST SEMESTER | | CREDITS |
|---|---|---|
| CVTT 1391 | Special Topics in Cardiovascular Technology/Technician | 3 |
| CVTT 1350 | Cardiac Catheterization II | 3 |
| CVTT 2362 | Clinical-Cardiovascular Technology/Technologist | 3 |
| CVTT 2330 | Advanced Cardiovascular Instrumentation | 3 |
| | **Semester Total** | **12** |

| SECOND SEMESTER | | CREDITS |
|---|---|---|
| CVTT 2350 | Cardiovascular Professional Transition | 3 |
| EMSP 2135 | Advanced Cardiac Life Support | 1 |
| CVTT 2462 | Clinical-Cardiovascular Technology | 4 |
| CVTT 2470 | RCIS Exam Review | 4 |
| | **Semester Total** | **12** |
| | **Program Total** | **70** |

*BIOL 1406 is strongly recommended prior to BIOL 2401.

**The Computer Applications Elective may be chosen from the following courses: ITSC 1309 Integrated Software Applications I, POFI 1301 Computer Applications I, or BCIS 1405 Business Computer Application.

# CLINICAL LABORATORY TECHNICIAN

The Clinical Laboratory Technician Program, leading to an AAS degree, encompasses a two-year, six-semester course of study requiring a total of 67 semester hours of credit. The program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), 8410 W. Bryn Mawr Ave., Suite 670, Chicago, IL, 60631, 773-714-8886. Graduates are eligible for certification with the American Society of Clinical Pathologists Board of Registry (ASCP-BOR). New classes begin in the fall of each year.

Clinical Laboratory Technicians perform analytical tests on body fluids. Test results obtained influence the diagnosis and treatment of patients. From these test results, clues to the absence, presence, extent and cause of disease may be found. Tests performed are in laboratory areas such as Hematology, Chemistry, Microbiology, and Blood Banking. Clinical Laboratory Technicians must be physically able to move equipment, manipulate small objects, sit or stand for a period of time, collect body fluids from patients and communicate with co-workers, nurses and physicians. Employment may be found in hospital laboratories, forensic laboratories, veterinary clinics, research laboratories, and in medical businesses such as instrument manufacturers and medical supply companies.

All applicants must meet requirements for admission. They include proof of high school graduation or GED, pass the TSI state approved test or all developmental courses needed to be eligible for enrollment in MATH 1314, ENGL 1301, and BIOL 2401, and completion of the application packet by the application deadline of July 15. Applicants who have completed the application process will be invited to attend an interview session. The session will include written assignments and a personal interview. Rank points will be accumulated as a result of the applicant's written work, GPA, and personal interview. Students must maintain an overall GPA above 2.0.

The Health Sciences Division requires that all students accepted into the program obtain a physical examination performed by a physician, certain immunizations that include the Hepatitis B vaccine, a urine drug screen, and criminal background check. Information and forms will be supplied at the time of the personal interview.

Students accepted into the program will be required to pay a liability insurance fee.

Persons interested in applying must attend a program information session. Call 713-718-7637 for the dates, times and location of the session. For further information, please see the **General Application Procedures** for Health Science programs.

The capstone for the Clinical Laboratory Technician AAS is MLAB 2264, Practicum V.

For additional information, call 713-718-5518, email theresa.spain@hccs.edu, or robbe.hallmark@hccs.edu

## CLINICAL LABORATORY TECHNICIAN

**AAS**

TSI Testing is required prior to first enrollment.

### FIRST YEAR

| FIRST SEMESTER | | CREDITS |
|---|---|---|
| MATH | 1314 | College Algebra* ... 3 |
| CHEM | 1411 | General Chemistry I*/*** OR |
| CHEM | 1413 | College Chemistry I ... 4 |
| MLAB | 1201 | Introduction to Clinical Laboratory Science ... 2 |
| MLAB | 1270 | Hematology I ... 2 |
| MLAB | 1235 | Immunology/Serology ... 2 |
| BIOL | 2401 | Anatomy and Physiology I** ... 4 |
| | **Semester Total** | **17** |

| SECOND SEMESTER | | CREDITS |
|---|---|---|
| MLAB | 1211 | Urinalysis and Body Fluids ... 2 |
| MLAB | 1271 | Hematology II ... 2 |
| MLAB | 1227 | Coagulation ... 2 |
| ENGL | 1301 | Composition I* ... 3 |
| BIOL | 2402 | Anatomy and Physiology II* ... 4 |
| MLAB | 2431 | Immunohematology ... 4 |
| | **Semester Total** | **17** |

| THIRD SEMESTER | | CREDITS |
|---|---|---|
| PLAB | 1223 | Phlebotomy ... 2 |
| BIOL | 2420 | Microbiology* ... 4 |
| MLAB | 2270 | Clinical Chemistry I ... 2 |
| | **Semester Total** | **8** |

### SECOND YEAR

| FIRST SEMESTER | | CREDITS |
|---|---|---|
| MLAB | 2434 | (Clinical) Microbiology ... 4 |
| MLAB | 1166 | Practicum - Clinical/Medical Laboratory Technician ... 1 |
| MLAB | 1167 | Practicum - Clinical/Medical Laboratory Technician ... 1 |
| MLAB | 2271 | Clinical Chemistry II ... 2 |
| | **Semester Total** | **8** |

| SECOND SEMESTER | | CREDITS |
|---|---|---|
| MLAB | 1231 | Parasitology/Mycology ... 2 |
| MLAB | 1266 | Practicum - Clinical/Medical Laboratory Technician ... 2 |
| MLAB | 1267 | Practicum - Clinical/Medical Laboratory Technician ... 2 |
| XXXX | #3## | Approved Social/Behavioral Science Elective* ... 3 |
| | **Semester Total** | **9** |

| THIRD SEMESTER | | CREDITS |
|---|---|---|
| MLAB | 2264 | Practicum - Clinical/Medical Laboratory Technician ... 2 |
| MLAB | 1371 | Registry Review ... 3 |
| XXXX | #3## | Approved Humanities/Fine Arts Elective* ... 3 |
| | **Semester Total** | **8** |
| | **Program Total** | **67** |

*Maybe taken prior to admission.

**BIOL 1406 is strongly recommended prior to BIOL 2401.

***Recommended for transfer.

# DENTAL ASSISTING

The Dental Assisting Program is offered as a full-time day program and a part-time evening program if sufficient enrollment exists. Graduates of this program receive a certificate of completion from the college. The program is accredited by the Commission on Dental Accreditation of the American Dental Association, a specialized accrediting body recognized by the Council of Postsecondary Accreditation and by the United States Department of Education (Manager, Dental Assisting Education Commission Dental Accreditation/American Dental Association, 211 East Chicago Avenue, Chicago, IL 60611).

The Dental Assisting curriculum prepares the graduate for employment as a dental assistant, receptionist, and office manager to the general or specialty dentist in private offices, clinics, and institutions. As a vital member of the dental health team, the dental assistant prepares the patient for treatment, provides the dentist with necessary instruments, instructs patients in proper oral hygiene, records dental services, and performs all managerial duties for the office. Graduates of this course are eligible to take the Dental Assisting National Board Exam.

Applicants must have earned a high school diploma or GED. The Dental Assisting day classes are offered Monday through Friday from 8:00 a.m. to 5:00 p.m., and the evening classes are offered Monday through Friday from 5:30 p.m. to 9:00 p.m. Students are required to pay a liability insurance fee, which protects the student against losses resulting from malpractice claims. This insurance is available through the College on a blanket coverage program at a reduced rate. Each semester, students must also pay a film badge fee that monitors for radiation exposure. Applicants must meet the minimum requirements for admission to certificate programs in the Health Sciences. These requirements include: minimum scores on the TSI state approved test, successful completion of any required developmental courses, and completion and submission of the application packet by the deadline.

Persons interested in applying should contact a counselor at the Health Science Center. For further information, please see the **General Application Procedures** for Health Science programs.

The capstone for the Dental Assisting Certificate is DNTA 2267, Practicum-Dental Assistant.

For more information, call 713-718-7351, or e-mail questions to kay.jukes@hccs.edu.

## DENTAL ASSISTING

### CERTIFICATE

#### PREREQUISITE
| | | | |
|---|---|---|---|
| HPRS | 1201 | Introduction to Health Professions | 2 |

#### FIRST SEMESTER — CREDITS
| | | | |
|---|---|---|---|
| DNTA | 1245 | Preventive Dentistry | 2 |
| DNTA | 1411 | Dental Science | 4 |
| DNTA | 1401 | Dental Materials | 4 |
| DNTA | 1415 | Chairside Assisting | 4 |
| DNTA | 1205 | Dental Radiology | 2 |
| | | **Semester Total** | **16** |

#### SECOND SEMESTER — CREDITS
| | | | |
|---|---|---|---|
| DNTA | 1447 | Advanced Dental Science | 4 |
| DNTA | 1351 | Dental Office Management | 3 |
| DNTA | 1453 | Dental Assisting Applications | 4 |
| DNTA | 1349 | Dental Radiology in the Clinic | 3 |
| DNTA | 1167 | Practicum - Dental Assistant | 1 |
| | | **Semester Total** | **15** |

#### THIRD SEMESTER — CREDITS
| | | | |
|---|---|---|---|
| DNTA | 2130 | Seminar for the Dental Assistant | 1 |
| DNTA | 2267 | Practicum - Dental Assistant | 2 |
| DNTA | 1102 | Communication and Behavior in the Dental Office | 1 |
| | | **Semester Total** | **4** |
| | | **Program Total** | **37** |

# DIAGNOSTIC MEDICAL SONOGRAPHY

A diagnostic medical sonographer is a person qualified to provide patient services using diagnostic ultrasound under the supervision of a doctor of medicine. The sonographer assists the physician in gathering sonographic data necessary to make diagnostic decisions.

The 15 1/2-month, four-semester program awards an Advanced Technical Certificate after graduation. Diagnostic Medical Sonography classes are only offered during the day.

To be considered for admission, the applicant must have completed courses prior to the start of the program in: general physics, biologic science, college algebra, communication skills and human anatomy and physiology I; plus either have completed a 2-year allied health educational program in a patient care related area or have earned a Bachelor's degree.

All applicants must meet current college admission requirements and admission requirements for the program including transcript review and personal interviews. Students who are accepted into the program will be required to pay a liability insurance fee, which protects the student against losses resulting from malpractice claims. Students must also pass a physical examination, drug screening test, and a criminal background check by the midpoint of their first semester in the program.

Persons interested in applying must attend a Program Information Session. Call 713-718-7356 for the dates, times, and location of the sessions.

The capstone for the Diagnostic Medical Sonography Certificate is DMSO 2467, Sonographic Practicum III.

For more information, call 713-718-7356 or e-mail william.richardson@hccs.edu.

## DIAGNOSTIC MEDICAL SONOGRAPHY

### ADVANCED TECHNICAL CERTIFICATE

#### FIRST YEAR

#### FIRST SEMESTER — CREDITS
| | | | |
|---|---|---|---|
| DMSO | 1210 | Introduction to Sonography | 2 |
| DMSO | 1441 | Abdominopelvic Sonography | 4 |
| DMSO | 1302 | Basic Ultrasound Physics | 3 |
| DMSO | 1355 | Sonographic Pathophysiology | 3 |
| DMSO | 1451 | Sonographic Sectional Anatomy | 4 |
| | | **Semester Total** | **16** |

#### SECOND SEMESTER — CREDITS
| | | | |
|---|---|---|---|
| DMSO | 2441 | Sonography of Abdominopelvic Pathology | 4 |
| DMSO | 2405 | Sonography of Obstetrics/Gynecology | 4 |
| DMSO | 1342 | Intermediate Ultrasound Physics | 3 |
| DMSO | 1266 | Practicum I-Diagnostic Medical Sonography | 2 |
| | | **Semester Total** | **13** |

# EMERGENCY MEDICAL SERVICES

The two-year Emergency Medical Services (EMS) Program is designed to prepare individuals as competent, entry-level pre-hospital Emergency Medical Services Practitioners. The program is fully accredited by the Committee on Accreditation of Allied Health Educational Programs (CAAHEP), 1361 Park St. Clearwater, FL. 33756-6039, (727) 210-2350, FAX (727) 210-2354, www.caahep.org, of the American Medical Association (AMA), 515 N. State St., Chicago, IL 60610, 312-464-4635. Successful program graduates are awarded a certificate of completion in addition to the AAS in Emergency Medical Services, which enables them to qualify for licensure as an EMT-Paramedic with the Texas Department of State Health Services. Students completing this course of study are eligible to take an examination for certification as an EMT-Paramedic with the Texas Department of State Health Services and the National Registry of Emergency Medical Technicians.

The program is designed to orient students to entry and advanced-level emergency care as it relates to assessment, treatment, management, and ongoing evaluation of the critically ill and injured patients in their care. Advanced standing credit may be awarded for relevant education and/or experience.

NOTE: Upon successful completion of EMSP 1401/1160, the student is eligible for application to the National Registry EMT-Basic exam. Upon successful completion of EMSP 1356,1338,1355/1263, the student is eligible for application to the National Registry EMT-Intermediate exam. Upon successful completion of EMSP 2444, 2434, 2330, 2160, 2260 and 2261, the student is eligible for application to the National Registry EMT-Paramedic exam.

Students who are accepted into the EMS Program will be required to pay a liability insurance fee, which protects the students against losses resulting from malpractice claims. All classes with the exception of clinical practicums are held at the Coleman College for Health Sciences. Clinical assignments are made in more than one hospital and field internship site, and all students are expected to rotate through each clinical affiliate. Transportation between locations is the responsibility of the student. Students must complete all hourly requirements as filed with the Texas Department of State Health Services and Committee on the Accreditation of the Emergency Medical Services Profession.

Applicants must meet the minimum requirements for admission to programs in the Health Sciences to include: minimum reading score on the ASSET or CELSA examinations, completion of any required developmental courses, and completion and submission of the Health Science application packet by the deadline. Proof of current immunizations, copy of CPR card (AHA) or completion of department packet.

Persons interested in applying should contact a counselor at the Coleman College for Health Sciences. For further information, please see the **General Application Procedures** for Health Science programs.

The capstone for the Emergency Medical Services AAS and the EMS-Paramedic Certificate is EMSP 2261, Clinical-Field.

For additional information, call 713-718-7621 or e-mail marion.cole@hccs.edu.

# EMERGENCY MEDICAL SERVICES

## AAS

TSI Testing is required prior to first enrollment.

*May be taken prior to admission.

** BIOL 1406 is strongly recommended prior to BIOL 2401.

***The Computer Applications Elective may be chosen from the following courses: ITSC 1309 Integrated Software Applications I, POFI 1301 Computer Applications I, or BCIS 1405 Business Computer Application.

# EMERGENCY MEDICAL SERVICES

## CERTIFICATE

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| EMSP | 1401 | EMT-Basic | 4 |
| EMSP | 1160 | EMT-Basic Clinical | 1 |
| EMSP | 1338 | Introduction to Advanced Practice | 3 |
| EMSP | 1355 | Trauma Management | 3 |
| EMSP | 1356 | Patient Assessment and Airway Management | 3 |
| EMSP | 1263 | Clinical-Foundations | 2 |
| | | **Semester Total** | **16** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| EMSP | 2248 | Emergency Pharmacology | 2 |
| EMSP | 2444 | Cardiology | 4 |
| EMSP | 2160 | Clinical-Cardiology | 1 |
| | | **Semester Total** | **7** |

### SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| EMSP | 2260 | Clinical-Special Populations | 2 |
| EMSP | 2434 | Medical Emergencies | 4 |
| EMSP | 2330 | Special Populations | 3 |
| | | **Semester Total** | **9** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| EMSP | 2243 | Assessment Based Management | 2 |
| EMSP | 2338 | EMS Operations | 3 |
| EMSP | 2261 | Clinical-Field | 2 |
| | | **Semester Total** | **7** |
| | | **Program Total** | **39** |

# HEALTH AND FITNESS INSTRUCTOR

The AAS degree in Health and Fitness Instructor is designed to provide the knowledge base and technical skills needed for employment in the fitness field. Students will be able to conduct health risk appraisals, interpret fitness tests, teach strength training, design exercise programs and supervise the operations of a fitness facility.

The capstone for the Health and Fitness Instructor AAS is FITT 2364, Practicum. The capstone for the Health and Fitness Instructor Certificate is FITT 2409, Theory of Exercise Program Design and Instruction.

For more information, call 713-718-6084 or e-mail caprice.dodson@hccs.edu.

Students are encouraged to meet with the Department Chair prior to enrolling in FITT Program.

## HEALTH AND FITNESS INSTRUCTOR

### AAS

TSI Testing is required prior to first enrollment.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | English Composition | 3 |
| BIOL | 1406 | General Biology I | 4 |
| FITT | 2313 | Exercise Science | 3 |

| | | | |
|---|---|---|---|
| FITT | 1301 | Fitness and Exercise Testing | 3 |
| FITT | 1303 | Fitness Event Planning and Promotion | 3 |
| PHED | #1## | Activity Class* | 1 |
| | | **Semester Total** | **17** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| FITT | 2409 | Theory of Exercise Program Design and Instruction | 4 |
| BIOL | 2401 | Anatomy and Physiology I | 4 |
| PHED | 2111 | Beginning Weight Training and Conditioning I OR | |
| PHED | 2115 | Weight Training and Conditioning II | 1 |
| FITT | 2311 | Prevention and Care of Exercise Injury | 3 |
| FITT | 2333 | Fitness Industry Operations and Technology | 3 |
| | | **Semester Total** | **15** |

### SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| PHED | 1111 | Aerobics Conditioning I OR | |
| PHED | 1115 | Aerobics Conditioning II | 1 |
| BUSG | 1301 | Introduction to Business | 3 |
| XXXX | #3## | Computer Applications Elective** | 3 |
| HECO | 1322 | Basic Nutrition | 3 |
| PHED | 1304 | Personal and Community Health | 3 |
| PSYC | 2301 | Introduction to Psychology | 3 |
| | | **Semester Total** | **16** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| PHED | 1306 | First Aid | 3 |
| FITT | 2364 | Practicum-Health and Physical Education | 3 |
| SPCH | 1311 | Fundamentals of Speech | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts Elective | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **60** |

*PHED 1150 is recommended for non-swimmers.

**The Computer Applications Elective may be chosen from the following courses: ITSC 1309, Integrated Software Applications I; POFI 1301, Computer Applications I; or BCIS, 1405 Business Computer Application.

## HEALTH AND FITNESS INSTRUCTOR

The certificate program is designed for individuals who are employed in a fitness center or similar program and desire to upgrade their skills. Students will be introduced to the most current methodologies on how to administer fitness tests, prescribe exercise programs, and conduct fitness activities. Emphasis will be placed on providing the student with results from recent research in the field of fitness technology.

### CERTIFICATE

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| PHED | 2111 | Beginning Weight Training and Conditioning | 1 |
| FITT | 1301 | Fitness and Exercise Testing | 3 |
| FITT | 2313 | Exercise Science | 3 |
| | | **Semester Total** | **7** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| FITT | 2311 | Prevention and Care of Exercise Injury | 3 |
| FITT | 2409 | Theory of Exercise Program Design and Instruction | 4 |
| PHED | 1304 | Personal and Community Health | 3 |
| | | **Semester Total** | **10** |
| | | **Program Total** | **17** |

# HEALTH INFORMATION TECHNOLOGY

The Health Information Technology Program offers students three levels of completion: a two-year Health Information Technology AAS; a one-year Health Information Coding Certificate, and a 9 month Health Information Analysis Certificate.

The program is accredited by the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM) through the American Health Information Management Association (AHIMA), 233 N. Michigan Ave., Suite 2150, Chicago, IL, 60611-5519, 312-233-1100. Upon completion of the AAS degree, students are eligible to sit for the national Registered Health Information Technician (RHIT) exam administered by AHIMA. Students may sit for the Certified Coding Associate (CCA) exam sponsored by AHIMA, and the Cerified Professional Codes (CPC) exam sponsored by the American Academy of Professional Coders (AAPC) upon completion of the coding certificate.

The Health Information Technician is the expert on patient data that the physicians, nurses and other health care providers rely on to perform their duties. The Health Information Technology Program trains students to perform technical health information and medical record functions in various health care facilities. These functions include: maintaining, collecting, analyzing, and coding health information. Courses have both theory and competency-based educational components and are offered on campus and through the internet. Students are assigned to health information departments in the Texas Medical Center and other areas in Houston for their directed practice education classes. Students must maintain a 'C' (75%) average and meet all prerequisites to continue in the program. A student may not earn a grade below a 'C' (75%) in HITT courses and continue in the program.

Students who are accepted into the program will be required to pay a liability insurance fee, which protects the student against losses resulting from malpractice claims. Students will also be required to undergo a criminal background check, physical exam, and drug test.

AAS applicants must meet the minimum requirements for admission to the Health Science Programs including successful completion of all TSI requirements. Unless exempt from THEA, the applicant must take the TSI state approved test, complete all developmental courses needed to reach college-level English, anatomy and physiology, psychology, and complete the application packet by the deadline for applying.

Persons interested in applying should contact a counselor at the Coleman College for Health Sciences. For further information, please see the **General Application Procedures** for Health Science programs.

The capstone for the Health Information Technology AAS is HITT 2267, Health Information Practicum IV; the capstone for the Health Information Coding Certificate is HITT 2167, Health Information Practicum III; and the capstone for the Health Information Analysis Certificate is HITT 1167, Health Information Practicum II.

For additional information, call 713-718-7365 or e-mail carla.tyson@hccs.edu.

# HEALTH INFORMATION TECHNOLOGY

## AAS

TSI Testing is required prior to first enrollment.

### PREREQUISITES CREDITS
| | | | |
|---|---|---|---|
| BIOL | 2401 | Anatomy and Physiology I */** | 4 |
| ENGL | 1301 | Composition I * | 3 |
| | | **Prerequisite Total** | **7** |

## FIRST YEAR

### FIRST SEMESTER CREDITS
| | | | |
|---|---|---|---|
| BIOL | 2402 | Anatomy and Physiology II* | 4 |
| HITT | 1301 | Health Data Content and Structure | 3 |
| HITT | 1166 | Health Information Practicum I | 1 |
| XXXX | #3## | Approved Humanities/Fine Arts Elective* | 3 |
| POFI | 1301 | Computer Applications I | 3 |
| | | **Semester Total** | **14** |

### SECOND SEMESTER CREDITS
| | | | |
|---|---|---|---|
| POFI | 1341 | Computer Applications II | 3 |
| HITT | 1305 | Medical Terminology | 3 |
| HITT | 1445 | Health Care Delivery Systems | 4 |
| HITT | 1167 | Health Information Practicum II | 1 |
| HITT | 1355 | Health Care Statistics | 3 |
| | | **Semester Total** | **14** |

### THIRD SEMESTER CREDITS
| | | | |
|---|---|---|---|
| HPRS | 2301 | Pathophysiology | 3 |
| HITT | 1349 | Pharmacology | 3 |
| | | **Semester Total** | **6** |

## SECOND YEAR

### FIRST SEMESTER CREDITS
| | | | |
|---|---|---|---|
| HITT | 1341 | Coding and Classification Systems | 3 |
| HITT | 1353 | Legal and Ethical Aspects of Health Information | 3 |
| HITT | 2339 | Health Information Organization and Supervision | 3 |
| XXXX | #3## | Social Science General Education Elective* | 3 |
| | | **Semester Total** | **12** |

### SECOND SEMESTER CREDITS
| | | | |
|---|---|---|---|
| HITT | 2435 | Coding and Reimbursement Methodologies | 4 |
| HITT | 1311 | Computers in Health Care | 3 |
| HITT | 2443 | Quality Assessment and Performance | 4 |
| HITT | 2167 | Health Information Practicum III | 1 |
| HITT | 2340 | Advanced Medical Billing and Reimbursement | 3 |
| | | **Semester Total** | **15** |

### THIRD SEMESTER CREDITS
| | | | |
|---|---|---|---|
| HITT | 2267 | Practicum-Health Information/Medical Records Technology/Technician Practicum IV | 2 |
| HITT | 2249 | RHIT Competency Review | 2 |
| | | **Semester Total** | **4** |
| | | **Program Total** | **72** |

*May be taken prior to admission.

** BIOL 1406 is strongly recommended prior to BIOL 2401.

# HEALTH INFORMATION CODING

## CERTIFICATE

The following courses maybe completed prior to admission.

| PREREQUISITES | | | CREDITS |
|---|---|---|---|
| BIOL | 2401 | Anatomy and Physiology I* | 4 |
| BIOL | 2402 | Anatomy and Physiology II | 4 |
| | | **Prerequisite Total** | **8** |

## FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| HITT | 1301 | Health Data Content and Structure | 3 |
| HITT | 1349 | Pharmacology | 3 |
| HITT | 1305 | Medical Terminology | 3 |
| HPRS | 1201 | Introduction to Health Professions | 2 |
| | | **Semester Total** | **11** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| HITT | 1445 | Health Care Delivery Systems | 4 |
| HITT | 1341 | Coding and Classification Systems | 3 |
| HITT | 1353 | Legal and Ethical Aspects of Health Information | 3 |
| HPRS | 2301 | Pathophysiology | 3 |
| | | **Semester Total** | **13** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| HITT | 2435 | Coding and Reimbursement Methodologies | 3 |
| HITT | 1311 | Computers in Health Care | 3 |
| HITT | 2167 | Health Information Practicum III | 1 |
| POFI | 1301 | Computer Applications I | 3 |
| HITT | 2340 | Advanced Medical Billing and Reimbursement | 3 |
| | | **Semester Total** | **13** |
| | | **Program Total** | **45** |

\* BIOL 1406 is strongly recommended prior to BIOL 2401.

# HEALTH INFORMATION ANALYSIS

## CERTIFICATE

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| HITT | 1301 | Health Data Content and Structure | 3 |
| HITT | 1166 | Health Information Practicum I | 1 |
| XXXX | #3## | Computer Applications Elective* | 3 |
| | | **Semester Total** | **7** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| HITT | 1305 | Medical Terminology | 3 |
| HITT | 1445 | Healthcare Delivery Systems | 4 |
| HITT | 1167 | Health Information Practicum II | 1 |
| HITT | 1355 | Health Care Statistics | 3 |
| | | **Semester Total** | **11** |
| | | **Program Total** | **18** |

*The Computer Applications Elective may be chosen from the following courses: ITSC 1309 Integrated Software Applications I, POFI 1301 Computer Applications I, or BCIS 1405 Business Computer Application.

# HISTOLOGIC TECHNICIAN

The Histologic Technician Program, leading to an AAS degree, encompasses a two-year, five-semester course of study requiring a total of 67 semester hours of credit. The program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), 8410 W. Bryn Mawr Ave., Suite 670, Cicago IL, 60631, 773-714-8886. Graduates are eligible for certification with the American Society of Clinical Pathologists Board of Registry (ASCP-BOR). New Classes begin in the fall of each year.

Histologic technicians prepare slides of body tissue for microscopic examination by freezing and cutting tissues, mounting them on slides, and staining them with special dyes to make the details visible under the microscope. Most technicians work in clinical science laboratories, in hospital laboratories, medical research laboratories, forensic labs, industrial laboratories or government agencies.

All applicants must meet requirements for admission. They include proof of high school graduation or GED, pass the TSI state approved test or all developmental courses needed to be eligible for enrollment in MATH 1314, ENGL 1301, and BIOL 1406, and completion of the application packet by the application deadline of July 15. Applicants who have completed the application process will be invited to attend an interview session. The session will include written assignments and a personal interview. Rank points will be accumulated as a result of the applicant's written work, GPA, and personal interview. Students must maintain an overall GPA above 2.0.

The Health Sciences Division requires that students accepted into the program obtain a physical examination performed by a physician, certain immunizations which include the Hepatitis B vaccine, a urine drug screen, and a criminal background check. Information and forms will be supplied at the time of the personal interview. Students accepted into the program will be required to pay a liability insurance fee.

Persons interested in applying must attend a program information session. Call 713-718-7642 for the dates, times, and location of the session. For further information, please see the **General Application Procedures** for Health Science programs.

The capstone for the Histologic Technician AAS is HLAB 1462, Clinical Histotechnology III.

For additional information, call 713-718-7642 or e-mail lawrence.wall@hccs.edu.

## HISTOLOGIC TECHNICIAN

### AAS

TSI Testing is required prior to first enrollment.

## FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| MATH | 1314 | College Algebra* | 3 |
| ENGL | 1301 | Composition I* | 3 |
| BIOL | 1406 | General Biology I* | 4 |
| HLAB | 1401 | Introduction to Histology | 4 |
| | | **Semester Total** | **14** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| CHEM | 1411 | General Chemistry I*/** OR | |
| CHEM | 1413 | College Chemistry I | 4 |
| HLAB | 1402 | Histolotechnology I | 4 |
| BIOL | 2401 | Anatomy and Physiology I* | 4 |
| | | **Semester Total** | **12** |

## THIRD SEMESTER

| | | | CREDITS |
|---|---|---|---|
| HLAB | 1460 | Clinical-Histotechnology I | 4 |
| HLAB | 1443 | Histolotechnology II | 4 |
| XXXX | #3## | Approved Social/Behavioral Science Elective* | 3 |
| | | **Semester Total** | **11** |

## SECOND YEAR

### FIRST SEMESTER

| | | | CREDITS |
|---|---|---|---|
| HLAB | 1461 | Clinical-Histotechnology II | 4 |
| HLAB | 2434 | Histotechnology III | 4 |
| HLAB | 1405 | Functional Histology I | 4 |
| BIOL | 2402 | Anatomy and Physiology II* | 4 |
| | | **Semester Total** | **16** |

### SECOND SEMESTER

| | | | CREDITS |
|---|---|---|---|
| HLAB | 1446 | Functional Histology II | 4 |
| HLAB | 1462 | Clinical - Histotechnology | 4 |
| HLAB | 2341 | Registry Review | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts Elective* | 3 |
| | | **Semester Total** | **14** |
| | | **Program Total** | **67** |

*Maybe taken prior to admission.

**Recommended for transfe

# MEDICAL ASSISTANT

The HCC Coleman College for Health Sciences Medical Assistant Program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) upon the recommendation of the Curriculum Review Board of the American Association of Medical Assistants' Endowment (AAMAE). Commission on Accreditation of Allied Health Education Programs, 1361 Park St. Clearwater, FL 33756-6039, (727) 210-2350, FAX (727) 210-2354, www.caahep.org.

The Program trains individuals to function as multi-skilled technicians in ambulatory health care delivery systems. Specific skills include administrative and clinical duties. Additional skills include 12-lead electrocardiography, dysrhythmia analysis, stress testing, Holter monitor and scanning, phlebotomy, pharmacology and administration of medications and fundamentals of medical insurance with coding.

The one-year Medical Assistant Program is divided into three semesters. Applicants are accepted for fall, spring, and summer semesters for full-time/part-time classes. Courses have theory and competency-based components. Clinical experience is provided by affiliations with various ambulatory health care delivery facilities. The clinical externship is a non-paid external learning experience.

Applicants must be at college-level English, reading, and have completed MATH 0308 or higher and then submit a completed application packet. Attendance at an information session is required. Contact a counselor for the schedule.

Students who participate in the clinical external learning experience will be required to pay a liability insurance fee, which protects the student against losses resulting from malpractice claims. The insurance is available through the College on a blanket coverage program at a reduced rate. Current CPR Level C (adult, youth, and infant) certification is required prior to enrollment in a clinical external learning experience. Attendance at a clinical orientation is necessary prior enrollment in a clinical external learning experience.

Students who are accepted into the Medical Assistant Program will be required to undergo a physical examination and submit proof of current immunizations, the costs of which are the student's responsibility.

Felons are not eligible to sit for the CMA examination unless the AAMA Certifying Board grants a waiver. Contact the AAMA for information concerning grounds for denial of eligibility for the Certified Medical Assistant (CMA) credential. Contact the AAMA at 20 N. Wacker Dr. Suite 1575, Chicago, IL 60606-2903, 800-228-2262, www.aama-ntl.org. Persons interested in applying should contact a counselor at the Coleman College for Health Sciences. Health Science students are required to have a background check and drug screening prior to clinical training. For further information, please see the **General Application Procedures** for Health Science programs.

The capstone for the Medical Assistant Certificate is MDCA 1360, Clinical-Medical Assistant, which must be taken concurrently with MDCA 1254, Certified Medical Assisting Exam Review.

Students are expected to sit for and successfully pass the national certifying CMA exam. The CMA examination is administered in January, June, and October at the Coleman College for Health Sciences. The cost is the responsibility of the student.

For additional information, call 713-718-7361 or e-mail cynthia.lundgren@hccs.edu.

# MEDICAL ASSISTANT

### CERTIFICATE

Course prerequisite needs to be met for English.

### FIRST SEMESTER

| | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I* | 3 |
| MDCA | 1409 | Anatomy and Physiology for Medical Assistants | 4 |
| MDCA | 1213 | Medical Terminology | 2 |
| MDCA | 1352 | Medical Assistant Laboratory Procedures | 3 |
| MDCA | 1417 | Procedures in a Clinical Setting | 4 |
| | | **Semester Total** | **16** |

### SECOND SEMESTER

| | | | CREDITS |
|---|---|---|---|
| MDCA | 1321 | Administrative Procedures | 3 |
| MDCA | 1305 | Medical Law and Ethics | 3 |
| ECRD | 1211 | Electrocardiography | 2 |
| MDCA | 1448 | Pharmacology and Administration of Medicines | 4 |
| MDCA | 1391 | Special Topics: Communication Skills in Ambulatory Care | 3 |
| | | **Semester Total** | **15** |

### THIRD SEMESTER

| | | | CREDITS |
|---|---|---|---|
| MDCA | 1254 | Certified Medical Assisting Exam Review | 2 |
| MDCA | 1343 | Medical Insurance | 3 |
| MDCA | 1360 | Clinical-Medical/Clinical Assistant | 3 |
| MDCA | 1391 | Special Topic: Medical Assistant-Ambulatory Care Emergency Procedures | 3 |
| | | **Semester Total** | **11** |
| | | **Program Total** | **42** |

* May be taken prior to admission.

# NUCLEAR MEDICINE TECHNOLOGY

The Nuclear Medicine Technology Program combines academic study with clinical laboratory experience at affiliated hospitals. Graduates of the program may find employment in the areas of nuclear imaging, nuclear cardiology, radiopharmacy, and radiation quality control. The Joint Review Committee on Educational Programs in Nuclear Medicine Technology has granted full accreditation status to this program. (Joint Review Committee on Educational Programs in Nuclear Medicine Technology, 2000 W. Danforth Rd., Ste. 130 #203, Edmond, OK 73003, 405-285-0546). A graduate of this 24-month program is eligible to take a certification and/or registry examination in Nuclear Medicine Technology.

Applicants who have taken all required academic core courses in the Nuclear Medicine Technology Program prior to entering the program may finish the associate degree program in 18 1/2 months if accepted.

Students who are accepted in the program will be required to pay a liability insurance fee which protects the students against losses resulting from malpractice claims. Students must pay a film badge fee each semester. Students must also pass a physical examination, drug screening test, and criminal background check, prior to receiving a hospital assignment.

Program courses have both theory and competency-based educational components. Students must attain a 75 percent average or better in all NMTT courses and have a 2.0 or more GPA to be eligible for graduation.

Eligibility requirements include: passing all TSI state approved tests and all developmental courses needed for college level English, algebra, biology, and psychology, or have a transcript(s) with credits in college level math, reading and English. A completed application must be submitted prior to the application deadline.

Persons interested in applying and who live in Houston or the surrounding area must attend a program Information session. Call 713-718-7356 for the dates, times and location of the sessions. Persons living outside the Houston area should send an e-mail to glenn.smith@hccs.edu for program information.

The capstone for the Nuclear Medicine Technology AAS is NMTT 2366, Practicum VI-Nuclear Medicine Technology.

For additional information, call 713-718-7356, or log onto the program's website at www.hccs.edu/discipline/nmtt/nmtt.html or e-mail glenn.smith@hccs.edu.

## NUCLEAR MEDICINE TECHNOLOGY

### AAS

TSI Testing is required prior to first enrollment.

## FIRST YEAR

### FIRST SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| NMTT | 1311 | Nuclear Medicine Patient Care | 3 |
| NMTT | 1313 | Nuclear Medicine Physics | 3 |
| NMTT | 1401 | Introduction to Nuclear Medicine | 4 |
| NMTT | 1167 | Practicum I-Nuclear Medicine Technology | 1 |
| BIOL | 2401 | Anatomy and Physiology I*/** | 4 |
| | | **Semester Total** | **15** |

### SECOND SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| NMTT | 1409 | Nuclear Medicine Instrumentation | 4 |
| XXXX | #3## | Approved Humanities/Fine Arts Elective | 3 |
| NMTT | 1266 | Practicum II-Nuclear Medicine Technology | 2 |
| BIOL | 2402 | Anatomy and Physiology II* | 4 |
| RADR | 2340 | Sectional Anatomy for Medical Imaging | 3 |
| | | **Semester Total** | **16** |

### THIRD SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| NMTT | 2309 | Nuclear Medicine Methodology II | 3 |
| NMTT | 2167 | Practicum III-Nuclear Medicine Technology | 1 |
| CHEM | 1405 | Introductory Chemistry I* | 4 |
| NMTT | 2333 | PET and Fusion Technology | 3 |
| | | **Semester Total** | **11** |

## SECOND YEAR

### FIRST SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| NMTT | 2313 | Nuclear Medicine Methodology III | 3 |
| NMTT | 2401 | Radiochemistry and Radiopharmacy | 4 |
| NMTT | 2266 | Practicum IV-Nuclear Medicine Technology | 2 |
| ENGL | 1301 | Composition I* | 3 |
| | | **Semester Total** | **12** |

### SECOND SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| NMTT | 2405 | Nuclear Medicine Methodology I | 4 |
| NMTT | 2267 | Practicum V-Nuclear Medicine Technology | 2 |
| PSYC | 2301 | Introduction to Psychology* | 3 |
| SPCH | #3## | Speech Elective* | 3 |
| | | **Semester Total** | **12** |

### THIRD SEMESTER — CREDITS

| | | | |
|---|---|---|---|
| NMTT | 2335 | Nuclear Medicine Technology Seminar | 3 |
| NMTT | 2366 | Practicum VI-Nuclear Medicine Technology | 3 |
| | | **Semester Total** | **6** |
| | | **Program Total** | **72** |

*May be taken prior to admission.

** BIOL 1406 is strongly recommended prior to BIOL 2401

## NUCLEAR MEDICINE ADVANCED TECHNOLOGY CERTIFICATE

Eligibility requirements for the 18 1/2 month Advanced Technical Certificate include graduating from a Joint Review Committee accredited program in one of the **Radiologic Sciences**. A candidate must have also received post-secondary education in human anatomy and physiology, chemistry, oral and written communications, intermediate algebra and physics. Candidates living in Houston or the surrounding area must attend a program information session. Call 713-718-7356 for the dates, times and locations of the sessions. Persons living outside of the Houston area should send an e-mail to glenn.smith@hccs.edu for program information.

The capstone for the Certificate is NMTT 2366, Practicum VI-Nuclear Medicine Technology.

For additional information go to the program's website at www.hccs.edu/discipline/nmtt/nmtt.html.

### FIRST YEAR

| FIRST SEMESTER | | CREDITS |
|---|---|---|
| NMTT | 1311 | Nuclear Medicine Patient Care ........................................ 3 |
| NMTT | 1313 | Nuclear Medicine Physics............................................... 3 |
| NMTT | 1401 | Introduction to Nuclear Medicine .................................... 4 |
| NMTT | 1167 | Practicum I-Nuclear Medicine Technology....................... 1 |
| NMTT | 1266 | Practicum II-Nuclear Medicine Technology...................... 2 |
| | **Semester Total** | **13** |

| SECOND SEMESTER | | CREDITS |
|---|---|---|
| NMTT | 1409 | Nuclear Medicine Instrumentation ................................... 4 |
| NMTT | 2267 | Practicum V-Nuclear Medicine Technology...................... 2 |
| NMTT | 2405 | Nuclear Medicine Methodology I...................................... 4 |
| RADR | 2340 | Sectional Anatomy for Medical Imagining ....................... 3 |
| | **Semester Total** | **13** |

| THIRD SEMESTER | | CREDITS |
|---|---|---|
| NMTT | 2309 | Nuclear Medicine Methodology II..................................... 3 |
| NMTT | 2167 | Practicum III-Nuclear Medicine Technology.................... 1 |
| NMTT | 2333 | PET and Fusion Technology ............................................ 3 |
| | **Semester Total** | **7** |

### SECOND YEAR

| FIRST SEMESTER | | CREDITS |
|---|---|---|
| NMTT | 2313 | Nuclear Medicine Methodology III.................................... 3 |
| NMTT | 2401 | Radiochemistry and Radiopharmacy ............................... 4 |
| NMTT | 2266 | Practicum IV-Nuclear Medicine Technology..................... 2 |
| | **Semester Total** | **9** |

| SECOND SEMESTER | | CREDITS |
|---|---|---|
| NMTT | 2335 | Nuclear Medicine Technology Seminar............................. 3 |
| NMTT | 2366 | Practicum VI-Nuclear Medicine Technology .................... 3 |
| | **Semester Total** | **6** |
| | **Program Total** | **48** |

# NURSING

The Associate Degree Nursing Program (ADN) is a two-year (six-semester) program leading to an AAS. The Board of Nurse Examiners for the State of Texas has granted full approval to this program (BNE, 333 Guadalupe, Suite 3-460, Austin, TX 78701, 512-305-7401, www.bne.state.tx.us.) Upon satisfactory completion of all requirements in the degree program, graduates are eligible to apply to take the NCLEX-RN Examination to become a registered nurse.

To be considered for acceptance into the program, applicants must complete the admission process. Advanced placement of Licensed Vocational Nurses by challenge examination may be requested. However, Licensed Vocational Nurses must meet the necessary qualifications required by the ADN Program. Transfer applicants are considered for admission on an individual basis. Day and evening programs are offered at the Coleman College for Health Sciences for August admissions only. Only the day program is offered for January and June admissions.

Requirements for admission consideration are as follows: HESI Student Assessment Test with the following minimum scores: Math 75, Read Comprehension 70, Grammar 75, Anatomy and Physiology 60. (Applicants educated in non-English Speaking countries must complete the TOEFFL exam with a minimum score of 20 in each of the 4 required elements); MINIMUM grade point average (GPA) of 2.0; passing TSI state approved test or proof of exemption and proof of college readiness; (BIOL 2401; ENGL 1301; PSYC 2301; and RNSG 1301 WITH A GRADE OF "C" OR HIGHER) and complete a pharmacology mathematics test with a grade of 90% or higher before June 1 of the year in which the student wishes to be considered for admission into the ADN Program. Note: BIOL 2401, BIOL 2402, BIOL 2420, and PSYC 2314 must have been taken within five years of admission; RNSG 1301 must have been taken within one year of admission. Applicants must be able to meet the "essential functions" set forth by the A.D.N. faculty. All remaining academic courses must be taken prior to, or concurrent with, the nursing curriculumas specified below. Criminal background checks are required prior to final admission into the program. Applicants are encouraged to complete all REQUIRED ACADEMIC courses prior to admission.

A grade of 'C' or higher must be attained in each course to advance in the program of study. All courses must be completed in sequence according to the nursing curriculum. Due to limited space, even though an applicant meets admissions' requirements, the applicant is not automatically assured admission into the ADN Program. The College may refuse admission to an applicant.

Re-admission applicants (those students who have withdrawn from or failed any course with an RNSG prefix) must complete a Re-admission Application and the required RNSG Re-admission continuing education course. Re-admission is considered on an individual basis and is dependent on available class space. The Re-admission Application must be received by the Associate Degree Nursing office by the following dates: Fall Semester, June 1; Spring Semester, October 1; Summer Semester, March 1.

No single course with a RNSG prefix may be repeated more than once. If a student withdraws or fails a second course with a RNSG prefix, he/she is not permitted to continue in the program nor will the student be eligible to apply to the ADN Program again with the exception of the second failure/withdrawal in the final semester of the program. All courses in the nursing curriculum must be completed within four (4) years from the date of a student's registration in the first course with a RNSG prefix. All courses with RNSG prefix require a cumulative score of 75 percent to successfully pass the course.

Persons interested in applying must attend an Information Session held, each month, on the second and fourth Tuesday, at noon, or third Thursday, at 5 p.m. in the Coleman College for Health Sciences Building. For further information, please see the general applications procedures for Health Science programs. The capstone for the Nursing AAS is RNSG 2170 National Council Licensure Preparation. Students enrolled in this nursing theory course are required to complete, at a score specified by program faculty, a standardized EXIT EXAM. A maximum of three attempts are allowed to achieve a passing score. Failure to attain the required score will result in the student not completing the program and not being certified for the NCLEX-RN Exam. Graduates not completing the NCLEX-RN within one year of graduation date from the A.D.N. program will be required to complete remediation and testing as specified by the program.

For additional information, call 713-718-7230 or e-mail mary.clark@hccs.edu.

# NURSING

## AAS

TSI Testing is required prior to first enrollment.

| PRE-ADMISSION | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| BIOL | 2401 | Anatomy and Physiology I* | 4 |
| RNSG | 1301 | Pharmacology** | 3 |
| PSYC | 2301 | Introduction to Psychology | 3 |
| | | **Pre-Admission Total** | **13** |

## FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| RNSG | 1513 | Foundations for Nursing Practice | 5 |
| RNSG | 1360 | Clinical Nursing-Foundations | 3 |
| BIOL | 2402 | Anatomy and Physiology II | 4 |
| PSYC | 2314 | Human Growth and Development: Lifespan | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| RNSG | 1193 | Special Topics in Nursing, Pediatrics | 1 |
| RNSG | 1251 | Care of the Childbearing Family | 2 |
| RNSG | 1261 | Clinical Nursing-Childbearing | 2 |
| RNSG | 2201 | Care of Children and Families | 2 |
| RNSG | 2262 | Clinical Nursing-Children | 2 |
| BIOL | 2420 | Microbiology | 4 |
| | | **Semester Total** | **13** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| XXXX | #3## | Approved Humanities/Fine Arts Elective | 3 |
| RNSG | 2213 | Mental Health Nursing | 2 |
| RNSG | 2263 | Clinical Nursing-Mental Health | 2 |
| | | **Semester Total** | **7** |

## SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| RNSG | 1105 | Nursing Skills I | 1 |
| RNSG | 2221 | Management of Client Care | 2 |
| RNSG | 1441 | Common Concepts of Adult Health | 4 |
| RNSG | 2360 | Clinical Nursing-Adult I | 3 |
| | | **Semester Total** | **10** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| RNSG | 1144 | Nursing Skills II | 1 |
| RNSG | 1443 | Complex Concepts of Adult Health | 4 |
| RNSG | 2361 | Clinical Nursing-Adult II | 3 |
| RNSG | 2170 | National Council Licensure Preparation | 1 |
| | | **Semester Total** | **9** |
| | | **Program Total** | **67** |

* BIOL 1406 is strongly recommended prior to BIOL 2401.

**Must be taken immediately prior to admission.

# LVN TO RN BRIDGE

HCC offers an optional route to the AAS Nursing Degree via the LVN-to-RN bridge program. To apply for the program, students must have graduated from an accredited LVN program and meet all requirements for entry into the AAS Nursing Program including criminal background checks. Students must demonstrate evidence of one of the following: six months recent (within one year) full-time clinical practice or one year recent (within one year) part-time clinical practice, and recently completed a nursing refresher course (within one year). Students must have completed the following basic required academic courses: ENGL 1301, approved Humanities/Fine Arts elective, BIOL 2401, BIOL 2402, BIOL 2420, PSYC 2301, PSYC 2314, and RNSG 1301. Note: BIOL 2401, BIOL 2402, BIOL 2420 and PSYC 2314 must be completed within 5 years of admission. Upon completion of RNSG 1327, RNSG 1163, RNSG 1301, with a grade of 'C' or better, the student will receive 12 SCH hours credit for first-year nursing courses.

The capstone for the Nursing AAS is RNSG 2170, National Council Licensure Preparation. Students enrolled in this nursing theory course are required to complete, at a score specified by program faculty, a standardized EXIT EXAM. A maximum of three attempts are allowed to achieve a passing score. Failure to attain the required score would result in the student not completing the program and not being certified for the NCLEX-RN Exam.

Graduates not completing the NCLEX-RN within one year of graduation date from the A.D.N. program will be required to complete remediation and testing as specified by the program.

Persons interested in applying must attend an Information Session held, each month, on the second and fourth Tuesday, at noon, or third Thursday, at 5 p.m. in the John B. Coleman Health Science Building. For further information, please see the **General Application Procedures** for Health Science programs.

For additional information, call 713-718-7230 or e-mail mary.clark@hccs.edu.

# BRIDGE PROGRAM: LICENSED VOCATIONAL NURSE TO REGISTERED NURSE

## AAS

TSI Testing is required prior to first enrollment.

## FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| BIOL | 2401 | Anatomy and Physiology I* | 4 |
| PSYC | 2301 | Introduction to Psychology | 3 |
| XXXX | #3## | Approved Elective Humanities/Fine Arts | 3 |
| | | **Semester Total** | **13** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| BIOL | 2402 | Anatomy and Physiology II | 4 |
| RNSG | 1301 | Pharmacology** | 3 |
| BIOL | 2420 | Microbiology | 4 |
| PSYC | 2314 | Human Growth and Development: Lifespan | 3 |
| | | **Semester Total** | **14** |

## THIRD SEMESTER           CREDITS

| | | | |
|---|---|---|---|
| RNSG | 2263 | Clinical Nursing - Mental Health | 2 |
| RNSG | 2213 | Mental Health Nursing | 2 |
| RNSG | 1327 | Transition from Vocational Nursing to Professional Nursing | 3 |
| RNSG | 1163 | Clinical Nursing-Transition | 1 |
| | | **Semester Total** | **8** |

## SECOND YEAR

### PREREQUISITE      CREDITS

| | | | |
|---|---|---|---|
| VNSG | 1400 | Nursing in Health and Illness I | 4 |
| VNSG | 1409 | Nursing in Health and Illness II | 4 |
| VNSG | 1423 | Basic Nursing Skills | 4 |
| | | **Semester Total** | **12** |

### FIRST SEMESTER      CREDITS

| | | | |
|---|---|---|---|
| RNSG | 1261 | Clinical Nursing-Childbearing | 2 |
| RNSG | 1251 | Care of the Childbearing Family | 2 |
| RNSG | 1193 | Special Topics in Nursing, Pediatrics | 1 |
| RNSG | 2201 | Care of Children and Families | 2 |
| RNSG | 2221 | Management of Client Care | 2 |
| RNSG | 2262 | Clinical Nursing-Children | 2 |
| | | **Semester Total** | **11** |

### SECOND SEMESTER      CREDITS

| | | | |
|---|---|---|---|
| RNSG | 1144 | Nursing Skills II | 1 |
| RNSG | 1443 | Complex Concepts of Adult Health | 4 |
| RNSG | 2361 | Clinical Nursing-Adult II | 3 |
| RNSG | 2170 | National Council Licensure Preparation | 1 |
| | | **Semester Total** | **9** |
| | | **Program Total** | **67** |

\* BIOL 1406 is strongly recommended prior to BIOL 2401

\*\*Must be taken immediately prior to admission

# OCCUPATIONAL THERAPY ASSISTANT

Occupational Therapy Assistants provide services to individuals whose lives have been disrupted by illness, injury or disease. Included are developmental, aging, industrial, wellness/prevention and emerging areas. Occupational Therapy Assistants use media/modalities and adaptive technologies to assist individuals in reaching their highest functional levels and occupational roles for community integration.

The full-time, 12:2 month program leads to certification eligibility as an assistant in Occupational Therapy settings. This program is accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA), located at 4720 Montgomery Lane, P.O. Box 31220, Bethesda, MD, 20824-1220, 301-652-AOTA. Graduates of the program are eligible to sit for the national certification examination for the Occupational Therapy Assistant administered by the National Board for Certification in Occupational Therapy (NBCOT). After successful completion of this examination, the graduate is a Certified Occupational Therapy Assistant (COTA). Most states (including Texas) require a license to practice. Licenses in Texas are issued by the Texas Board of Occupational Therapy Examiners, Austin, TX., based on the results of the NBCOT's certification examination.

Applicants must meet the minimum requirements for admission to Health Sciences. These requirements include: passing all required TSI state approved tests, completion of required developmental courses, and completion of application packet submitted by the application deadline. There is a required program assessment process to complete.

If accepted into the program, students must submit the following requirements: CPR certificate, physical examination and liability insurance fee payment for the year, enrollment/attendance in classes daily between 7:30 am-9:00 pm, maintain a 'C' average in all OTHA academic courses, and a 'B' average in all skills and clinical Level I and II courses. Clinical II internships must be completed within 18 months following completion of all other OTHA courses.

Individuals interested in applying should contact a counselor at the Coleman College of Health Sciences. For further information, please see the **General Application Procedures** for Health Science programs.

The capstone for the Occupational Therapy Assistant AAS and for the Occupational Therapy Assistant Certificate is OTHA 2360, Clinical-Advanced and OTHA 2361, Clinical-Advanced.

For additional information, please call 713-718-7392 or e-mail linda.williams@hccs.edu.

# OCCUPATIONAL THERAPY ASSISTANT

The optional second-year course work can be taken before or after the first-year course work. The AAS is awarded upon completion of the two-year curriculum.

After completion of course work listed in the first-year section, the student will receive a certificate from the College and is eligible to take the certification examination of the National Board for Certification in Occupational Therapy.

## CERTIFICATE

### PREREQUISITE      CREDITS

| | | | |
|---|---|---|---|
| OTHA | 1301 | Introduction to Occupational Therapy | 3 |
| | | **Prerequisite Total** | **3** |

### FIRST SEMESTER      CREDITS

| | | | |
|---|---|---|---|
| OTHA | 1305 | Principles of Occupational Therapy | 3 |
| OTHA | 1309 | Human Structure and Function in Occupational Therapy | 3 |
| OTHA | 1311 | Occupational Performance throughout the Lifespan | 3 |
| OTHA | 1315 | Therapeutic Use of Occupations or Activities I | 3 |
| OTHA | 1319 | Therapeutic Interventions I | 3 |
| | | **Semester Total** | **15** |

### SECOND SEMESTER      CREDITS

| | | | |
|---|---|---|---|
| OTHA | 2301 | Pathophysiology in Occupational Therapy | 3 |
| OTHA | 2311 | Abnormal Psychology in Occupational Therapy | 3 |
| OTHA | 2331 | Physical Function in Occupational Therapy | 3 |
| OTHA | 2309 | Mental Health in Occupational Therapy | 3 |
| OTHA | 2302 | Therapeutic Use of Occupations or Activities II | 3 |
| OTHA | 2305 | Therapeutic Interventions II | 3 |
| OTHA | 2160 | Clinical - Intermediate | 1 |
| OTHA | 2161 | Clinical - Intermediate | 1 |
| | | **Semester Total** | **20** |

### THIRD SEMESTER      CREDITS

| | | | |
|---|---|---|---|
| OTHA | 2360 | Clinical - Advanced | 3 |
| OTHA | 2361 | Clinical - Advanced | 3 |
| OTHA | 2330 | Workplace Skills for Occupational Therapy Assistant | 3 |
| | | **Semester Total** | **9** |
| | | **Program Total** | **47** |

# OCCUPATIONAL THERAPY ASSISTANT

The Associate in Applied Science degree as an Occupational Therapy Assistant is NOT accredited by the Accreditation Council for Occupational Therapy Education (ACOTE) of the American Occupational Therapy Association (AOTA). This degree is only recognized by the Texas Higher Education Coordinating Board.

## AAS

ASSET Testing is required prior to first enrollment.

### FIRST YEAR

| PREREQUISITE | | | CREDITS |
|---|---|---|---|
| OTHA | 1301 | Introduction to Occupational Therapy | 3 |
| | | **Prerequisite Total** | **3** |

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| OTHA | 1305 | Principles of Occupational Therapy | 3 |
| OTHA | 1309 | Human Structure and Function in Occupational Therapy | 3 |
| OTHA | 1311 | Occupational Performance throughout the Lifespan | 3 |
| OTHA | 1315 | Therapeutic Use of Occupations or Activities I | 3 |
| OTHA | 1319 | Therapeutic Interventions I | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| OTHA | 2301 | Pathophysiology in Occupational Therapy | 3 |
| OTHA | 2311 | Abnormal Psychology in Occupational Therapy | 3 |
| OTHA | 2331 | Physical Function in Occupational Therapy | 3 |
| OTHA | 2309 | Mental Health in Occupational Therapy | 3 |
| OTHA | 2302 | Therapeutic Use of Occupations or Activities II | 3 |
| OTHA | 2305 | Therapeutic Interventions II | 3 |
| OTHA | 2160 | Clinical - Intermediate | 1 |
| OTHA | 2161 | Clinical - Intermediate | 1 |
| | | **Semester Total** | **20** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| OTHA | 2330 | Workplace Skills for Occupational Therapy Assistant | 3 |
| OTHA | 2360 | Clinical - Advanced | 3 |
| OTHA | 2361 | Clinical - Advanced | 3 |
| | | **Semester Total** | **9** |

### SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| PSYC | 2301 | Introduction to Psychology | 3 |
| GOVT | 2301 | American Government: National, State and Local I | 3 |
| XXXX | #3## | Math/Natural Science General Education Elective | 3 |
| | | **Semester Total** | **12** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| ARTS | 1311 | Design I | 3 |
| ANTH | 2351 | Cultural Anthropology | 3 |
| ENGL | 2311 | Technical and Industrial Correspondence and Report Writing | 3 |
| HIST | 1302 | US History after 1877 | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **71** |

# PHARMACY TECHNICIAN

The Pharmacy Technician Program is designed to prepare students for employment in most pharmacy settings, ranging from community and hospital pharmacy to home health pharmacy. Specific training includes the following: pharmaceutical calculations, state and federal laws, IV admixture, prepackaging, inventory control, pharmacy terminology, pharmacology, computer applications, and the practice of pharmacy.

The six month, full-time program is divided into two semesters. Courses have both theory and competency-based educational components. Students must maintain a 'C' average in all PHRA courses and meet all prerequisites to continue in the program.

Health facility clinical experience is provided through affiliations with area hospitals and pharmacies. Students who participate in clinical practicum will be required to pay a liability insurance fee, which protects the student against losses resulting from malpractice claims. The insurance is available through the College on a blanket coverage program at a reduced rate. In addition to liability insurance, the students must have a recent physical examination with current immunizations and drug screen prior to enrolling into the clinical practicum. The student must have completed all first semester courses with a minimum grade of 'C' or better prior to enrollment into the clinical practicum component.

A certificate of completion is awarded to the graduate. The Program is accredited by the American Society of Health-System Pharmacists (ASHP), 7272 Wisconsin Avenue, Bethesda, MD 20814, 301-657-3000.

Applicants must meet the minimum requirements for admission to certificate programs in Health Sciences. These requirements include: minimum scores on an assessment test such as the ASSET or CELSA examination, completion of any required developmental courses, personal interview, and successful completion and submission of the application packet by the application deadline.

Individuals interested in applying should attend an information session at the Coleman College for Health Sciences. For further information, please see the **General Application Procedures** for Health Science programs.

The capstone for the Pharmacy Technician Certificate is PHRA 2662, Clinical-Pharmacy Technician.

For additional information, please call 713-718-7356 or e-mail janet.pena@hccs.edu.

## PHARMACY TECHNICIAN

### CERTIFICATE

| PREREQUISITE | | | CREDITS |
|---|---|---|---|
| HPRS | 1201 | Introduction to Health Professions | 2 |
| | | **Prerequisite Total** | **2** |

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| PHRA | 1309 | Pharmaceutical Mathematics I | 3 |
| PHRA | 1313 | Community Pharmacy Practice | 3 |
| PHRA | 1345 | Intravenous Admixture and Sterile Compounding | 3 |
| PHRA | 1449 | Institutional Pharmacy Practice | 4 |
| PHRA | 1541 | Pharmacy Drug Therapy and Treatment | 5 |
| | | **Semester Total** | **18** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| PHRA | 2662 | Clinical - Pharmacy Technician/Assistant | 6 |
| | | **Semester Total** | **6** |
| | | **Program Total** | **26** |

# PHYSICAL THERAPIST ASSISTANT

The Physical Therapist Assistant Program leading to an AAS degree encompasses a two-year, five-semester course of study requiring a total of 70 semester hours of credit. New classes begin in the fall of each year.

The program is designed to prepare skilled technical health workers to perform various treatment procedures delegated by the physical therapist. The treatment procedures include modalities (i.e., ultrasound, whirlpool, and massage), rehabilitation techniques, and therapeutic exercises. Graduates are employed in acute care hospitals, rehabilitation centers, outpatient clinics, school systems, and home health agencies.

A grade of 'C' must be earned in every course listed in the curriculum in order to graduate. If a student earns a grade below a 'C' in any course with a PTHA prefix, he/she will be withdrawn from the program. Program courses have both theory and competency-based educational components. Students must attain a 75 percent average or better in all PTHA courses and have a 2.0 GPA or more to be eligible for graduation.

Applicants must meet the minimum requirements for admission to Health Science Programs which include: successful completion of all requirements (TSI state approved tests or all developmental courses needed to reach college-level English, biology, psychology, and intermediate algebra, and completion of the application packet by the application deadline). Students who are accepted into the program will be required to pay a liability insurance fee, which protects the student against losses resulting from malpractice claims. Students accepted into the program must successfully pass a drug screen and background check prior to the start of classes. Students must have documentation of Hepatitis B, MMR, and chickenpox vaccinations prior to the start of classes. It takes approximately 6 months to administer Hepatitis B vaccinations.

Graduates are eligible to take the licensure examination under the direction of the Texas State Board of Physical Therapy Examiners. The program is accredited by the Commission on Accreditation in Physical Therapy Education of the American Physical Therapy Association (APTA), 1111 N. Fairfax Street, Alexandria, VA 22314-9991, 1-800-999-2782. Some of the Physical Therapist Assistant AAS courses are approved as Tech Prep.

Persons interested in applying should contact a counselor at the Health Science Center and contact the PTA program secretary at 713-718-7391 for a schedule of program information sessions. For further written information, please see the **General Application Procedures** for Health Science programs.

The capstone for the Physical Therapist Assistant AAS is PTHA 2239, Professional Issues.

For additional information, call 713-718-7391.

## PHYSICAL THERAPIST ASSISTANT

### AAS

TSI Testing is required prior to first enrollment.

*This block of courses must be completed prior to admission to the program.*

| PRE-ADMISSION | | | CREDITS |
|---|---|---|---|
| BIOL | 2401 | Anatomy and Physiology I** | 4 |
| ENGL | 1301 | Composition I | 3 |
| PSYC | 2301 | Introduction to Psychology | 3 |
| | | **Pre-Admission Total** | **10** |

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| BIOL | 2402 | Anatomy and Physiology II* | 4 |
| HPRS | 1106 | Medical Terminology | 1 |
| PTHA | 1305 | Basic Patient Care Skills | 3 |
| PTHA | 1413 | Functional Anatomy | 4 |
| PTHA | 1229 | Applied Physical Principles | 2 |
| PTHA | 1201 | The Profession of Physical Therapy | 2 |
| | | **Semester Total** | **16** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| HPRS | 2332 | Health Care Communications | 3 |
| PTHA | 1321 | Pathophysiology | 3 |
| PTHA | 1431 | Physical Agents | 4 |
| PTHA | 2301 | Essentials of Data Collection | 3 |
| PSYC | 2314 | Human Growth and Development: Lifespan* | 3 |
| | | **Semester Total** | **16** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| PTHA | 2205 | Neurology | 2 |
| PTHA | 2509 | Therapeutic Exercise | 5 |
| XXXX | #3## | Approved Humanities/Fine Arts Elective* | 3 |
| | | **Semester Total** | **10** |

### SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| PTHA | 1266 | Practicum I | 2 |
| PTHA | 2435 | Rehabilitation Techniques | 4 |
| PTHA | 2431 | Management of Neurological Disorders | 4 |
| | | **Semester Total** | **10** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| PTHA | 1267 | Practicum II | 2 |
| PTHA | 2266 | Practicum III | 2 |
| PTHA | 2250 | Current Concepts in Physical Therapy | 2 |
| PTHA | 2239 | Professional Issues | 2 |
| | | **Semester Total** | **8** |
| | | **Program Total** | **70** |

*May be taken prior to admission.

**BIOL 1406 is strongly recommended prior to BIOL 2401 (taken within five years or department approval).

# RADIOGRAPHY

The Radiography Program is a two-year program leading to an AAS degree. The program has been accredited by the Joint Review Committee on Education in Radiologic Technology (JRCERT), 20 N. Wacker Drive, Suite 2850, Chicago, IL 60606, 312-704-5300. Graduates are eligible to apply for the American Registry of Radiologic Technologists (ARRT), 1255 Northland Dr., St. Paul, MN 55120-1155 Certification Examination and obtain a license from the Texas Department of State Health Services.

Radiography is the application of knowledge using a variety of imaging methods in the examination of the body for structural defects and disease processes. Courses have both theory and competency-based educational components. Students must maintain a 'C' average and meet all prerequisites to continue in the program. A student may not earn a grade below a 'C' in the RADR courses and continue in the program. The grading scale used by the Radiography program is: 90-100 = A; 80-89 = B; 75-79 = C; and any grade below 75 is considered failing. In addition, each semester is a prerequisite for the following semesters.

Applicants must meet the minimum requirements for admission to Associate Degree Health Science Programs. These requirements include: successful completion of all TSI state approved tests or all developmental courses needed to reach college level English, algebra, and psychology; and completion of the application packet by the application deadline.

It is the policy for all Health Science programs that each student accepted to enroll in a specific program provides a physical examination report completed by a physician with documentation of required immunization.

Students accepted into the program must successfully pass a drug screen and background check prior to the start of classes. Hepatitis B vaccinations must be completed prior to the start of the first semester. It takes 6 months to administer Hepatitis B vaccinations.

Students who are accepted into the program will be required to pay a liability insurance fee, which protects the student against losses resulting from malpractice claims. Students must also pay a radiation monitoring badge fee each semester. The radiation monitoring badge is required in all clinical education courses.

Individuals interested in applying must attend an information session held once a month at the Coleman College for Health Sciences. For further information, please see the **General Application Procedures** for Health Science programs.

The curriculum is being revised and pre-admissions requirements will change for summer 2008 admits. Attend information sessions for updates.

The capstone for Radiography AAS is RADR 2367, Radiographic Practicum and RADR 2335, Radiologic Technology Seminar.

For additional information, call 713-718-7650 or e-mail lynne.davis@hccs.edu.

## RADIOGRAPHY

### AAS

TSI Testing is required prior to first enrollment.

| PREREQUISITE | | | CREDITS |
|---|---|---|---|
| MATH | 1314 | College Algebra | 3 |
| ENGL | 1301 | Composition I | 3 |
| BIOL | 2401 | Anatomy and Physiology I | 4 |
| RADR | 1201 | Introduction to Radiography | 2 |
| HPRS | 1106 | Essentials of Medical Terminology | 1 |
| | | **Prerequisite Total** | **13** |

## FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| RADR | 1303 | Patient Care | 3 |
| RADR | 1411 | Basic Radiographic Procedures | 4 |
| RADR | 1160 | Clinical-Radiologic Technology/Science-Radiographer | 1 |
| | | **Semester Total** | **8** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| RADR | 1313 | Principals of Radiographic Imaging I | 3 |
| RADR | 2401 | Intermediate Radiographic Procedures | 4 |
| RADR | 1266 | Practicum Radiologic Technology/Science-Radiographer | 2 |
| SPCH | 1311 | Fundamentals of Speech | 3 |
| | | **Semester Total** | **12** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| RADR | 2305 | Principles of Radiographic Imaging II | 3 |
| RADR | 2331 | Advanced Radiographic Procedures | 3 |
| RADR | 1267 | Practicum Radiologic Technology/Science-Radiographer | 2 |
| PSYC | 2301 | Intro to Psychology OR | |
| SOCI | 1301 | Intro to Sociology | 3 |
| | | **Semester Total** | **11** |

## SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| RADR | 2233 | Advanced Medical Imaging | 2 |
| RADR | 2360 | Clinical-Radiologic Technology/Science-Radiographer | 3 |
| RADR | 2217 | Radiographic Pathology | 2 |
| RADR | 2309 | Radiographic Imaging Equipment | 3 |
| | | **Semester Total** | **10** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| RADR | 2213 | Radiation Biology and Protection | 2 |
| RADR | 2366 | Practicum Radiologic Technology/Science-Radiographer | 3 |
| RADR | 2340 | Sectional Anatomy for Medical Imaging | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts Elective | 3 |
| | | **Semester Total** | **11** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| RADR | 2335 | Radiologic Technology Seminar | 3 |
| RADR | 2367 | Practicum Radiologic Technology/Science-Radiographer | 3 |
| | | **Semester Total** | **6** |
| | | **Program Total** | **71** |

## COMPUTED TOMOGRAPHY

Computed Tomography is a specialized x-ray imaging technique that creates the image by using an array of individual small x-ray sensors and a computer. By moving the x-ray source and the sensor/detectors around the patient, data is collected from multiple angles. A computer then processes this information to create an image on the monitor.

The Computed Tomography program is a one-semester evening program leading to an Enhanced Skills Certificate. Courses have both theory and a competency-based clinical component. All CT courses must be enrolled in concurrently. Students who are accepted into the program will be required to pay a liability insurance fee, which protects the student against losses resulting from malpractice claims. Students must also pay a radiation monitoring badge fee. The badge is required in all clinical education courses. Students must pass a drug screen and background check, and the student pays these fees. Hepatitis B vaccinations must be complete, and students must pass a physical exam conducted by a licensed physician with documentation of required immunizations.

All classes are held at the Coleman College for Health Sciences and the clinical experience is gained in our array of clinical affiliates in the medical center and across the Houston area.

Eligibility requirements for this Enhanced Skills Certificate include graduating from an approved Joint Review Committee accredited program with an AAS or above in one of the Radiologic Sciences (Radiography, Radiation Therapy, Nuclear Medicine).

Persons interested in applying should first go to the HCC online registration at hccs.edu and apply to Houston Community College. Second, fill out a Computed Tomography Program application which can be obtained online by accessing the hccs.edu website and under the "For Students" link, clicking on Instructional Programs, Workforce Programs, Health Sciences, and then the Computed Tomography side of the Radiography/Computed Tomography link. The program starts each fall and spring and 16 students will be accepted to each class. Application deadline is June 1 for fall admission and October 1 for spring admission.

The capstone for Computed Tomography Enhanced Skills Certificate is CTMT 2461 Clinical - Radiologic Technology/Science - Radiographer.

For further information, contact lynne.davis@hccs.edu or roger.bumgardner@hccs.edu.

## ENHANCED SKILLS CERTIFICATE

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| RADR | 2340 | Sectional Anatomy for Medical Imaging | 3 |
| CTMT | 2336 | Computed Tomography Equipment and Methodology | 3 |
| CTMT | 2460 | Clinical-Radiologic Technology/Science-Radiographer | 4 |
| CTMT | 2461 | Clinical-Radiologic Technology/Science-Radiographer | 4 |
| | | **Semester Total** | **14** |
| | | **Program Total** | **14** |

# RESPIRATORY THERAPIST

The two-year Respiratory Therapist (RSPT) Program is designed to prepare individuals for the entry-level certification (CRT) and advanced-level registry (RRT) board exams administered by the National Board for Respiratory Care (NBRC), 8310 Nieman Road, Lenexa, KS 66214, 913-599-4200. The program is fully accredited by the Committee on Accreditation for Respiratory Care (COARC), 1248 Harwood Road, Bedford, TX 76021-4244, 800-874-5615, and the Commission on Accreditation of Allied Health Educational Programs (CAAHEP), 1361 Park St. Clearwater, FL. 33756-6039, (727) 210-2350, FAX (727) 210-2354, www.caahep.org.

Program graduates are awarded the AAS, which enables them to qualify for the NBRC certification (CRT) examination. Graduates successfully passing the NBRC's entry-level CRT exam may then be eligible to sit for the NBRC's registry (RRT) advanced-level written and clinical simulation exams.

The RSPT Program's curriculum is designed to orient students to entry-and advanced-level respiratory care as it relates to the treatment, management, control, diagnostic evaluation, and prevention of cardiopulmonary abnormalities. Courses reflect the Entry/Advanced Practitioner Certification/Registry content as summarized in the NBRC's composite examination matrices. Advanced-standing credit may be awarded for relevant education and/or experience. Once certified and registered, the RSPT graduate may expect to be placed into such critical care leadership positions as clinical specialist, department supervisor, ICU therapist, director of education, or department head of respiratory care in a hospital, clinic, educational facility, skilled nursing facility, or home care agency.

Students who are accepted into the RSPT Program will be required to pay a liability insurance fee, which protects students against losses resulting from malpractice claims. All classes, with the exception of clinical practicums, are held at the Coleman College for Health Sciences, 1900 Pressler. Clinical assignments are made in more than one hospital and all students are expected to rotate through each clinical affiliate. Transportation between locations is the responsibility of the student.

Eligibility requirements include: passing all TSI state approved tests and all developmental courses needed for college level English, algebra, biology, and psychology, or have a transcript(s) with credits in college level math, reading and English. A completed application must be submitted prior to the application deadline. Persons interested in applying should contact a counselor at the Coleman College for Health Sciences.

Students accepted into the program must successfully pass a drug screen and background check prior to the start of classes. Hepatitis B vaccinations must be completed prior to the start of the first semester. It takes 6 months to administer Hepatitis B vaccinations.

The capstone for the Respiratory Therapist AAS is RSPT 2231, Simulations in Respiratory Care.

For more information, call 713-718-7382 or e-mail donna.westmoreland@hccs.edu.

# RESPIRATORY THERAPIST

## AAS

TSI Testing is required prior to first enrollment.

The following courses must be completed prior to admission to the program.

| PREREQUISITES | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| MATH | 1314 | College Algebra | 3 |
| | | **Prerequisite Total** | **6** |

## FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| RSPT | 2258 | Respiratory Care Patient Assessment | 2 |
| RSPT | 1310 | Respiratory Care Procedures I | 3 |
| RSPT | 1361 | Clinical-Respiratory Care Therapy/Therapist | 3 |
| RSPT | 1307 | Cardiopulmonary Anatomy and Physiology | 3 |
| SPCH | 1311 | Fundamentals of Speech | 3 |
| | | **Semester Total** | **14** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| RSPT | 1311 | Respiratory Care Procedures II | 3 |
| RSPT | 1362 | Clinical- Respiratory Care Therapy/Therapist | 3 |
| RSPT | 1325 | Respiratory Care Sciences | 3 |
| RSPT | 2317 | Respiratory Care Pharmacology | 3 |
| | | **Semester Total** | **12** |

| THIRD SEMESTER (SUMMER) | | | CREDITS |
|---|---|---|---|
| RSPT | 1240 | Advanced Cardiopulmonary Anatomy and Physiology | 2 |
| RSPT | 2166 | Practicum - Respiratory Care Therapy/Therapist | 1 |
| RSPT | 2314 | Mechanical Ventilation | 3 |
| | | **Semester Total** | **6** |

## SECOND YEAR

## SURGICAL TECHNOLOGY

The one-year Surgical Technology Program is designed for individuals interested in caring for the surgical patient. Upon completion of the program, graduates may gain employment as the primary scrub person who handles the instruments, supplies, and equipment during all types of surgical procedures. Portions of this program meet the needs of the registered nurse who is seeking employment in a surgically affiliated field. Upon completion of the course, the graduate receives a certificate of completion and is eligible to take the national certification examination to become a Certified Surgical Technologist.

Applicants must meet the minimum requirements for admission to certificate programs in Health Sciences. These requirements include: minimum scores on the ASSET/CELSA examination, successful completion of any required developmental courses, and completion and submission of the application packet by the application deadline.

Students accepted into the program will be required to pay a liability insurance fee which protects the student in the event of a liability lawsuit. Prior to entering the clinical area, students must provide a completed physical examination form including current immunizations and completion of Hepatitis-B series. Health Science students are also required to have a background check and a drug screening prior to clinical training.

The Surgical Technology Program was developed and is maintained according to the essentials and guidelines of an accredited program established by the Commission on Accreditation of Allied Health Education Programs (CAAHEP), 1361 Park St. Clearwater, FL. 33756-6039, (727) 210-2350, FAX (727) 210-2354, www.caahep.org.

Individuals interested in applying should contact a counselor at the Coleman College for Health Sciences. For further information, please see the **General Application Procedures** for Health Science programs.

The capstone for the Surgical Technology Certificate is SRGT 2463, Clinical-Surgical/Operating Room III.

For additional information call 713-718-7362 or e-mail christine.castillo@hccs.edu.

## SURGICAL TECHNOLOGY

### CERTIFICATE

## ACCELERATED ALTERNATE DELIVERY (AAD)

The Accelerated Alternate Delivery (AAD) is a ten-credit-hour program for Surgical Technology education designed to make available to the on-the-job trained surgical technologist or graduate from a non-CAAHEP accredited programs an accelerated route in which to be come eligible to sit for the national certification exam for surgical technology. To qualify for the program, perspective applicants must have completed training for surgical technology before March 1, 2000.

### MSA

(Marketable Skills Achievement Award)

## VOCATIONAL NURSING

The Vocational Nursing curriculum prepares the graduate to perform specific nursing duties under the direction of physicians, dentists and registered nurses. Responsibilities include direct patient care in acute-care settings, community health agencies, nursing homes, and other health care institutions. Graduates of the program are eligible to apply to take the NCLEX-PN Examination to become Licensed Vocational Nurses (LVN). The Board of Nurse Examiners for the State of Texas has granted full approval status to this program (BNE, 333 Guadalupe, Suite 3-460, Austin, Texas 78701, (512)-305-7400).

The one-year, full-time program is divided into three semesters. Classes begin in fall and spring semesters. Applicants must complete the admissions criteria in order to be accepted into the program. The applicant must submit the following documents to the admissions office:

1. Health Science Program Application.

2. Official high school transcript or GED scores. Foreign transcripts (high school and college) must be evaluated by an approved evaluation service. Cumulative high school GPA or college GPA of 2.5 or higher, if applicable.

3. Nurse Entrance Test (NET) minimum reading score of 60% and minimum math score of 70%. NET must be taken within the past 3 years.

Completion and submission of the above does not guarantee acceptance into the program. Due to the competitiveness of the program and popular demand, a selection process has been implemented that consists of test results, personal interview, healthcare experience or observation/interview. Students are rated based on the above criteria. Students are required to attend a program information session to learn more about the program and selection process.

A grade of 'C' or higher must be maintained in each course to advance in the program of study. All courses must be completed in sequence according to the nursing curriculum. Re-entry applicants (those students who have withdrawn from or failed any course) must complete a Re-admission application prior to the student re-entering the program. One time re-admission will be considered based on previous performance, available space, attendance, recommendation of readmission committee, interview and successful course completion as recommended during the "EXIT INTERVIEW." If a student fails or withdraws a second time, the student is not permitted to continue in the program. All courses in the nursing curriculum must be completed one year from the date of a student's registration.

Individuals interested in applying should contact a counselor at the Coleman College for Health Sciences and attend an information session held every 2nd and 4th Wednesday of each month except holidays.

Students accepted into the program must successfully pass a drug screen and background check prior to the start of classes. Hepatitis B vaccinations must be completed prior to the start of the first semester. It takes 6 months to administer Hepatitis B vaccinations.

The capstone for the Vocational Nursing Certificate is VNSG 1267, Practicum-Practical Nurse II.

For additional information, call 713-718-7330.

# VOCATIONAL NURSING

## CERTIFICATE

| PREREQUISITES | | CREDITS |
|---|---|---|
| VNSG 1216 | Nutrition | 2 |
| VNSG 1320 | Anatomy and Physiology for Allied Health | 3 |
| | **Prerequisite Total** | **5** |

| FIRST SEMESTER | | CREDITS |
|---|---|---|
| VNSG 1400 | Nursing in Health and Illness I | 4 |
| VNSG 1122 | Vocational Nursing Concepts | 1 |
| VNSG 1227 | Essentials of Medication Administration | 2 |
| VNSG 1423 | Basic Nursing Skills | 4 |
| VNSG 1161 | Clinical-Practical Nursing I | 1 |
| | **Semester Total** | **12** |

| SECOND SEMESTER | | CREDITS |
|---|---|---|
| VNSG 1330 | Maternal to Neonatal Nursing | 3 |
| VNSG 1162 | Clinical-Practical Nursing II | 1 |
| VNSG 1266 | Practicum - Practical Nurse I | 2 |
| VNSG 1409 | Nursing in Health and Illness II | 4 |
| VNSG 2331 | Advanced Nursing Skills | 3 |
| VNSG 1238 | Mental Illness | 2 |
| | **Semester Total** | **15** |

| THIRD SEMESTER | | CREDITS |
|---|---|---|
| VNSG 1219 | Leadership and Professional Development | 2 |
| VNSG 1163 | Clinical-Practical Nursing III | 1 |
| VNSG 1334 | Pediatrics | 3 |
| VNSG 1410 | Nursing in Health and Illness III | 4 |
| VNSG 1267 | Practicum - Practical Nurse II | 2 |
| | **Semester Total** | **12** |
| | **Program Total** | **44** |

# HEALTH SCIENCES
## CONTINUING EDUCATION

### TEST REVIEWS
These courses cover theory and skills necessary to meet national and state requirements for various certifications and exams.

LCDC Oral Examination Preparation (DAAC 1091)

LCDC Written Examination Preparation (DAAC 1091)

NCLEX-RN Review (RNSG 1091)

### NUTRITION
These courses meet the standards and procedures established by the Texas Department of Health for the accreditation of education and training programs for re-certification of persons employed in the food service industry.

Food Protection Management Certification (DITA 1010)

Food Protection Management Re-Certification (DITA 1091)

### EMERGENCY MEDICAL SERVICES
These courses cover theory and skills necessary to meet national and state requirements for various certifications.

EMSP Re-Certification (EMSP 1004)

CPR Basic Life Support (EMSP 1019)

Advanced Cardiac Life Support (EMSP 2035)

Paramedic Refresher (EMSP 2042)

Paramedic Continuing Education (EMSP 2054)

CPR Instructor (EMSP 2056)

### BEGINNING MEDICAL TERMINOLOGY
This course provides instruction in the practical application of a medical vocabulary system. (POFM 1013)

### COUNSELING THEORIES
This course is an introduction to major theories of treatment modalities, including reality therapy, psycho-dynamic, grief therapy, client-centered therapy, rational-emotive therapy, cognitive-behavioral approaches, such as life skills training, behavior modification, and the introduction to experiential therapies as they relate to detoxification, residential, outpatient and extended treatment. (DAAC 1011)

### CRITICAL THINKING FOR NURSING AND RELATED FIELDS
This course is a reference of basic ethical and/or legal concepts and their relationship to professional practice for nurses and other health care workers. Included are critical thinking strategies for attaining career goals and establishing personal value systems. (RNSG 1091)

### DENTAL INTER-ORAL TECHNIQUES
This is a short-term training course in preparation for clinical dental radiology. (DNTA 1008)

### HIV INFECTIONS AND AIDS UPDATE
This course presents an update on infection with HIV and treatment implications. (RNSG 1091)

### MASSAGE THERAPY
This short-term program provides training for eligibility for the Texas Department of Health Massage Therapy examination. (MSSG 1001, MSSG 1003, MSSG 1005, MSSG 1007, MSSG 1009, MSSG 1011, MSSG 2086)

### MEDICATION AIDE REFRESHER
This course will provide fulfillment of the annual education renewal requirements for the Certified Medication Aide. The Texas Department of Health approves this course for certified medication aides' seven hours mandatory yearly review. (NURA 1041)

### NURSE AIDE
This short-term training provides preparation for entry level nursing assistants to achieve a level of knowledge, skills, and abilities essential to provide basic care to residents of long-term care facilities. (NURA 1001, NURA 1060)

### PHLEBOTOMY
This short-term training course provides theoretical and practical aspects of specimen collections for clinical laboratories. Topics include professionalism, ethics, medical terminology, related anatomy, physiology, and utilization of laboratory equipment. OSHA guidelines, safety, and quality control are included. (MLAB 1091, MLAB 1005)

### PSYCHIATRIC/MENTAL HEALTH NURSING UPDATE
This course presents an update on current practices in mental health nursing with focus on the shift towards more medical aspects of psychiatry and the continued shift of psychiatric nursing from the acute care setting to the community setting. (RNSG 1091)

Please see Continuing Education section for additional Health Sciences course offerings.

# Hospitality and Tourism

**Culinary Arts**
**Hotel / Restaurant Management**
**Travel & Tourism**
**(See Academic Degrees and Certificates 33-47)**

## Hospitality and Tourism

A Career Cluster is a grouping of occupations and broad industries based on commonalities. The Hospitality and Tourism career cluster is concerned with providing knowledge and skills related to the management, marketing and operations of restaurants and other foodservices, lodging, attractions, recreation events and travel related services. This would include careers related to Attractions, Event Planning, Lodging, Restaurant, Hospitality, Culinary Arts, Travel and Tourism.

Every HCC Workforce Educational program contains a "capstone," an experience for the student to "put it all together." The capstone might consist of an external learning experience (e.g., co-op, clinical, etc.), a course especially designed to help students synthesize knowledge and skills, or a licenser exam as appropriate.

## CULINARY ARTS

Specialized classroom and practical laboratory work experiences in the preparation and cooking of a variety of foods are included in the Culinary Arts Program. Emphasis is placed on the use and care of commercial equipment used in food preparation, sanitation in food handling, cooking and baking methods, preparation of special dishes, food standards, aspects of nutrition, and gourmet cooking.

Since this program is designed to prepare the graduate for a specific profession, certain items that are compiled in a cook/chef tools and materials list are expected to be purchased by the student in order to perform routine class and laboratory assignments.

The capstone for the Culinary Arts AAS and Certificate is CHEF 1364, Practicum, or CHEF 1381, Cooperative Education. The capstone for the Pastry and Baking AAS and Certificate is PSTR 1364, Practicum, or PSTR 1381, Cooperative Education or PSTR 2307 Cake Decorating II.

For more information, contact the Culinary Arts Department at 713-718-6069 or 713-718-6072 or e-mail ezat.moradi@hccs.edu.

## CULINARY ARTS

### AAS

TSI Testing is required prior to first enrollment.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| CHEF | 1313 | Food Service Operation/Systems | 3 |
| CHEF | 1301 | Basic Food Preparation | 3 |
| CHEF | 2201 | Intermediate Food Preparation | 2 |
| CHEF | 2231 | Advanced Food Preparation | 2 |
| CHEF | 1305 | Sanitation and Safety | 3 |
| RSTO | 1325 | Purchasing for Hospitality Operations | 3 |
| | | **Semester Total** | **16** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| XXXX | #3## | Math/Natural Science General Education Elective OR | |
| MATH | 1314 | College Algebra | 3 |
| CHEF | 1314 | A' La Carte Cooking | 3 |
| CHEF | 2302 | Saucier | 3 |
| RSTO | 2301 | Principles of Food and Beverage Control | 3 |
| | | **Semester Total** | **12** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| CHEF | 1345 | International Cuisine | 3 |
| CHEF | 1310 | Garde Manger | 3 |
| CHEF | 1341 | American Regional Cuisine | 3 |
| | | **Semester Total** | **9** |

### SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| CHEF | 2336 | Charcuterie | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts Elective | 3 |
| PSTR | 1340 | Plated Desserts | 3 |
| HAMG | 1324 | Hospitality Human Resources Management | 3 |
| | | **Semester Total** | **12** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| SPCH | #3## | Speech Elective | 3 |
| XXXX | #3## | General Education Elective | 3 |
| CHEF | 1302 | Principles of Healthy Cuisine | 3 |
| XXXX | #3## | Social Sciences General Education Elective | 3 |
| CHEF | 1364 | Practicum (or Field Experience) - CulinaryArts/Chef Training OR | |
| CHEF | 1381 | Cooperative Education - Culinary Arts/Chef Training | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **64** |

## CULINARY ARTS

### CERTIFICATE

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| CHEF | 1313 | Food Service Operation/Systems | 3 |
| CHEF | 1301 | Basic Food Preparation | 3 |
| CHEF | 2201 | Intermediate Food Preparation | 2 |
| CHEF | 2231 | Advanced Food Preparation | 2 |
| CHEF | 1305 | Sanitation and Safety | 3 |
| RSTO | 1325 | Hospitality Purchasing Management | 3 |
| | | **Semester Total** | **16** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| CHEF | 1314 | A' La Carte Cooking | 3 |
| CHEF | 2302 | Saucier | 3 |
| CHEF | 1310 | Garde Manger | 3 |
| RSTO | 2301 | Principles of Food and Beverage Control | 3 |
| XXXX | #3## | Department Approved Elective | 3 |
| | | **Semester Total** | **15** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| CHEF | 1364 | Practicum (or Field Experience) - CulinaryArts/Chef Training OR | |
| CHEF | 1381 | Cooperative Education - Culinary Arts/Chef Training | 3 |
| PSTR | 1340 | Plated Desserts | 3 |
| CHEF | 1345 | International Cuisine | 3 |
| CHEF | 1341 | American Regional Cuisine | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **43** |

# BAKING AND PASTRY

## AAS

TSI Testing is required prior to first enrollment.

### FIRST YEAR

First Semester Credits

| | | | |
|---|---|---|---|
| PSTR | 1301 | Fundamentals of Baking | 3 |
| PSTR | 1305 | Breads and Rolls | 3 |
| PSTR | 1310 | Pies, Tarts, Teacakes and Cookies | 3 |
| CHEF | 1305 | Sanitation and Safety | 3 |
| RSTO | 1325 | Purchasing for Hospitality Operations | 3 |
| | | **Semester Total** | **15** |

### SECOND SEMESTER CREDITS

| | | | |
|---|---|---|---|
| XXXX | #3## | Math/Natural Science General Education Elective OR | |
| MATH | 1314 | College Algebra | 3 |
| PSTR | 1312 | Laminated Dough, Pate a Choux and Donuts | 3 |
| PSTR | 2301 | Chocolates and Confections | 3 |
| PSTR | 2331 | Advanced Pastry Shop | 3 |
| | | **Semester Total** | **12** |

### THIRD SEMESTER CREDITS

| | | | |
|---|---|---|---|
| XXXX | #3## | Social Science General Education Elective | 3 |
| CHEF | 1313 | Food Service Operation/Systems | 3 |
| PSTR | 1340 | Plated Desserts | 3 |
| PSTR | 2350 | Wedding Cakes | 3 |
| XXXX | #3## | Department Approved Elective | 3 |
| | | **Semester Total** | **15** |

### SECOND YEAR

### FIRST SEMESTER CREDITS

| | | | |
|---|---|---|---|
| XXXX | #3## | Approved Humanities/Fine Arts Elective | 3 |
| PSTR | 1306 | Cake Decorating I | 3 |
| SPAN | #3## | Conversational Spanish for the Restaurant Trades | 3 |
| XXXX | #3## | Department Approved Elective | 3 |
| | | **Semester Total** | **12** |

### SECOND SEMESTER CREDITS

| | | | |
|---|---|---|---|
| SPCH | #3## | Speech Elective | 3 |
| XXXX | #3## | General Education Elective | 3 |
| XXXX | #3## | Department Approved Elective | 3 |
| PSTR | 1364 | Practicum (or Field Experience) - CulinaryArts/Chef Training OR | |
| PSTR | 1381 | Cooperative Education-Baking and Pastry Arts/Baker/Pastry Chef OR | |
| PSTR | 2307 | Cake Decorating II | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **66** |

## BAKING AND PASTRY

## CERTIFICATE

### FIRST SEMESTER CREDITS

| | | | |
|---|---|---|---|
| CHEF | 1313 | Food Service Operation/Systems | 3 |
| PSTR | 1301 | Fundamentals of Baking | 3 |
| PSTR | 1305 | Breads and Rolls | 3 |
| PSTR | 1310 | Pies, Tarts, Teacakes and Cookies | 3 |
| CHEF | 1305 | Sanitation and Safety | 3 |
| | | **Semester Total** | **15** |

### SECOND SEMESTER CREDITS

| | | | |
|---|---|---|---|
| PSTR | 1306 | Cake Decorating I | 3 |
| PSTR | 2331 | Advanced Pastry Shop | 3 |
| PSTR | 1312 | Laminated Dough, Pate a Choux and Donuts | 3 |
| RSTO | 2301 | Principles of Food and Beverage Control | 3 |
| | | **Semester Total** | **12** |

### THIRD SEMESTER CREDITS

| | | | |
|---|---|---|---|
| PSTR | 1364 | Practicum (or Field Experience) -Baking and Pastry Arts/Baker/Pastry Chef OR | |
| PSTR | 1381 | Cooperative Education-Baker/Pastry Chef OR | |
| PSTR | 2307 | Cake Decorating II | 3 |
| PSTR | 2301 | Chocolates and Confections | 3 |
| PSTR | 1340 | Plated Desserts | 3 |
| PSTR | 2350 | Wedding Cakes | 3 |
| XXXX | #3## | Free Elective | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **42** |

## BAKER

The Baker Marketable Skills Achievement Award is designed to train students in bread making, breakfast pastries, and American style cakes. The hands-on instruction will focus on using the latest technology, techniques, and raw food materials to prepare the students for today's contemporary bakery.

## MSA

(Marketable Skills Achievement Award)

### FIRST SEMESTER CREDITS

| | | | |
|---|---|---|---|
| CHEF | 1305 | Sanitation and Safety | 3 |
| PSTR | 1305 | Breads and Rolls | 3 |
| PSTR | 1312 | Laminated Dough, Pate Choux and Donuts | 3 |
| PSTR | 1301 | Fundamentals of Baking | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **12** |

## CAKE DECORATOR

The Cake Decorator Marketable Skills Achievement Award prepares the student with the knowledge and technical skills required for employment in bake shops of restaurants, bakeries, hotels, hospitals, country clubs, and large scale baking operations. The hands-on instruction is taught in state-of-the-art pastry kitchens using the latest technology and techniques to prepare the student for an exciting career in the food industry.

## MSA

(Marketable Skills Achievement Award)

### FIRST SEMESTER CREDITS

| | | | |
|---|---|---|---|
| CHEF | 1305 | Sanitation and Safety | 3 |
| PSTR | 1301 | Fundamentals of Baking | 3 |
| PSTR | 1310 | Pies, Tarts, Teacakes and Cookies | 3 |
| PSTR | 2350 | Wedding Cakes | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **12** |

## PASTRY COOK

The Pastry Cook Marketable Skills Achievement Award is designed to prepare students for challenging positions in contemporary bakeshops of restaurants, hotels, country clubs, hospitals, and large scale baking operations. The hands-on instruction is taught in state-of-the-art pastry kitchens using the latest technologies, techniques, and formulas.

### MSA
(Marketable Skills Achievement Award)

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| CHEF | 1305 | Sanitation and Safety | 3 |
| PSTR | 1310 | Pies, Tarts, Teacakes and Cookies | 3 |
| PSTR | 1340 | Plated Desserts | 3 |
| PSTR | 2331 | Advanced Pastry Shop | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **12** |

# HOTEL/RESTAURANT MANAGEMENT

The Hotel/Restaurant Management Program is designed to prepare graduates for entry-level management positions in the hospitality industry. Students acquire a broad base of knowledge and skills for a successful career in a challenging service business environment. The program focuses on courses such as front office procedures, hospitality marketing, beverage management, facilities management, and hospitality financial management. All of these courses are uniquely designed for the hospitality service industry.

Program offerings include an AAS in Hotel/Restaurant Management and certificate options in both hotel management and restaurant management. These specialty areas are designed for individuals working in the industry who wish to upgrade their skills or for students who are seeking initial certification with the ultimate goal of earning the AAS in Hotel/Restaurant Management.

The capstone for the AAS in Hotel/Restaurant Management is HAMG 2381, Cooperative Education II - Hospitality Administration Management. The capstone for the Hotel Management Certificate and Restaurant Management Certificate is HAMG 2380, Cooperative Education-Hospitality Administration/Management, General.

For more information, call 713-718-6072 or e-mail ezat.moradi@hccs.edu.

## HOTEL/RESTAURANT MANAGEMENT

### AAS
TSI Testing is required prior to first enrollment.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| MATH | 1314 | College Algebra OR | |
| XXXX | #3## | Math/Natural Science General Education Elective | 3 |
| CHEF | 1305 | Sanitation and Safety | 3 |
| HAMG | 1321 | Introduction to Hospitality Industry | 3 |
| SOCI | 1301 | Introduction to Sociology OR | |
| ECON | 2302 | Principles of Economics (Micro) | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| RSTO | 1325 | Purchasing for Hospitality Operations | 3 |
| HAMG | 1313 | Front Office Procedures | 3 |
| XXXX | #3## | Computer Applications Elective* | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts Elective | 3 |
| ACNT | 1303 | Introduction to Accounting I | 3 |
| | | **Semester Total** | **15** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| HAMG | 1324 | Hospitality Human Resources Management | 3 |
| HAMG | 2337 | Hospitality Facilities Management | 3 |
| XXXX | #3## | Approved Program-Related Elective | 3 |
| | | **Semester Total** | **9** |

### SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| HAMG | 2332 | Hospitality Financial Management | 3 |
| HAMG | 2380 | Cooperative Education - Hospitality Administration/Management, General | 3 |
| RSTO | 2301 | Principles of Food and Beverage Control | 3 |
| XXXX | #3## | Approved Program-Related Elective | 3 |
| PSYC | 2301 | Introduction to Psychology, OR | |
| PSYC | 2302 | Applied Psychology | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| TRVM | 1327 | Special Events Design | 3 |
| RSTO | 1491 | Special Topics in Food and Beverage/Restaurant Operations Manager | 4 |
| HAMG | 1340 | Hospitality Legal Issues | 3 |
| HAMG | 2381 | Cooperative Education - Hospitality Administration/Management, General | 3 |
| HAMG | 2307 | Hospitality Marketing and Sales | 3 |
| | | **Semester Total** | **16** |
| | | **Program Total** | **70** |

*The Computer Applications Elective may be chosen from the following courses: ITSC 1309, Integrated Software Applications I; POFI 1301 Computer Applications I; or BCIS 1405, Business Computer Application.

## HOTEL MANAGEMENT

The Hotel Management Certificate introduces the student to the basic management techniques and administrative practices and procedures of the hotel industry. Individuals completing this course of study are qualified for entry level management positions within the industry. The certificate program focuses on the following areas of study: principles of food and beverage control, hospitality human resource management, hospitality financial management, hospitality marketing, guest room maintenance, front office procedures and facilities management.

All courses in this certificate plan will apply toward the AAS in the Hotel/Restaurant Management Program.

Additional certificates may be earned in certain courses where the American Hotel and Motel Association or National Restaurant Association texts are used.

For more information, call 713-718-6072 or e-mail ezat.moradi@hccs.edu.

Course prerequisite needs to be met for English.

## FIRST SEMESTER                                           CREDITS
RSTO  2301   Principles of Food and Beverage Control ........................ 3
HAMG 2332   Hospitality Financial Management ................................... 3
HAMG 1342   Guest Room Maintenance OR
HAMG #3##   Program-Approved Elective ............................................ 3
HAMG 1313   Front Office Procedures ................................................. 3
HAMG 1324   Hospitality Human Resources Management .................... 3
                                          **Semester Total      15**

## SECOND SEMESTER                                          CREDITS
ENGL  1301   Composition I ................................................................. 3
ACNT  1303   Introduction to Accounting I ............................................ 3
HAMG 2337   Hospitality Facilities Management ................................... 3
TRVM  1327   Special Events Design .................................................... 3
HAMG 2380   Cooperative Education - Hospitality Administration/
             Management, General OR
XXXX  #3##   Approved Capstone Elective ............................................ 3
                                          **Semester Total      15**

                                          **Program Total      30**

# RESTAURANT MANAGEMENT

The Restaurant Management Certificate introduces the student to the basic management techniques and administrative practices and procedures of the restaurant and food service industry. Individuals completing this course of study are qualified for entry - level management positions within the industry. This certificate program focuses on the following areas of study: food preparation, food purchasing, food and beverage cost control, sanitation and safety, human resource management, beverage management, hospitality marketing and dining room management services.

All courses in this certificate plan will apply toward the AAS in the Hotel/Restaurant Management Program.

Additional certificates may be earned in certain courses where the American Hotel and Motel Association or National Restaurant Association texts are used.

For more information, call 713-718-6072 or e-mail ezat.moradi@hccs.edu.

Course prerequisite needs to be met for English.

## FIRST SEMESTER                                           CREDITS
CHEF  1305   Sanitation and Safety ...................................................... 3
HAMG 1324   Hospitality Human Resources Management .................... 3
RSTO  1301   Beverage Management .................................................... 3
RSTO  1325   Purchasing for Hospitality Operations ............................ 3
RSTO  2301   Principles of Food and Beverage Control ........................ 3
                                          **Semester Total      15**

## SECOND SEMESTER                                          CREDITS
RSTO  1304   Dining Room Service ....................................................... 3
RSTO  1491   Special Topics in Food and Beverage/Restaurant
             Operations Manager ........................................................ 4
TRVM  1327   Special Events Design .................................................... 3
HAMG 2380   Cooperative Education - Hospitality Administration/
             Management, General OR
XXXX  #3##   Approved Capstone Elective ............................................ 3
ENGL  1301   Composition I ................................................................. 3
                                          **Semester Total      16**

                                          **Program Total      31**

# TRAVEL AND TOURISM

The AAS degree in Travel and Tourism is designed to provide students with specialized business skills and practical work experience. The degree program focuses on courses such as Travel Automation, Ticketing Forms and Procedures, Travel and Tourism Sales and Marketing, Travel Industry Management, Travel Destination, Group Tour Operations, and International Fare Construction, and Special Events Design. These and other courses in the curriculum are uniquely designed for the travel service industry. The application of classroom theory and the importance of working with others are emphasized through the program's cooperative work experience. For individuals who just want to acquire the entry level skills and start working in a travel agency, a certificate plan is available.

The capstone for the AAS in Travel and Tourism is TRVM 2381, Cooperative Education II-Travel and Tourism. The capstone for the certificate plan in Travel and Tourism is TRVM 1306, Travel Automation.

For more information, call 713-718-6072 or 713-718-6101 or e-mail ezat.moradi@hccs.edu.

# TRAVEL AND TOURISM

TSI Testing is required prior to first enrollment.

## FIRST YEAR

### FIRST SEMESTER                                          CREDITS
ENGL  1301   Composition I ................................................................. 3
TRVM  1300   Introduction to Travel and Tourism ................................. 3
TRVM  1308   Travel Destination I-Western Hemisphere ...................... 3
TRVM  1313   Ticketing Forms and Procedures .................................... 3
XXXX  #4##   Approved General Education Academic
             Language Elective .......................................................... 4
                                          **Semester Total      16**

### SECOND SEMESTER                                         CREDITS
TRVM  1306   Travel Automation I ........................................................ 3
TRVM  2305   Travel Industry Management .......................................... 3
MRKG  1311   Principals of Marketing ................................................... 3
PSYC  2301   Introduction to Psychology OR
PSYC  2302   Applied Psychology ........................................................ 3
SPCH  #3##   Speech Elective ............................................................. 3
                                          **Semester Total      15**

## SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| TRVM | 2335 | Travel Automation II | 3 |
| TRVM | 1345 | Travel and Tourism Sales and Marketing | 3 |
| TRVM | 1348 | International Fare Construction | 3 |
| TRVM | 1323 | Group Tour Operation | 3 |
| TRVM | 2380 | Cooperative Education I - Tourism and Travel Services Management OR | |
| TRVM | #3## | Approved Travel Elective | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| TRVM | 1327 | Special Events Design | 3 |
| TRVM | 1341 | Travel Destination II-Eastern Hemisphere | 3 |
| TRVM | 1391 | Special Topics-Travel Retail Sales | 3 |
| TRVM | 2381 | Cooperative Education II-Tourism and Travel Services Management OR | |
| TRVM | #3## | Approved Travel Capstone Elective | 3 |
| MATH | 1314 | College Algebra OR | |
| XXXX | #3## | Math/Natural Science General Education Elective | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts Elective | 3 |
| | | **Semester Total** | **18** |
| | | **Program Total** | **64** |

## TRAVEL AND TOURISM

The Travel and Tourism Certificate provides entry-level skills for those students who wish to start working in a travel agency. All courses in this certificate plan apply toward the AAS Degree in Travel and Tourism.

### CERTIFICATE

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| TRVM | 1313 | Ticketing Forms and Procedures | 3 |
| TRVM | 1327 | Special Events Design | 3 |
| TRVM | 1300 | Introduction to Travel and Tourism | 3 |
| TRVM | 1308 | Travel Destinations I-Western Hemisphere | 3 |
| | | **Semester Total** | **12** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| TRVM | 1306 | Travel Automation I | 3 |
| | | **Semester Total** | **3** |
| | | **Program Total** | **15** |

## TRAVEL AUTOMATION

The Travel Automation Marketable Skills Achievement Award is designed to provide graduates with the computer related skills, and knowledge and abilities needed to work in entry-level careers in the travel industry as a ticketing agent for airlines or travel agencies. All courses in this certificate plan apply toward the AAS Degree in Travel and Tourism.

### MSA

(Marketable Skills Achievement Award)

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| TRVM | 1313 | Ticketing Forms and Procedures | 3 |
| TRVM | 1306 | Travel Automation I | 3 |
| TRVM | 2335 | Travel Automation II | 3 |
| TRVM | 1348 | International Fare Construction | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **12** |

**Cosmetology**
**Human Service Technology**
**Sign Language/Interpretation & Translation**
**(See Academic Degrees and Certificates 33-47)**

## Human Services and Social Sciences

A Career Cluster is a grouping of occupations and broad industries based on commonalities. The Human Services and Social Sciences career cluster is concerned with providing knowledge and skills related to families and human needs. This would include careers related to Cosmetology, Anthropology, Family Studies, Human Development, Psychology, Sociology, Social Work, Mental Health, Human Services and Sign Language and Deaf Studies.

Every HCC Workforce Educational program contains a "capstone," an experience for the student to "put it all together." The capstone might consist of an external learning experience (e.g., co-op, clinical, etc.), a course especially designed to help students synthesize knowledge and skills, or a licenser exam as appropriate.

## COSMETOLOGY

The Cosmetology Program provides the theory and practical instruction designed to prepare the student for employment as a licensed cosmetologist. The Cosmetology Program is a member of Pivot Point International and has adopted its internationally recognized curriculum. The program approaches hair design as an art form. This artistic approach guides students through the basic elements of design-form, texture, and color. Students who successfully complete the entire curriculum are qualified to sit for the examination given by the Texas Department of Licensing and Regulation (T.D.L.R.) P.O. Box 12157 Austin, TX 78711. Those who are approved by the State will be licensed as cosmetologists and will be eligible for placement.

Due to the Texas Department of Licensing and Regulation (T.D.L.R.) requirements limiting the number of students permitted at each location, students must have instructor's approval before registering in any cosmetology course. Students may not go through the College registration process without specific instructor's approval. Enrolled students are required to purchase tools, books, and uniforms. Students must maintain strong attendance. Students absent more than 2 days in a semester will be dropped from the program.

The capstone for the Cosmetology Operator Certificate and Cosmetology Operator AAS is CSME 2441, Prep for TCC Examination; the capstone for the Cosmetology Instructor Certificate and AAS is CSME 2545, Instructional Theory and Clinic Operation; the capstone for the Facial Specialist Certificate is CSME 2531, Principles of Facial/Esthetic Technology III; the capstone for the Manicure Specialist Certificate is CSME 2430, Nail Enhancement; and the capstone for the Salon Management Certificate is CSME 2343, Salon Development.

For more information, call 713-718-6145 or e-mail hilda.sustaita@ hccs.edu.

## COSMETOLOGY OPERATOR

### AAS

TSI Testing is required prior to first enrollment.

### FIRST YEAR

**FIRST SEMESTER** — **CREDITS**

| | | | |
|---|---|---|---|
| PHED | #1## | Physical Education Elective | 1 |
| ENGL | 1301 | Composition I | 3 |
| CSME | 1401 | Orientation to Cosmetology | 4 |
| CSME | 1405 | Fundamentals of Cosmetology | 4 |
| POFI | 1301 | Computer Applications I | 3 |
| | | **Semester Total** | **15** |

**SECOND SEMESTER** — **CREDITS**

| | | | |
|---|---|---|---|
| XXXX | #3## | Approved Humanities/Fine Arts Elective | 3 |
| XXXX | #3## | Math/Science General Education Elective | 3 |
| CSME | 1453 | Chemical Reformation | 4 |
| CSME | 1551 | Artistry of Hair, Theory and Practice | 5 |
| PHED | #1## | Physical Education Elective | 1 |
| | | **Semester Total** | **16** |

**THIRD SEMESTER** — **CREDITS**

| | | | |
|---|---|---|---|
| CSME | 1291 | Special Topics in Cosmetology/Cosmetologist, General | 2 |
| CSME | 2401 | Principles of Hair Coloring and Related Theory | 4 |
| CSME | 2343 | Salon Development | 3 |
| | | **Semester Total** | **9** |

### SECOND YEAR

**FIRST SEMESTER** — **CREDITS**

| | | | |
|---|---|---|---|
| CSME | 2439 | Advanced Hair Design | 4 |
| GOVT | 2302 | American Government II | 3 |
| SPCH | 1321 | Business and Professional Speaking OR | |
| SPCH | 1315 | Public Speaking | 3 |
| PYSC | 2301 | Introduction to Psychology OR | |
| PYSC | 2302 | Applied Psychology OR | |
| PYSC | 2303 | Business Psychology | 3 |
| | | **Semester Total** | **13** |

**SECOND SEMESTER** — **CREDITS**

| | | | |
|---|---|---|---|
| CSME | 2441 | Preparation For TCC Examination | 4 |
| CSME | 2337 | Advanced Cosmetology Techniques | 3 |
| CSME | 1365 | Cosmetology Practice | 3 |
| XXXX | #3## | Program Related Elective | 3 |
| | | **Semester Total** | **13** |
| | | **Program Total** | **66** |

## COSMETOLOGY OPERATOR

### CERTIFICATE

Course prerequisite needs to be met for reading.

**FIRST SEMESTER** — **CREDITS**

| | | | |
|---|---|---|---|
| CSME | 1401 | Orientation to Cosmetology I | 4 |
| CSME | 1405 | Fundamentals of Cosmetology | 4 |
| CSME | 1453 | Chemical Practicum | 4 |
| | | **Semester Total** | **12** |

## SECOND SEMESTER

| | | CREDITS |
|---|---|---|
| CSME 1291 | Special Topics in Cosmetology/Cosmetologist, General.. | 2 |
| CSME 2401 | Principles of Hair Coloring and Related Theory | 4 |
| CSME 2343 | Salon Development | 3 |
| CSME 1551 | Artistry of Hair, Theory and Practice | 5 |
| | **Semester Total** | **14** |

## THIRD SEMESTER

| | | CREDITS |
|---|---|---|
| CSME 2439 | Advanced Hair Design | 4 |
| CSME 2337 | Advanced Cosmetology Techniques | 3 |
| CSME 2441 | Preparation for TCC Examination | 4 |
| CSME 1365 | Cosmetology Practicum | 3 |
| | **Semester Total** | **14** |
| | **Program Total** | **40** |

## FACIAL SPECIALIST

The Facial Specialist Program is designed to provide the student with the knowledge and technical skills required for successful entry into the facial/esthetic profession. After satisfactory completion of all courses, the student is eligible to take the Texas Department of Licensing and Regulation (T.D.L.R.) Facialist/Esthetic Specialty Examination, provided the student has met the 750-clock hour requirement.

### CERTIFICATE
Course prerequisite needs to be met for reading.

#### FIRST SEMESTER

| | | CREDITS |
|---|---|---|
| CSME 1420 | Orientation to Facial Specialist | 4 |
| CSME 1421 | Principles of Facial/Esthetic Technology I | 4 |
| CSME 1447 | Principles of Skin Care/Facials and Related Theory | 4 |
| | **Semester Total** | **12** |

#### SECOND SEMESTER

| | | CREDITS |
|---|---|---|
| CSME 1545 | Principles of Facial/Esthetic Technology II | 5 |
| CSME 2531 | Principles of Facial/Esthetic Technology III | 5 |
| CSME 1291 | Special Topics in Cosmetology/Cosmetologist, General.. | 2 |
| | **Semester Total** | **12** |
| | **Program Total** | **24** |

## MANICURE SPECIALIST

The Manicure Specialist Program is designed to provide the student with the knowledge and skills required for successful entry into the manicure profession. After satisfactory completion of all courses, the student is eligible to take the Texas Department of Licensing and Regulation (T.D.L.R.) Manicure Specialist Examination, provided the student has met the 600-clock hour requirement.

### CERTIFICATE
Course prerequisite needs to be met for reading.

#### FIRST SEMESTER

| | | CREDITS |
|---|---|---|
| CSME 1430 | Orientation to Nail Technology | 4 |
| CSME 1431 | Principles of Nail Technology I | 4 |
| CSME 1441 | Principles of Nail Technology II | 4 |
| | **Semester Total** | **12** |

#### SECOND SEMESTER

| | | CREDITS |
|---|---|---|
| CSME 1443 | Manicuring and Related Theory | 4 |
| CSME 2430 | Nail Enhancement | 4 |
| CSME 1291 | Special Topics in Cosmetology/Cosmetologist, General.. | 2 |
| | **Semester Total** | **10** |
| | **Program Total** | **22** |

## SALON MANAGER

The Salon Manager Certificate Program prepares the student with the concepts, principles, and skills necessary to manage a cosmetology salon. The Salon Manager Certificate is designed for students who have experience in cosmetology and desire to obtain the skills necessary for the administration of a styling salon, facial or nail boutique. The certificate focuses on business management skills, interpersonal communication and supervision, as well as human relations.

### CERTIFICATE
Course prerequisite needs to be met for reading.

#### FIRST SEMESTER

| | | CREDITS |
|---|---|---|
| CSME 2343 | Salon Development | 3 |
| POFI 1301 | Computer Applications I | 3 |
| BUSG 2309 | Small Business Management | 3 |
| HRPO 1311 | Human Relations | 3 |
| BMGT 1301 | Supervision | 3 |
| | **Semester Total** | **15** |
| | **Program Total** | **15** |

## COSMETOLOGY INSTRUCTOR

The Cosmetology Instructor Program is designed to allow the student to earn the Cosmetology Instructor License from the Texas Department of Licensing and Regulation (T.D.L.R.). To enroll in this program, the student must have a valid operator's license and three years experience in salon work.

Due to the Texas Department of Licensing and Regulation (T.D.L.R.) requirements limiting the number of students allowed at each location, students must obtain the approval of the Department Chair before registering for any cosmetology instructor course. Students are required to purchase tools and books.

### AAS
TSI Testing is required prior to first enrollment.

### FIRST YEAR

#### FIRST SEMESTER

| | | CREDITS |
|---|---|---|
| ENGL 1301 | Composition I | 3 |
| CSME 1535 | Orientation to Instruction | 5 |
| CSME 1534 | Cosmetology Instructor I | 5 |
| XXXX #3## | Computer Applications Elective* | 3 |
| PHED #1## | Physical Education Elective | 1 |
| | **Semester Total** | **17** |

#### SECOND SEMESTER

| | | CREDITS |
|---|---|---|
| XXXX #3## | Math/Science General Education Elective | 3 |
| CSME 2514 | Cosmetology Instructor II | 5 |
| CSME 2515 | Cosmetology Instructor III | 5 |
| XXXX #3## | Social Science General Education Elective | 3 |
| PHED #1## | Physical Education Elective | 1 |
| | **Semester Total** | **17** |

## SECOND YEAR

### FIRST SEMESTER

| | | | CREDITS |
|---|---|---|---|
| CSME | 2544 | Cosmetology Instructor IV | 5 |
| CSME | 2545 | Instructional Theory and Clinic Operation | 5 |
| XXXX | #3## | Approved Humanities/Fine Arts Elective | 3 |
| BMGT | 1301 | Supervision | 3 |
| | | **Semester Total** | **16** |

### SECOND SEMESTER

| | | | CREDITS |
|---|---|---|---|
| BUSG | 2309 | Small Business Management | 3 |
| GOVT | 2302 | American Government | 3 |
| SPCH | 1321 | Business and Professional Speaking OR | |
| SPCH | 1315 | Public Speaking | 3 |
| PSYC | 2301 | Introduction to Psychology OR | |
| PYSC | 2302 | Applied Psychology OR | |
| PYSC | 2303 | Business Psychology | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **62** |

*The Computer Applications Elective may be chosen from the following courses: ITSC 1309, Integrated Software Applications I; POFI 1301, Computer Applications I; or BCIS, 1405 Business Computer Application.

## COSMETOLOGY INSTRUCTOR

### CERTIFICATE

Course prerequisite needs to be met for reading.

### FIRST SEMESTER

| | | | CREDITS |
|---|---|---|---|
| CSME | 1535 | Orientation to the Instruction of Cosmetology | 5 |
| CSME | 1534 | Cosmetology Instructor I | 5 |
| CSME | 2514 | Cosmetology Instructor II | 5 |
| | | **Semester Total** | **15** |

### SECOND SEMESTER

| | | | CREDITS |
|---|---|---|---|
| CSME | 2515 | Cosmetology Instructor III | 5 |
| CSME | 2544 | Cosmetology Instructor IV | 5 |
| CSME | 2545 | Instructional Theory and Clinic Operation | 5 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **30** |

## HUMAN SERVICE TECHNOLOGY

The Human Service Technology Program is designed for students interested in the broad field of human services. This degree will equip students for employment as technicians in a wide range of human service facilities offering services to varied populations. Lectures place a strong emphasis on ethics and multiculturalism. Awards in this program are approved by the Council for Standards in Human Services Education, the Texas Department of State Health Services, the Texas Department of Substance Abuse Services, and the National Association for Activities Directing.

Classes are offered both during the day or on the evening. Students can be full-time or part-time. Classes taken under the certificate program, transfer into the associate degree program. Students must be writing at the ENGL 0310 level and reading at the GUST 0342 level.

Students will participate in clinical experiences in various affiliated hospitals and human service agencies in the area. Currently there are over 65 affiliates. Students are required to purchase liability insurance through the College blanket policy before beginning practicum rotations. All students have weekly supervision during clinical training by the staff.

Persons interested in applying should call 713-718-5539. For further information, please see the **General Application Procedures** for Health Science programs.

The capstone for the Human Service Technology AAS is CMSW 2266, Practicum III-Clinical and Medical Social Work; the capstone for the Activity Director/Therapeutic Recreation Aide Certificate, GERS 1260, Clinical-Gerontology; the capstone for the Chemical Dependency Counselor Certificate is DAAC 2267, Practicum Alcohol/Drug Abuse Counseling.

For additional information, call 713-718-5539 or e-mail richard.rosing@hccs.edu or virginia.stehr@hccs.edu.

## HUMAN SERVICE TECHNOLOGY

### AAS

## FIRST YEAR

### FIRST SEMESTER

| | | | CREDITS |
|---|---|---|---|
| HPRS | 1201 | Introduction to Health Professions | 2 |
| ENGL | 1301 | Composition I | 3 |
| PSYC | 2301 | Introduction to Psychology | 3 |
| CMSW | 1301 | Introduction to Social Services | 3 |
| DAAC | 1417 | Basic Counseling Skills | 4 |
| POFI | 1301 | Computer Applications I | 3 |
| | | **Semester Total** | **18** |

### SECOND SEMESTER

| | | | CREDITS |
|---|---|---|---|
| ENGL | 1302 | Composition II | 3 |
| CMSW | 1313 | Assessment and Service Delivery | 3 |
| DAAC | 2354 | Dynamics of Group Counseling | 3 |
| PSYC | 2316 | Psychology of Personality | 3 |
| XXXX | #3## | Directed Elective* | 3 |
| | | **Semester Total** | **15** |

### THIRD SEMESTER

| | | | CREDITS |
|---|---|---|---|
| CMSW | 1266 | Practicum-Clinical and Medical Social Work | 2 |
| PSYC | 2314 | Human Growth and Development: Lifespan | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts Elective | 3 |
| | | **Semester Total** | **8** |

## SECOND YEAR

### FIRST SEMESTER

| | | | CREDITS |
|---|---|---|---|
| CMSW | 1267 | Practicum-Clinical and Medical Social Work | 2 |
| SOCI | 1301 | Introduction to Sociology | 3 |
| DAAC | 1311 | Counseling Theories | 3 |
| XXXX | #3## | Directed Elective* | 3 |
| XXXX | #3## | Academic Elective (GOVT, MATH, HIST) | 3 |
| | | **Semester Total** | **14** |

### SECOND SEMESTER

| | | | CREDITS |
|---|---|---|---|
| CMSW | 2266 | Practicum-Clinical and Medical Social Work | 2 |
| CMSW | 1353 | Family Intervention Strategies | 3 |
| BIOL | 2401 | Anatomy and Physiology I** | 4 |
| XXXX | #3## | Directed Elective* | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **67** |

*Approved electives include DAAC 1304, DAAC 1319, DAAC 1391, DAAC 2343, GERS 1301, RECT 1301, SCWK 1391, SCWK 2307.

**BIOL 1406 is strongly recommended prior to BIOL 2401.

## ACTIVITY DIRECTOR/THERAPEUTIC RECREATION AIDE

HCC has been approved by the National Certification Council for Activities Professionals (NCCAP, P.O. Box 62589, Virginia Beach, VA 23466-2589, 757-552-0653) to teach and provide the Activity Director/Therapeutic Recreation Aide Certificate for the Advanced Activities Director.

### CERTIFICATE

| FIRST SEMESTER | | CREDITS |
|---|---|---|
| GERS 1301 | Introduction to Gerontology | 3 |
| GERS 1304 | Long Term Care Activity Directing I | 3 |
| RECT 1301 | Introduction to Therapeutic Recreation | 3 |
| | **Semester Total** | **9** |

| SECOND SEMESTER | | CREDITS |
|---|---|---|
| GERS 1260 | Clinical-Gerontology | 2 |
| GERS 1307 | Long Term Care Activity Directing II | 3 |
| RECT 2431 | Therapeutic Recreation Program Planning | 4 |
| | **Semester Total** | **9** |
| | **Program Total** | **18** |

## CHEMICAL DEPENDENCY COUNSELOR

Starting September 1, 2004, an Associate Degree from a Behavioral Science program is required to become a Licensed Chemical Dependency Counselor (LCDC) in the State of Texas. Students will be qualified for employment at a Clinical Training Institute after completing the Chemical Dependency Counselor Certificate. For complete information on other requirements to become a LCDC, contact the Texas Department of State Health Services, the Texas Department of Substance Abuse Services at 1-888-963-7111, or visit the web site @ http://www.dshs.state.tx.us/sa.

For information regarding the program, call 713-718-5539 or email virginia.stehr@hccs.edu.

### CERTIFICATE

| FIRST SEMESTER | | CREDITS |
|---|---|---|
| HPRS 1201 | Introduction to Health Professions | 2 |
| DAAC 1304 | Pharmacology of Addiction | 3 |
| DAAC 1417 | Basic Counseling Skills | 4 |
| CMSW 1313 | Assessment and Service Delivery | 3 |
| | **Semester Total** | **12** |

| SECOND SEMESTER | | CREDITS |
|---|---|---|
| DAAC 1319 | Introduction to the Studies of Alcohol and Other Drugs | 3 |
| DAAC 2343 | Current Issues | 3 |
| XXXX #3## | Elective* | 3 |
| XXXX #3## | Elective* | 3 |
| | **Semester Total** | **12** |

| THIRD SEMESTER | | CREDITS |
|---|---|---|
| DAAC 2267 | Practicum-Alcohol/Drug Abuse Counseling | 2 |
| | **Semester Total** | **2** |
| | **Program Total** | **26** |

*Approved electives include: CMSW 1353, DAAC 1311, DAAC 2354

## INTERPRETING/SIGN LANGUAGE

The curriculum for the AAS degree in Interpreting/Sign Language is designed to provide students with a general knowledge of deafness and entry-level skills in interpreting for deaf and hard-of- hearing persons. An opportunity to develop cultural competency prior to delivering services to the deaf/hard-of-hearing communities is included in Deaf Culture. Participation in this program and intense involvement within the deaf community will prepare the student with skills and knowledge necessary to take the Texas Commission for the Deaf/Hard-of-Hearing Board for Evaluation of Interpreters Level I test for certification. (Texas Commission for the Deaf/Hard-of-Hearing, P. O. Box 12904, Austin, TX 78711-2904, 512-451-8494, tcdhh@state.tx.us).

Students must attain an overall GPA of 2.0 in all work attempted at HCC, a grade of "C" or better in each of the interpretation courses and pass the Sign Communication Proficiency Interview (SCPI) or the American Sign Language Proficiency Interview (ASLPI).

The capstone for the Interpreting/Sign Language AAS degree is SLNG 2389, Internship-Sign Language Interpreter.

The capstone for the Interpreting/Sign Language AAS degree is SLNG 2389, Internship-Sign Language Interpreter.

For more information, call 713-718-6845 or e-mail michael.lee@hccs.edu.

## INTERPRETING/SIGN LANGUAGE

### AAS

TSI Testing is required prior to first enrollment.

### FIRST YEAR

| FIRST SEMESTER | | CREDITS |
|---|---|---|
| ENGL 1301 | Composition I | 3 |
| SLNG 1311 | Fingerspelling and Numbers | 3 |
| SLNG 1248 | Vocabulary Development for Interpreters | 2 |
| SLNG 1317 | Introduction to the Deaf Community | 3 |
| SPCH 1315 | Public Speaking | 3 |
| | **Semester Total** | **14** |

| SECOND SEMESTER | | CREDITS |
|---|---|---|
| PSYC 2301 | Introduction to Psychology | 3 |
| SLNG 1304 | American Sign Language (ASL) I OR | |
| SGNL 1301 | American Sign Language (ASL): Beginning I | 3 |
| SLNG 1321 | Introduction to the Interpreting Profession | 3 |
| SLNG 1347 | Deaf Culture | 3 |
| | **Semester Total** | **12** |

| THIRD SEMESTER | | CREDITS |
|---|---|---|
| SLNG 1305 | American Sign Language (ASL) II OR | |
| SGNL 1302 | American Sign Language (ASL): Beginning II | 3 |
| XXXX #3## | Approved Humanities/Fine Arts Elective* | 3 |
| XXXX #3## | Math/Natural Science General Education Elective | 3 |
| | **Semester Total** | **9** |

### SECOND YEAR

| FIRST SEMESTER | | CREDITS |
|---|---|---|
| SLNG 1344 | American Sign Language (ASL) III OR | |
| SGNL 2301 | American Sign Language (ASL): Intermediate I | 3 |
| SLNG 2301 | Interpreting I | 3 |
| SLNG 2315 | Interpreting in Educational Settings | 3 |
| SLNG 1391 | Special Topics in Sign Language Interpreting | 3 |
| | **Semester Total** | **12** |

## SECOND SEMESTER

| | | | CREDITS |
|---|---|---|---|
| SLNG | 1345 | American Sign Language (ASL) IV OR | |
| SGNL | 2302 | American Sign Language (ASL): Intermediate II | 3 |
| SLNG | 2302 | Interpreting II | 3 |
| SLNG | 2311 | Interpreting in Specialized Settings | 3 |
| SLNG | 2388 | Internship - Sign Language Interpretation and Translation OR | |
| SLNG | 1380 | Cooperative Education - Sign Language Interpretation and Translation | 3 |
| | | **Semester Total** | **12** |

## THIRD SEMESTER

| | | | CREDITS |
|---|---|---|---|
| SLNG | 2389 | Internship-Sign Language Interpreter and Translation | 3 |
| SLNG | 2331 | Interpreting III | 3 |
| | | **Semester Total** | **6** |
| | | **Program Total** | **65** |

*Any fine arts or drama class.

## INTERPRETING/SIGN LANGUAGE

The curriculum for the Interpreting/Sign Language Certificate Program is designed to provide students with a general knowledge of deafness and entry-level skills in communicating with persons who are deaf/hard-of- hearing. The capstone for the Interpreting/Sign Language Certificate is SLNG 2315, Interpreting in Educational Settings.

### CERTIFICATE

Course prerequisite needs to be met for English.

## FIRST SEMESTER

| | | | CREDITS |
|---|---|---|---|
| SLNG | 1311 | Fingerspelling and Numbers | 3 |
| SLNG | 1248 | Vocabulary Development for Interpreters | 2 |
| SLNG | 1317 | Introduction to the Deaf Community | 3 |
| SLNG | 1321 | Introduction to the Interpreting Profession | 3 |
| ENGL | 1301 | Composition I | 3 |
| | | **Semester Total** | **14** |

## SECOND SEMESTER

| | | | CREDITS |
|---|---|---|---|
| SLNG | 1304 | American Sign Language (ASL) I OR | |
| SGNL | 1301 | American Sign Language (ASL): Beginning I | 3 |
| SLNG | 1347 | Deaf Culture | 3 |
| SLNG | 2301 | Interpreting I | 3 |
| SLNG | 2315 | Interpreting in Educational Settings | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **26** |

## AMERICAN SIGN LANGUAGE SPECIALIZATION

The American Sign Language and Deaf Culture courses provide the fundamental knowledge to teach deaf children and interact with deaf adults. These classes are taught in conjunction with the SLNG classes. The academic SGNL classes will be helpful for certified teachers in school systems who desire to teach American Sign Language for foreign language credit at the high school level and aspire to take the TASC-ASL evaluation (SBEC).

The capstone for the American Sign Language Specialization Certificate is SLNG 1345, American Sign Language: Intermediate II or SGNL 2302, American Sign Language (ASL): Intermediate II, both of which touch on the complexities of ASL Linguistics.

### CERTIFICATE

## FIRST SEMESTER

| | | | CREDITS |
|---|---|---|---|
| SLNG | 1304 | American Sign Language (ASL) I OR | |
| SGNL | 1301 | American Sign Language (ASL): Beginning I | 3 |
| SLNG | 1317 | Introduction to the Deaf Community | 3 |
| SLNG | 1311 | Fingerspelling and Numbers | 3 |
| SLNG | 1248 | Vocabulary Development for Interpreters | 2 |
| SLNG | 1321 | Introduction to the Interpreting Profession | 3 |
| | | **Semester Total** | **14** |

## SECOND SEMESTER

| | | | CREDITS |
|---|---|---|---|
| SLNG | 1305 | American Sign Language (ASL) II OR | |
| SGNL | 1302 | American Sign Language (ASL): Beginning II | 3 |
| SLNG | 1347 | Deaf Culture | 3 |
| | | **Semester Total** | **6** |

## THIRD SEMESTER

| | | | CREDITS |
|---|---|---|---|
| SLNG | 1344 | American Sign Language (ASL) III OR | |
| SGNL | 2301 | American Sign Language (ASL): Intermediate I | 3 |
| SLNG | 1345 | American Sign Language (ASL) IV OR | |
| SGNL | 2302 | American Sign Language (ASL): Intermediate II | 3 |
| | | **Semester Total** | **6** |
| | | **Program Total** | **26** |

**Computer Programming-Applications Development**
**Computer Science Technology**
**Computer Systems Networking & Telecommunications**
**Digital Gaming & Simulation**
**Geographic Information Science**
**(See Academic Degrees and Certificates 33-47)**

## Information Technology

A Career Cluster is a grouping of occupations and broad industries based on commonalities. The Information Technology career cluster is concerned with providing knowledge and skills related to the design, development, support and management of hardware, software, multimedia, and systems integration services. This would include careers related to Computer Science, Programming, Information Technology, Digital Gaming, Geographic Information Science, Networking and Telecommunications.

Every HCC Workforce Educational program contains a "capstone," an experience for the student to "put it all together." The capstone might consist of an external learning experience (e.g., co-op, clinical, etc.), a course especially designed to help students synthesize knowledge and skills, or a licenser exam as appropriate.

## COMPUTER SCIENCE TECHNOLOGY

The Computer Science Technology Department offers associate degrees in programming and networking technology, as well as transfer paths to a four-year degree (see page 37). In addition, the program

- Increases the student's value on the job;

- Earns the student's credentials for proof of concentrated study;

- Helps explore a career or career change;

- Updates and strengthens the student's current computing knowledge and skills; and

- Helps the student pursue a personal interest or hobby.

## Preparation Prior to College

All high school students preparing to undertake a degree or certificate should prepare by taking English and math courses that prepare them for freshmen college English (ENGL 1301 Composition I) and math (MATH 1314 College Algebra). All of the department's degrees and certificates require ENGL 1301 and MATH 1314; therefore, all students must satisfy all Texas Success Initiative (TSI) requirements. College level English and math requirements can be accomplished while in high school by taking dual-credit enrollment, advanced placement, or CLEP exams. In addition to being academically prepared, high school students may take TECH-PREP courses in high school that have statewide articulation. See the department's web site http://csci.hccs.edu for additional information.

If you do not have Internet access, please call 713-718-6776, or email getachew.haile@hccs.edu.

## PROGRAMMING AREA

The department offers an Associate in Applied Science degree in Computer Programming with the student selecting one specialization from the following areas:

### Applications Development
- Microsoft Visual Basic.NET
- Microsoft C#
- Java
- Oracle Application Development

### Software Administration
- Oracle Database Administration

## TECHNICIAN AREA

The department offers an Associate in Applied Science in Computer Systems, Networking and Telecommunications and Computer and Information Science Technology with the student selecting from the following specializations:

- Networking MCSA (Microsoft Certified Systems Administrator)
- PC Support
- UNIX (Linux Platform)

### Certificates
The department offers two certificates for beginning students in the following specializations:

- Networking and Telecommunications
- PC Support
- IBM Enterprise Server

These certificates prepare students for entry- level jobs. Upon completion of a certificate, students may seek full-time or part-time employment. However, students should strongly consider the completion of the AAS degree that prepares students for a career as a technician. All courses taken in the certificate will apply toward their respective AAS degree specialization.

### Marketable Skills Achievement Awards
The six Marketable Skills Achievement Awards offered by the Computer Science Technology department provide experienced information technology professionals the opportunity to enhance their skills and/or learn new skills related to the information technology field. A professional is a person who has been employed continuously in a job related to the certificate for at least two years prior to enrollment in the certificate program.

- Microsoft Visual Basic.NET
- Microsoft C#
- Java
- Oracle Application Development
- Oracle Database Administration
- UNIX (Linux Platform)

A student who intends to transfer to a senior institution should refer to the Associate in Science (AS) degree transfer advising plans/Computer Science specialty area (See General Course Information, Academic Degrees for specialty area of the catalog) or consult an HCC counselor to design a course of study to avoid inappropriate course selection and possible loss of credit upon transfer.

## Capstones

The capstone might consist of an external learning experience (e.g., co-op, internship, etc.), a course especially designed to help students synthesize knowledge and skills, or a licensure exam as appropriate.

The capstone for all programming AAS degrees is ITSE 1380, Cooperative Education.

The capstone for UNIX and PC Support Specialization AAS degrees is ITSC 1380, Cooperative Education.

The capstone for Networking and Telecommunications Specialization (MCSA) AAS degree is ITNW 1380, Cooperative Education.

The capstone for the Networking and Telecommunications Specialization Certificate is ITMT 1300, Implementing and Supporting Microsoft Windows XP Professional.

The capstone for the PC Support Specialization Certificate is ITSW 2337, Advanced Database.

## Department Approved Electives
ITSE 1350, Systems Analysis and Design is recommended; however, other electives may be selected with departmental approval. PLEASE CONTACT AN ASSOCIATE CHAIR AT ANY OF THE COLLEGES FOR PROPER ADVISEMENT.

## Approved Business Electives

Students pursuing any AAS degree within the department are required to take two approved business courses. If the degree plan does not specify ACCT 2301, Principles of Accounting I, and ACCT 2302, Principles of Accounting II, students may choose from the following business electives:

ACCT 2301, ACCT 2302, BMGT 1301, BMGT 1303, BMGT 1325, BMGT 1333, BUSG 1301,BUSG 2305, BUSG 2317, ECON 1301, ECON 2301, ECON 2302, HRPO 1311, HRPO 2307, MRKG 1391 and MRKG 2372.

# APPLICATIONS DEVELOPMENT - VISUAL BASIC.NET SPECIALIZATION
The AAS in Applications Development-Visual Basic.NET Specialization prepares the student with skills to produce high quality sustainable codes through all stages of a software life cycle: project planning and estimating, gathering requirements, functional specifications, use case tools, design specifications, coding, testing, integrating, and maintenance. .NET is the Microsoft web services strategy to connect information, people, systems, and devices through software. Intergrated across the microsoft platform, .NET technology provides the student the ability to quickly build, deploy, manage, and use connected, security-enhanced solutions with web services.

**AAS**

TSI Testing is required prior to first enrollment.

## FIRST YEAR

### FIRST SEMESTER — CREDITS
| | | | |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| MATH | 1314 | College Algebra | 3 |
| BCIS | 1405 | Business Computer Applications | 4 |
| COSC | 1436 | Programming Fundamentals I | 4 |
| | | **Semester Total** | **14** |

### SECOND SEMESTER — CREDITS
| | | | |
|---|---|---|---|
| ENGL | 1302 | Composition II | 3 |
| MATH | 1324 | Finite Mathematics with Applications | 3 |
| COSC | 1437 | Programming Fundamentals II | 4 |
| ITSE | 1346 | Database Theory and Design | 3 |
| | | **Semester Total** | **13** |

### THIRD SEMESTER — CREDITS
| | | | |
|---|---|---|---|
| XXXX | #3## | Humanities/Fine Arts General Education Elective | 3 |
| SPCH | 1311 | Fundamentals of Speech OR | |
| SPCH | 1315 | Public Speaking OR | |
| SPCH | 1321 | Business and Professional Speaking | 3 |
| | | **Semester Total** | **6** |

## SECOND YEAR

### FIRST SEMESTER — CREDITS
| | | | |
|---|---|---|---|
| ENGL | 2311 | Technical and Industrial Correspondence and Report Writing | 3 |
| ACCT | 2301 | Principles of Accounting I | 3 |
| XXXX | #3## | Department Approved Elective | 3 |
| ITSE | 1432 | Introduction to Visual Basic.NET | 4 |
| ITSE | 1356 | Extensible Markup Language (XML) | 3 |
| | | **Semester Total** | **16** |

### SECOND SEMESTER — CREDITS
| | | | |
|---|---|---|---|
| SOCI | 1301 | Introduction to Sociology | 3 |
| ACCT | 2302 | Principles of Accounting II | 3 |
| ITSE | 1447 | Programming with Visual Basic.NET | 4 |
| INEW | 1340 | ASP.NET Programming | 3 |
| ITSE | 1380 | Cooperative Education-Computer Programming | 3 |
| | | **Semester Total** | **16** |
| | | **Program Total** | **65** |

## APPLICATIONS DEVELOPMENT-MICROSOFT C# SPECIALIZATION

The AAS in Applications Development-Microsoft C# Specialization prepares the student with skills to produce high quality sustainable codes through all stages of a software life cycle: project planning and estimating, gathering requirements, functional specifications, use case tools, design specifications, coding, testing, integrating, and maintenance. Microsoft C# (C Sharp) is an object-oriented programming language developed by Microsoft as part of their .NET initiative.

### AAS

TSI Testing is required prior to first enrollment.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| MATH | 1314 | College Algebra | 3 |
| BCIS | 1405 | Business Computer Applications | 4 |
| COSC | 1436 | Programming Fundamentals I (with C#) | 4 |
| | | **Semester Total** | **14** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1302 | Composition II | 3 |
| MATH | 1324 | Finite Mathematics with Applications | 3 |
| COSC | 1437 | Programming Fundamentals II (with C#) | 4 |
| ITSE | 1346 | Database Theory and Design | 3 |
| | | **Semester Total** | **13** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| XXXX | #3## | Humanities/Fine Arts General Education Elective | 3 |
| SPCH | 1311 | Fundamentals of Speech OR | |
| SPCH | 1315 | Public Speaking OR | |
| SPCH | 1321 | Business and Professional Speaking | 3 |
| | | **Semester Total** | **6** |

### SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 2311 | Technical and Industrial Correspondence and Report Writing | 3 |
| ACCT | 2301 | Principles of Accounting I | 3 |
| XXXX | #3## | Department Approved Elective | 3 |
| ITSE | 1430 | Introduction to C# Programming | 4 |
| ITSE | 1356 | Extensible Markup Language (XML) | 3 |
| | | **Semester Total** | **16** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| SOCI | 1301 | Introduction to Sociology | 3 |
| ACCT | 2302 | Principles of Accounting II | 3 |
| ITSE | 2453 | Advanced C# Programming | 4 |
| INEW | 1340 | ASP.NET Programming | 3 |
| ITSE | 1380 | Cooperative Education-Computer Programming | 3 |
| | | **Semester Total** | **16** |
| | | **Program Total** | **65** |

## APPLICATIONS DEVELOPMENT-JAVA SPECIALIZATION

The AAS in Applications Development-Java Specialization prepares the student with skills to produce high quality sustainable code through all stages of a software life cycle: project planning and estimating, gathering requirements, functional specifications, use case tools, design specifications, coding, testing, integrating, and maintenance. Java is a high-level object-oriented programming language and software development platform. Students learn Java to develop platform-independent applications that can run on a single computer or be distributed among servers and clients in a network. Java is also used to build small application modules (applets) for use on a web page.

### AAS

TSI Testing is required prior to first enrollment.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| MATH | 1314 | College Algebra | 3 |
| BCIS | 1405 | Business Computer Applications | 4 |
| COSC | 1436 | Programming Fundamentals I (with Java) | 4 |
| | | **Semester Total** | **14** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1302 | Composition II | 3 |
| MATH | 1324 | Finite Mathematics with Applications | 3 |
| COSC | 1437 | Programming Fundamentals II (with Java) | 4 |
| ITSE | 1346 | Database Theory and Design | 3 |
| | | **Semester Total** | **13** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| XXXX | #3## | Humanities/Fine Arts General Education Elective | 3 |
| SPCH | 1311 | Fundamentals of Speech OR | |
| SPCH | 1315 | Public Speaking OR | |
| SPCH | 1321 | Business and Professional Speaking | 3 |
| | | **Semester Total** | **6** |

### SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 2311 | Technical and Industrial Correspondence and Report Writing | 3 |
| ACCT | 2301 | Principles of Accounting I | 3 |
| XXXX | #3## | Department Approved Elective | 3 |
| INEW | 2438 | Advanced Java Programming | 4 |
| ITSE | 1356 | Extensible Markup Language (XML) | 3 |
| | | **Semester Total** | **16** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| SOCI | 1301 | Introduction to Sociology | 3 |
| ACCT | 2302 | Principles of Accounting II | 3 |
| ITSE | 2302 | Intermediate Web Programming (J2EE) | 3 |
| ITSE | 1345 | Introduction to Oracle SQL | 3 |
| ITSE | 1380 | Cooperative Education-Computer Programming | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **64** |

# APPLICATIONS DEVELOPMENT-ORACLE APPLICATION DEVELOPMENT SPECIALIZATION

The AAS in Applications Development-Oracle Application Development Specialization covers part of Oracle's Developer Suite 10g. Oracle Forms 10g is a productive development environment for building enterprise-class, scalable database applications for the Internet. As an Oracle Forms 10g Forms Developer, a student has the ability to easily develop and quickly construct sophisticated database forms and business logic. Also covered in the degree plan is part of Oracle's 10g Developer Suite. Oracle Reports is a high-fidelity enterprise-reporting tool that enables businesses to give immediate access of information at all levels within and outside of the organization in a scalable and secure environment. As an Oracle Reports Developer, the student develops the ability to use sophisticated logic in reports processing with Oracle databases, Oracle Applications Servers, and other tools using Java.

## AAS

TSI Testing is required prior to first enrollment.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| MATH | 1314 | College Algebra | 3 |
| BCIS | 1405 | Business Computer Applications | 4 |
| COSC | 1436 | Programming Fundamentals I | 4 |
| | | **Semester Total** | **14** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1302 | Composition II | 3 |
| COSC | 1437 | Programming Fundamentals II | 4 |
| ITSE | 1346 | Database Theory and Design | 3 |
| ITSE | 1345 | Introduction to Oracle SQL | 3 |
| ITSE | 1356 | Extensible Markup Language (XML) | 3 |
| | | **Semester Total** | **16** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| XXXX | #3## | Humanities/Fine Arts General Education Elective | 3 |
| SPCH | 1311 | Fundamentals of Speech OR | |
| SPCH | 1315 | Public Speaking OR | |
| SPCH | 1321 | Business and Professional Speaking | 3 |
| | | **Semester Total** | **6** |

### SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| MATH | 1324 | Finite Mathematics with Applications | 3 |
| ACCT | 2301 | Principles of Accounting I | 3 |
| ITSE | 2302 | Intermediate Web Programming | 3 |
| ITSE | 2346 | Oracle: Application I | 3 |
| ITSE | 2354 | Advanced Oracle PL/SQL | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| SOCI | 1301 | Introduction to Sociology | 3 |
| ENGL | 2311 | Technical and Industrial Correspondence and Report Writing | 3 |
| ACCT | 2302 | Principles of Accounting II | 3 |
| ITSE | 2348 | Oracle: Applications II | 3 |
| ITSE | 1380 | Cooperative Education-Computer Programming | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **66** |

# COMPUTER SCIENCE TECHNOLOGY-ORACLE DATABASE ADMINISTRATION SPECIALIZATION

The AAS in Computer Science Technology-Oracle Database Administration Specialization trains students to configure an Oracle database for multilingual applications. Students will practice various methods of recovering the database, using RMAN, SQL, and Flashback technology. Tools to monitor database performance and steps to take to improve database performance are also covered in this degree plan. Students will also learn how to use various database technologies, such as Resource Manager, the Scheduler, and Automatic Storage Management (ASM). The topics are reinforced with structured hands-on practices in the lab. This degree plan is designed to prepare the student for the corresponding Oracle Certified Professional (10g) exam.

## AAS

TSI Testing is required prior to first enrollment.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| MATH | 1314 | College Algebra | 3 |
| BCIS | 1405 | Business Computer Applications | 4 |
| COSC | 1436 | Programming Fundamentals I | 4 |
| | | **Semester Total** | **14** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1302 | Composition II | 3 |
| SOCI | 1301 | Introduction to Sociology | 3 |
| COSC | 1437 | Programming Fundamentals II | 4 |
| ITSE | 1346 | Database Theory and Design | 3 |
| ITSE | 1345 | Introduction to Oracle SQL | 3 |
| | | **Semester Total** | **16** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| ITSC | 1307 | UNIX Operating System I (using LINUX) | 3 |
| SPCH | 1311 | Fundamentals of Speech OR | |
| SPCH | 1315 | Public Speaking OR | |
| SPCH | 1321 | Business and Professional Speaking | 3 |
| | | **Semester Total** | **6** |

### SECOND YEAR

| FIRST SEMESTER | | | CREDIT |
|---|---|---|---|
| XXXX | #3## | Humanities/Fine Arts General Education Elective | 3 |
| ITSC | 1458 | UNIX System Administration I OR | |
| ITNW | 1425 | Fundamentals of Networking Technologies | 4 |
| MATH | 1324 | Finite Mathematics with Applications | 3 |
| XXXX | #3## | Department Approved Elective | 3 |
| ITSE | 2456 | Oracle Database Administration I | 4 |
| | | **Semester Total** | **17** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 2311 | Technical and Industrial Correspondence and Report Writing | 3 |
| ITSE | 2444 | Oracle Database Structure and Data Warehousing | 4 |
| ITSE | 2458 | Oracle Database Administration II | 4 |
| ITSE | 1380 | Cooperative Education-Computer Programming | 3 |
| | | **Semester Total** | **14** |
| | | **Program Total** | **67** |

## COMPUTER SYSTEMS NETWORKING AND TELECOMMUNICATIONS - (MCSA)

The AAS in Computer Systems Networking and Telecommunications (MCSA) Specialization prepares students to evaluate, recommend, configure, install, manage, and maintain hardware/software for LAN (Local Area Network) as well as WAN (Wide Area Networks). Emphasis is placed on Microsoft operating systems in the enterprise and wireless networking technologies. Securities in the enterprise, security policies, firewall solutions, antivirus applications, and network interconnectivity are practiced in the lab. Other skills acquired include creating user and group accounts, establishing e-mail service, and monitoring system performance.

### AAS

TSI Testing is required prior to first enrollment.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| MATH | 1314 | College Algebra | 3 |
| BCIS | 1405 | Business Computer Applications | 4 |
| ITNW | 1425 | Fundamentals of Networking Technologies | 4 |
| | | **Semester Total** | **14** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1302 | Composition II | 3 |
| MATH | 1324 | Finite Mathematics with Applications | 3 |
| COSC | 1436 | Programming Fundamentals I | 4 |
| ITNW | 1358 | Network+ | 3 |
| XXXX | #3## | Humanities/Fine Arts General Education Elective | 3 |
| | | **Semester Total** | **16** |

| THIRD SEMESTER | | | CREDIT |
|---|---|---|---|
| ITMT | 1300 | Implementing and Supporting Microsoft Windows XP Professional | 3 |
| SPCH | 1311 | Fundamentals of Speech OR | |
| SPCH | 1315 | Public Speaking OR | |
| SPCH | 1321 | Business and Professional Speaking | 3 |
| | | **Semester Total** | **6** |

### SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| XXXX | #3## | Approved Business Elective | 3 |
| CPMT | 1411 | Introduction to Computer Maintenance | 4 |
| ITMT | 1350 | Implementing, Managing, and Maintaining MS Windows Server 2003 Network Infrastructure | 3 |
| ITMT | 1340 | Managing and Maintaining a Microsoft Windows Server 2003 Environment | 3 |
| | | **Semester Total** | **13** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| SOCI | 1301 | Introduction to Sociology | 3 |
| ENGL | 2311 | Technical and Industrial Correspondence and Report Writing | 3 |
| XXXX | #3## | Approved Business Elective | 3 |
| ITSY | 1342 | Information Technology Security | 3 |
| ITNW | 1380 | Cooperative Education - Computer Systems Networking and Telecommunications | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **64** |

## COMPUTER SYSTEMS NETWORKING AND TELECOMMUNICATIONS CERTIFICATE

The Computer Systems Networking and Telecommunications Certificate is designed to help the student learn the basics of Networking and Telecommunications. The courses taken in this certificate will apply toward the AAS Degree in Networking and Telecommunications.

### CERTIFICATE

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| MATH | 1314 | College Algebra | 3 |
| ITNW | 1425 | Fundamentals of Networking Technologies | 4 |
| BCIS | 1405 | Business Computer Applications | 4 |
| | | **Semester Total** | **14** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| CMPT | 1411 | Introduction to Computer Maintenance | 4 |
| ITNW | 1358 | Network+ | 3 |
| SPCH | 1311 | Fundamentals of Speech OR | |
| SPCH | 1315 | Public Speaking OR | |
| SPCH | 1321 | Business and Professional Speaking | 3 |
| | | **Semester Total** | **10** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| ITMT | 1300 | Implementing and Supporting Microsoft Windows XP Professional | 3 |
| | | **Semester Total** | **3** |
| | | **Program Total** | **27** |

## COMPUTER AND INFORMATION SCIENCE TECHNOLOGY-PC SUPPORT SPECIALIZATION

The AAS in Computer and Information Science Technology-PC Support Specialization prepares students to evaluate, recommend and install hardware and software for use in microcomputer business applications. Students will also develop soft skills to communicate with users, managers, customers, vendors and others relating to business applications using microcomputers. Analytical skills will be improved to allow students to effectively deal with customers and their problems in person or by phone/e-mail.

### AAS

TSI Testing is required prior to first enrollment.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| MATH | 1314 | College Algebra | 3 |
| BCIS | 1405 | Business Computer Applications | 4 |
| ITNW | 1425 | Fundamentals of Networking Technologies | 4 |
| | | **Semester Total** | **14** |

## SECOND SEMESTER — CREDITS

| Course | | Title | Credits |
|---|---|---|---|
| ENGL | 1302 | Composition II | 3 |
| MATH | 1324 | Finite Mathematics with Applications | 3 |
| COSC | 1436 | Fundamentals of Programming I | 4 |
| ITSC | 1321 | Intermediate PC Operating Systems OR | |
| ITMT | 1300 | Implementing and Supporting Microsoft Windows XP Professional | 3 |
| XXXX | #3## | Humanities/Fine Arts General Education Elective | 3 |
| | | **Semester Total** | **16** |

### THIRD SEMESTER (SUMMER) — CREDITS

| Course | | Title | Credits |
|---|---|---|---|
| ITSC | 2321 | Integrated Software Applications II (Adv. Word) | 3 |
| SPCH | 1311 | Fundamentals of Speech OR | |
| SPCH | 1315 | Public Speaking OR | |
| SPCH | 1321 | Business and Professional Speaking | 3 |
| | | **Semester Total** | **6** |

## SECOND YEAR

### FIRST SEMESTER — CREDITS

| Course | | Title | Credits |
|---|---|---|---|
| XXXX | #3## | Approved Business Elective | 3 |
| CPMT | 1411 | Introduction to Computer Maintenance | 4 |
| ITSC | 1307 | UNIX Operating System I | 3 |
| ITSW | 2334 | Advanced Spreadsheets | 3 |
| | | **Semester Total** | **13** |

### SECOND SEMESTER — CREDITS

| Course | | Title | Credits |
|---|---|---|---|
| SOCI | 1301 | Introduction to Sociology | 3 |
| ENGL | 2311 | Technical and Industrial Correspondence and Report Writing | 3 |
| XXXX | #3## | Approved Business Elective | 3 |
| ITSW | 2337 | Advanced Database | 3 |
| ITSC | 1380 | Cooperative Education - Computer and Information Sciences | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **64** |

# COMPUTER AND INFORMATION SCIENCE TECHNOLOGY-PC SUPPORT CERTIFICATE

The Computer and Information Science Technology-PC Support Certificate helps the student develop skills to communicate with users, managers, customers, vendors, and others relating to business applications and microcomputers. The student can also perform data entry operations using microcomputers as stand-alone computers or as terminals to networked applications. The courses taken in this certificate will apply toward the AAS Degree in Networking and Telecommunications.

### CERTIFICATE

### FIRST SEMESTER — CREDITS

| Course | | Title | Credits |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| MATH | 1314 | College Algebra | 3 |
| BCIS | 1405 | Business Computer Applications | 4 |
| ITNW | 1425 | Fundamentals of Networking Technologies | 4 |
| | | **Semester Total** | **14** |

## SECOND SEMESTER — CREDITS

| Course | | Title | Credits |
|---|---|---|---|
| SPCH | 1311 | Fundamentals of Speech OR | |
| SPCH | 1315 | Public Speaking OR | |
| SPCH | 1321 | Business and Professional Speaking | 3 |
| CPMT | 1411 | Introduction to Computer Maintenance | 4 |
| ITSC | 1321 | Intermediate PC Operating Systems | 3 |
| ITSW | 2334 | Advanced Spreadsheets | 3 |
| ITSW | 2337 | Advanced Database | 3 |
| | | **Semester Total** | **16** |
| | | **Program Total** | **30** |

# COMPUTER AND INFORMATION SCIENCE TECHNOLOGY-UNIX SPECIALIZATION

The AAS in Computer and Information Science Technology-UNIX Specialization provides IT and computer science students with an in-depth, skills-based knowledge of UNIX/Linux systems. The benefits of UNIX/Linux are wide ranging, and the career prospects for UNIX/Linux professionals continue to be very promising. The degree provides the student with tools to manage Linux servers. Students will also learn how to configure network services and how to integrate a Linux system with a heterogeneous environment.

### AAS

TSI Testing is required prior to first enrollment.

## FIRST YEAR

### FIRST SEMESTER — CREDITS

| Course | | Title | Credits |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| MATH | 1314 | College Algebra | 3 |
| BCIS | 1405 | Business Computer Applications | 4 |
| ITNW | 1425 | Fundamentals of Networking Technologies | 4 |
| | | **Semester Total** | **14** |

### SECOND SEMESTER — CREDITS

| Course | | Title | Credits |
|---|---|---|---|
| ENGL | 1302 | Composition II | 3 |
| MATH | 1324 | Finite Mathematics with Applications | 3 |
| COSC | 1436 | Programming Fundamentals I | 4 |
| ITSC | 1307 | Unix Operating System I | 3 |
| CPMT | 1411 | Introduction to Computer Maintenance | 4 |
| | | **Semester Total** | **17** |

### THIRD SEMESTER (SUMMER) — CREDITS

| Course | | Title | Credits |
|---|---|---|---|
| SPCH | 1311 | Fundamentals of Speech OR | |
| SPCH | 1315 | Public Speaking OR | |
| SPCH | 1321 | Business and Professional Speaking | 3 |
| XXXX | #3## | Humanities/Fine Arts General Education Elective | 3 |
| | | **Semester Total** | **6** |

## SECOND YEAR

### FIRST SEMESTER — CREDITS

| Course | | Title | Credits |
|---|---|---|---|
| ITSC | 1342 | Shell Programming | 3 |
| ENGL | 2311 | Technical and Industrial Correspondence and Report Writing | 3 |
| ITSC | 1358 | Unix System Administration I | 3 |
| XXXX | #3## | Approved Business Elective | 3 |
| SOCI | 1301 | Introduction to Sociology | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| XXXX | #3## | Approved Business Elective | 3 |
| XXXX | #4## | Department Approved Elective | 4 |
| ITSC | 1447 | UNIX System Administration II | 4 |
| ITSC | 1380 | Cooperative Education-Computer and Information Sciences | 3 |
| | | **Semester Total** | **14** |
| | | **Program Total** | **66** |

## COMPUTER AND INFORMATION SCIENCE TECHNOLOGY - IBM ENTERPRISE SERVER

HCC and IBM recognize technology's important role in adult education and job training. We are helping job-seekers secure and retain employment by providing hands-on experience with today's technologies. IBM zSeries Enterprise Servers are used for classroom teaching and learning. Completing the courses in the certificate program will provide the student opportunities to become a System Programmer, Network Technician, or System Operator.

### CERTIFICATE*

| PREREQUISITE SEMESTER | | CREDITS |
|---|---|---|
| 1301 | Introduction to Computers ITSC | 3 |
| | **Prerequisite Total** | **3** |

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ITSC | 1370 | Introduction to Enterprise Server | 3 |
| ITSC | 1316 | Linux Installation and Configuration | 3 |
| | | **Semester Total** | **6** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| ITSC | 1302 | Computer Control Language | 3 |
| ITSE | 1402 | Computer Programming (CICS) | 4 |
| | | **Semester Total** | **7** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| ITSE | 2337 | Assembly Language Programming | 3 |
| | | **Semester Total** | **3** |
| | | **Program Total** | **19** |

*Pending approval of the Texas Higher Education Coordinating Board.

## Marketable Skills Achievement Award

The six Marketable Skills Achievement Awards offered by the Computer Science Technology Department, provide experienced (see Note 1*) information technology professionals the opportunity to enhance their skills and/or learn new skills related to the information technology field. Students must have significant recent work experience (usually two years or more) coupled with appropriate entrance level educational backgrounds. Some may need to take prerequisite courses, if they are lacking in skills needed to successfully complete the beginning course(s) in a certificate. Those interested should contact the Associate Chair in charge of the certificate for advisement prior to starting classes.

*NOTE 1: An experienced information technology professional is a person who has been employed continuously in a job related to the certificate for at least two of the past four years prior to enrollment in the certificate program.

## MICROSOFT VISUAL BASIC.NET

### MSA
(Marketable Skills Achievement Award)

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ITSE | 1432 | Introduction to Visual Basic.NET Programming | 4 |
| ITSE | 1356 | Extensible Markup Language (XML) | 3 |
| | | **Semester Total** | **7** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| ITSE | 1447 | Programming with Visual Basic.NET | 4 |
| INEW | 1340 | ASP.NET Programming | 3 |
| | | **Semester Total** | **7** |
| | | **Program Total** | **14** |

## MICROSOFT C#

### MSA
(Marketable Skills Achievement Award)

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ITSE | 1430 | Introduction to C# Programming | 4 |
| ITSE | 1356 | Extensible Markup Language (XML) | 3 |
| | | **Semester Total** | **7** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| ITSE | 2453 | Advanced C# Programming | 4 |
| INEW | 1340 | ASP.NET Programming | 3 |
| | | **Semester Total** | **7** |
| | | **Program Total** | **14** |

## JAVA

### MSA
(Marketable Skills Achievement Award)

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ITSE | 2417 | JAVA Programming | 4 |
| ITSE | 2302 | Intermediate Web Programming | 3 |
| | | **Semester Total** | **7** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| INEW | 2438 | Advanced Java Programming | 4 |
| ITSE | 1345 | Introduction to Oracle SQL | 3 |
| | | **Semester Total** | **7** |
| | | **Program Total** | **14** |

## ORACLE APPLICATION DEVELOPMENT

(Marketable Skills Achievement Award)

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ITSE | 2346 | Oracle: Application I | 3 |
| ITSE | 2354 | Advanced Oracle PL/SQL | 3 |
| | | **Semester Total** | **6** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| ITSE | 2348 | Oracle: Applications II | 3 |
| | | **Semester Total** | **3** |
| | | **Program Total** | **9** |

## ORACLE DATABASE ADMINISTRATION

(Marketable Skills Achievement Award)

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ITSE | 2354 | Advanced Oracle PL/SQL | 3 |
| ITSE | 2456 | Oracle Database Administration I (10g) | 4 |
| | | **Semester Total** | **7** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| ITSE | 2458 | Oracle Database Administration II (10g) | 4 |
| | | **Semester Total** | **4** |
| | | **Program Total** | **11** |

## UNIX (LINUX)

(Marketable Skills Achievement Award)

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ITSC | 1307 | UNIX Operating System I | 3 |
| ITSC | 1358 | UNIX System Administration I | 3 |
| | | **Semester Total** | **6** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| ITSC | 1342 | Shell Programming | 3 |
| ITSC | 1447 | UNIX System Administration II | 4 |
| | | **Semester Total** | **7** |
| | | **Program Total** | **13** |

# DIGITAL GAMING AND SIMULATION

The game industry is not a "future" industry nor is it a "future" market. Computer and video game software sales and are steadily growing. The industry wants skilled artists and programmers to meet the employment needs of this rapidly growing industry.

The Digital Gaming and Simulation Department offers career training that leads to employment in the game industry as either a game artist or a game programmer and uses state-of-the-art technologies to help students reach their personal and professional goals.

The game artist will develop skills in animation, illustrations, graphic design, layout, and interface design in the development of games. The game programmer will develop skills in design, programming, performance diagnostics, optimization, and game libraries in the development of games. The artists and programmers will work together in teams to develop games as a requirement for completing the degree.

All high school students interested in entry into this program should be ready to take college English (ENGL 1301 Composition I) and college Math (MATH 1314 College Algebra). Entry into all gaming courses requires departmental approval.

For more information visit the department's website at: http://swc2.hccs. edu/digiGame. If you have any questions, please call 713-718-6743 or e-mail reni.abraham@hccs.edu.

## Degree Programs Offered
- Associates of Applied Science (AAS)
- Digital Gaming and Simulation for Artists
- Digital Gaming and Simulation for Programmers

## Certificate - Level 1
- Digital Gaming and Simulation for Artists
- Digital Gaming and Simulation for Programmers

## Certificate - Level 2
- Digital Gaming and Simulation for Artists
- Digital Gaming and Simulation for Programmers

The certificates are designed to be stepping stones toward completing the AAS degree.

The capstone for both the AAS degrees is GAME 2386, Internship.

The capstone for both the Level 1 certificates is GAME 2332, Project Development I.

The capstone for both the Level 2 certificates is GAME 2334, Project Development II.

## DIGITAL GAMING AND SIMULATION FOR ARTISTS

The game artist degree and certificates prepare students to enter the game industry with skills in traditional art and hands-on experience developing games using the latest software tools.

TSI Testing is required prior to first enrollment.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| GAME | 1306 | Design and Creation of Games | 3 |
| ARTC | 1302 | Digital Imagining I | 3 |
| COSC | 1436 | Programming Fundamentals I | 4 |
| ARTS | 2323 | Life Drawing I | 3 |
| | | **Semester Total** | **16** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| GAME | 1201 | Computer Ethics | 2 |
| GAME | 1212 | Game Theory | 2 |
| ARTV | 1345 | 3-D Modeling and Rendering I | 3 |
| GAME | 1375 | Principals of Game Concept Art | 3 |
| GAME | 1314 | Character Sculpting | 3 |
| ARTS | 2324 | Life Drawing II | 3 |
| | | **Semester Total** | **16** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| GAME | 1302 | Storyboarding | 3 |
| ARTV | 1341 | 3-D Animation I | 3 |
| | | **Semester Total** | **6** |

## SECOND YEAR

### FIRST SEMESTER

| | | | CREDITS |
|---|---|---|---|
| GAME | 2332 | Project Development I | 3 |
| GAME | 2378 | Techniques of Game Art | 3 |
| GAME | 2336 | Lighting, Shading and Texture | 3 |
| ARTV | 2351 | 3-D Animation II | 3 |
| GAME | 1304 | Level Design | 3 |
| | | **Semester Total** | **15** |

### SECOND SEMESTER

| | | | CREDITS |
|---|---|---|---|
| GAME | 2334 | Project Development II | 3 |
| ARTV | 1343 | Digital Sound | 3 |
| GAME | 2379 | Portfolio Development | 3 |
| XXXX | #3## | Math/Natural Science Elective | 3 |
| XXXX | #3## | Social/Behavioral Science Elective | 3 |
| | | **Semester Total** | **15** |

### THIRD SEMESTER

| | | | CREDITS |
|---|---|---|---|
| GAME | 2386 | Internship - Animation, Interactive Technology, Video Graphics and Special Effects | 3 |
| | | **Semester Total** | **3** |
| | | **Program Total** | **71** |

## DIGITAL GAMING AND SIMULATION FOR ARTISTS

### CERTIFICATE - LEVEL 1

## FIRST YEAR

### FIRST SEMESTER

| | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| GAME | 1306 | Design and Creation of Games | 3 |
| ARTC | 1302 | Digital Imagining I | 3 |
| COSC | 1436 | Programming Fundamentals I | 4 |
| ARTS | 2323 | Life Drawing I | 3 |
| | | **Semester Total** | **16** |

### SECOND SEMESTER

| | | | CREDITS |
|---|---|---|---|
| GAME | 1201 | Computer Ethics | 2 |
| GAME | 1212 | Game Theory | 2 |
| ARTV | 1345 | 3-D Modeling and Rendering I | 3 |
| GAME | 1375 | Principals of Game Concept Art | 3 |
| GAME | 1314 | Character Sculpting | 3 |
| ARTS | 2324 | Life Drawing II | 3 |
| | | **Semester Total** | **16** |

### THIRD SEMESTER

| | | | CREDITS |
|---|---|---|---|
| GAME | 1302 | Storyboarding | 3 |
| ARTV | 1341 | 3-D Animation I | 3 |
| | | **Semester Total** | **6** |

## SECOND YEAR

### FIRST SEMESTER

| | | | CREDITS |
|---|---|---|---|
| GAME | 2332 | Project Development I | 3 |
| | | **Semester Total** | **3** |
| | | **Program Total** | **41** |

## DIGITAL GAMING AND SIMULATION FOR ARTISTS

### CERTIFICATE - LEVEL 2

## FIRST YEAR

### FIRST SEMESTER

| | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| GAME | 1306 | Design and Creation of Games | 3 |
| ARTC | 1302 | Digital Imaging I | 3 |
| COSC | 1436 | Programming Fundamentals I | 4 |
| ARTS | 2323 | Life Drawing I | 3 |
| | | **Semester Total** | **16** |

### SECOND SEMESTER

| | | | CREDITS |
|---|---|---|---|
| GAME | 1201 | Computer Ethics | 2 |
| GAME | 1212 | Game Theory | 2 |
| ARTV | 1345 | 3-D Modeling and Rendering I | 3 |
| GAME | 1375 | Principals of Game Concept Art | 3 |
| GAME | 1314 | Character Sculpting | 3 |
| ARTS | 2324 | Life Drawing II | 3 |
| | | **Semester Total** | **16** |

### THIRD SEMESTER

| | | | CREDITS |
|---|---|---|---|
| GAME | 1302 | Storyboarding | 3 |
| ARTV | 1341 | 3-D Animation I | 3 |
| | | **Semester Total** | **6** |

## SECOND YEAR

### FIRST SEMESTER

| | | | CREDITS |
|---|---|---|---|
| GAME | 2332 | Project Development I | 3 |
| GAME | 2378 | Techniques of Game Art | 3 |
| GAME | 2336 | Lighting, Shading and Texture | 3 |
| ARTV | 2351 | 3-D Animation II | 3 |
| GAME | 1304 | Level Design | 3 |
| | | **Semester Total** | **15** |

### SECOND SEMESTER

| | | | CREDITS |
|---|---|---|---|
| GAME | 2334 | Project Development II | 3 |
| GAME | 2379 | Portfolio Development | 3 |
| | | **Semester Total** | **6** |
| | | **Program Total** | **59** |

## DIGITAL GAMING AND SIMULATION FOR PROGRAMMERS

The game programmer degree and certificates prepare students to enter the game industry with skills in structured and object-oriented programming and game development skills using scripting languages.

### AAS

TSI Testing is required prior to first enrollment.

## FIRST YEAR

### FIRST SEMESTER

| | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| GAME | 1306 | Design and Creation of Games | 3 |
| ARTC | 1302 | Digital Imagining I | 3 |
| COSC | 1436 | Programming Fundamentals I | 4 |
| MATH | 1314 | College Algebra | 3 |
| | | **Semester Total** | **16** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| GAME | 1201 | Computer Ethics | 2 |
| GAME | 1212 | Game Theory | 2 |
| ARTV | 1345 | 3-D Modeling and Rendering I | 3 |
| ARTV | 2301 | 2-D Animation I (Flash) | 3 |
| COSC | 1437 | Programming Fundamentals II | 4 |
| GAME | 2302 | Mathematical Applications for Game Development | 3 |
| | | **Semester Total** | **17** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| GAME | 1302 | Storyboarding | 3 |
| GAME | 2342 | Game Development Using C++ | 3 |
| | | **Semester Total** | **6** |

## SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| GAME | 2332 | Project Development I | 3 |
| XXXX | #3## | Humanities/Fine Arts General Education Elective | 3 |
| GAME | 2341 | Game Scripting | 3 |
| XXXX | #3## | Computer Programming Elective* | 3 |
| GAME | 1304 | Level Design | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| GAME | 2334 | Project Development II | 3 |
| GAME | 2344 | Direct X Programming | 3 |
| GAME | 2379 | Portfolio Development | 3 |
| XXXX | #3## | Math/Science Elective | 3 |
| XXXX | #3## | Social/Behavioral Science Elective | 3 |
| | | **Semester Total** | **15** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| GAME | 2386 | Internship - Animation, Interactive Technology, Video Graphics and Special Effects | 3 |
| | | **Semester Total** | **3** |
| | | **Program Total** | **72** |

*The Computer Programming Elective may be chosen from the following courses: ITSW 1307, Introduction to Database; ITSE 1430, Introduction to C# Programming; ITSE 2417, JAVA Programming; or COSC 2436, Programming Fundamentals III.

## DIGITAL GAMING AND SIMULATION FOR PROGRAMMERS

### CERTIFICATE - LEVEL 1

## FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| GAME | 1306 | Design and Creation of Games | 3 |
| ARTC | 1302 | Digital Imaging I | 3 |
| COSC | 1436 | Programming Fundamentals I | 4 |
| MATH | 1314 | College Algebra | 3 |
| | | **Semester Total** | **16** |

## SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| GAME | 2332 | Project Development I | 3 |
| | | **Semester Total** | **3** |
| | | **Program Total** | **42** |

## DIGITAL GAMING AND SIMULATION FOR PROGRAMMERS

### CERTIFICATE - LEVEL 2

## FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| GAME | 1306 | Design and Creation of Games | 3 |
| ARTC | 1302 | Digital Imaging I | 3 |
| COSC | 1436 | Programming Fundamentals I | 4 |
| MATH | 1314 | College Algebra | 3 |
| | | **Semester Total** | **16** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| GAME | 1201 | Computer Ethics | 2 |
| GAME | 1212 | Game Theory | 2 |
| ARTV | 1345 | 3-D Modeling and Rendering I | 3 |
| ARTV | 2301 | 2-D Animation I (Flash) | 3 |
| COSC | 1437 | Programming Fundamentals II | 4 |
| GAME | 2302 | Mathematical Applications for Game Development | 3 |
| | | **Semester Total** | **17** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| GAME | 1302 | Storyboarding | 3 |
| GAME | 2342 | Game Development Using C++ | 3 |
| | | **Semester Total** | **6** |

## SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| GAME | 2332 | Project Development I | 3 |
| GAME | 2341 | Game Scripting | 3 |
| GAME | 1304 | Level Design | 3 |
| | | **Semester Total** | **9** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| GAME | 2334 | Project Development II | 3 |
| GAME | 2344 | Direct X Programming | 3 |
| GAME | 2379 | Portfolio Development | 3 |
| | | **Semester Total** | **9** |
| | | **Program Total** | **57** |

# GEOGRAPHIC INFORMATION SCIENCE

Geographic Information Science works in partnership with industry to provide quality workforce education in the new, rapidly expanding fields of Geographic Information Systems (GIS) and Global Positioning Systems (GPS). The programs use up-to-date technology and afford students a wide variety of employment opportunities in the corporate world and government agencies. GIS specialists work with GIS computer programs that enable the user to create maps and other graphics that can be 'layered' with other data.

The capstone for the Geographic Information Science certificates and degree is GISC 2364, Practicum in GIS or GISC 2380, Cooperative Education.

For more information, call 713-718-6725, e-mail richard.debose@hccs.edu or patricia.porcynaluk@hccs.edu, or view our website at http://swc2.hccs.edu/gis/index.html.

## PREPARATION PRIOR TO COLLEGE

All high school students preparing to undertake a degree or certificate should get ready by taking English and math courses that prepare them for freshman college English (ENGL 1301, Composition I) and MATH 1314, College Algebra). The department's AAS degree requires both classes. College level English and math requirements can be accomplished while in high school by taking dual-credit enrollment, advanced placement or CLEP exams. In addition to being academically prepared, high school students can take TechPrep or dual-credit GIS courses in high schools that have articulation agreements with HCC.

## GEOGRAPHIC INFORMATION SCIENCE

### AAS

TSI Testing is required prior to first enrollment.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| MATH | 1314 | College Algebra | 3 |
| DFTG | 1305 | Technical Drafting | 3 |
| ITSC | 1301 | Introduction to Computers | 3 |
| GISC | 1411 | Introduction to GIS | 4 |
| | | **Semester Total** | **16** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| MATH | 1316 | Plane Trigonometry | 3 |
| COSC | 1436 | Programming Fundamentals I | 4 |
| DFTG | 1309 | BASIC Computer-Aided Drafting | 3 |
| GISC | 1401 | Cartography and Geography in GIS/GPS | 4 |
| GISC | 1421 | Introduction to Raster-Based GIS | 4 |
| XXXX | #3## | Approved Humanities/Fine Arts General Education Elective | 3 |
| | | **Semester Total** | **21** |

## SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ITSW | 1307 | Introduction to Database | 3 |
| GEOL | 1403 | Physical Geology | 4 |
| GISC | 1491 | Special Topics in Cartography | 4 |
| GISC | 2401 | Data Acquisition and Analysis in GIS | 4 |
| ETWR | 2301 | Technical Writing OR | |
| ENGL | 2311 | Technical and Industrial Correspondence and Report Writing | 3 |
| | | **Semester Total** | **18** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| GISC | 2411 | Geographic Information Systems (GIS) Applications | 4 |
| GISC | 2380 | Cooperative Education - Cartography OR | |
| GISC | 2364 | Practicum (or Field Experience) Cartography | 3 |
| XXXX | #3## | Department Approved Computer Science OR | |
| XXXX | #3## | Graphic Design Elective* | 3 |
| XXXX | #3## | Department Approved Program-Related Elective*** | 3 |
| XXXX | #3## | Social Science General Education Elective** | 3 |
| | | **Semester Total** | **16** |
| | | **Program Total** | **71** |

*Department Approved Computer Science or Graphic Design Elective (Choose 1)

ITSE 1432, Intro to Visual Basic NET Programming; ITSE 1345, Intro to Oracle/SQL; COSC 1437, Programming Fundamentals II; ARTC 1305, Basic Graphic Design

**Social Science or General Education Elective (Choose 1)

The following courses are recommended because they also meet the Required Academic Core at all Texas public higher educational institutions.

ANTH 2302, 2346, 2351; ECON 2301, 2302; GEOG 1300, 1303; GOVT 2304; PSYC 2301; SOCI 1301, 1306, 2301, 2336; TECA 1354

***Program Related Elective (Choose 1)

MATH 2312 and ENVR 1301 also meet the Required Academic Core at all Texas public higher educational institutions.

ACNT 1303, Introduction to Accounting I; MATH 2312, Precalculus; GEOL 1305, Environmental Science

## GEOGRAPHIC INFORMATION SCIENCE ANALYST

### CERTIFICATE

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| GISC | 1411 | Introduction to GIS | 4 |
| MATH | 1314 | College Algebra | 3 |
| ITSC | 1301 | Introduction to Computers | 3 |
| | | **Semester Total** | **10** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| COSC | 1436 | Programming Fundamentals I | 4 |
| GISC | 1401 | Cartography and Geography in GIS/GPS | 4 |
| GISC | 1421 | Introduction to Raster-Based GIS | 4 |
| | | **Semester Total** | **12** |

## THIRD SEMESTER           CREDITS

| | | | |
|---|---|---|---|
| GISC | 2411 | Geographic Information Systems (GIS) Applications | 4 |
| GISC | 2401 | Data Acquisition and Analysis in GIS | 4 |
| GISC | 1491 | Special Topics in Cartography | 4 |
| GISC | 2364 | Practicum (or Field Experience) Cartography OR | |
| GISC | 2380 | Cooperative Education - Cartography | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **37** |

## GIS TECHNICIAN

Students may complete the GIS Certificate or may apply for up to 15 hours of advanced placement of GIS credit based on successful completion of 36 months of work experience reviewed by the program chair.

### CERTIFICATE

#### FIRST SEMESTER           CREDITS

| | | | |
|---|---|---|---|
| GISC | 1411 | Introduction to GIS | 4 |
| MATH | 1314 | College Algebra | 3 |
| ITSC | 1301 | Introduction to Computers | 3 |
| | | **Semester Total** | **10** |

#### SECOND SEMESTER         CREDITS

| | | | |
|---|---|---|---|
| COSC | 1436 | Programming Fundamentals I | 4 |
| GISC | 1401 | Cartography and Geography in GIS/GPS | 4 |
| GISC | 1421 | Introduction to Raster-Based GIS | 4 |
| GISC | 2364 | Practicum (or Field Experience) Cartography OR | |
| GISC | 2380 | Cooperative Education - Cartography | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **25** |

## GEOGRAPHIC INFORMATION SCIENCE

The series of courses provides students with the skill sets necessary to independently perform project-based work using Geographic Information Systems Technology. This training is designed to lead to immediate employment opportunities in traditional GIS workplaces and in related fields that employ GIS technology.

### MSA

MSA (Marketable Skills Achievement Award)

#### FIRST SEMESTER           CREDITS

| | | | |
|---|---|---|---|
| GISC | 1411 | Introduction to Geographic Information Systems (GIS) | 4 |
| GISC | 1401 | Cartography and Geography in Geographical Information Systems (GIS) and Global Positioning Systems | 4 |
| | | **Semester Total** | **8** |

#### SECOND SEMESTER        CREDITS

| | | | |
|---|---|---|---|
| GISC | 2411 | Geographic Information Systems (GIS) Applications, OR | |
| GISC | 2401 | Date Acquisition and Analysis in Geographic Information Systems (GIS) | 4 |
| | | **Semester Total** | **4** |
| | | **Program Total** | **12** |

# Law, Public Safety, Corrections and Security

**Criminal Justice/Law Enforcement/**
  **Police Science**
**Fire Protection Technology**
**Paralegal Technology**
**(See Academic Degrees and Certificates 33-47)**

## Law, Public Safety, Corrections and Security

A Career Cluster is a grouping of occupations and broad industries based on commonalities. The Law, Public Safety, Corrections and Security career cluster is concerned with providing knowledge and skills related to planning, managing, and providing legal, public safety, protective services and homeland security, including professional and technical support services. This would include careers related to Criminal Justice, Forensics, Law, Paralegal, Law Enforcement, Fire Protection and Safety and Homeland Security.

Every HCC Workforce Educational program contains a "capstone," an experience for the student to "put it all together." The capstone might consist of an external learning experience (e.g., co-op, clinical, etc.), a course especially designed to help students synthesize knowledge and skills, or a licenser exam as appropriate.

## CRIMINAL JUSTICE

The Criminal Justice program consists of the AA transfer plan for Criminal Justice, the AAS in Criminal Justice with concentrations in law enforcement, corrections, or juvenile justice, and the following certificates: Basic Peace Officer Licensing, Crime Scene Technology, and Computer Crime and Digital Evidence

Texas requires a four-year degree to qualify as a probation officer or protective service worker. A student must be 21 to enter the police academy.

Students with an interest in a criminal justice program should consult with one of the criminal justice faculty to assure that their career and academic goals are met. Academic classes are offered on-line, off-site, during the day and evening, and on Saturday. Basic Peace Officer Licensing, Crime Scene Technology, and Computer Crime and Digital Evidence courses must be completed in person.

The Department offers on-site and off-site in-service training for law enforcement and corrections personnel including juvenile and adult community corrections officers.

A student who intends to transfer to a senior institution should refer to the Associate in Arts (AA) degree transfer advising plans/Criminal Justice speciality area (See General Course Information, Academic Degrees for specialty area of the catalog) or consult an HCC counselor to design a course of study to avoid inappropriate course selection and possible loss of credit upon transfer.

The capstone is CJSA 2364, Practicum in Criminal Justice Studies.

For further information, call 713-718-8363 or e-mail johnny.sessums@hccs.edu.edu.

## CORRECTIONS SPECIALIZATION

The Corrections Specialization program trains individuals for a career in Corrections and employment with the (TDCJ) Texas Department of Criminal Justice. Students currently employed with TDCJ can utilize this degree for promotional purposes. This degree program will transfer to Midwestern University and University of Houston/Clear Lake in total by agreement.

For further information, please call 713-718-8363 or e-mail johnny.sessums@hccs.edu.

### AAS

TSI Testing required prior to first enrollment.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| GOVT | 2301 | American Government I | 3 |
| PSYC | 2301 | Introduction to Psychology | 3 |
| CRIJ | 1301 | Introduction to Criminal Justice | 3 |
| XXXX | #3## | Computer Applications Elective* | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| CRIJ | 1306 | The Courts and Criminal Procedure | 3 |
| CRIJ | 1310 | Fundamentals of Criminal Law | 3 |
| XXXX | #4## | Foreign Language Elective OR | |
| SGNL | 1301 | American Sign Language (ASL): Beginning I | 3-4 |
| SOCI | 1301 | Introduction to Sociology | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts General Education Elective | 3 |
| | | **Semester Total** | **15-16** |

### SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| MATH | 1314 | College Algebra | 3 |
| SPCH | 1311 | Fundamentals of Speech | 3 |
| ENGL | 2311 | Technical and Industrial Correspondence and Report Writing | 3 |
| CRIJ | 1307 | Crime in America | 3 |
| CRIJ | 2314 | Criminal Investigation | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| CJSA | 2364 | Practicum (or Field Experience) - Criminal Justice/Safety Studies | 3 |
| CRIJ | 2301 | Community Resources in Corrections | 3 |
| CRIJ | 2313 | Correctional Systems and Practices | 3 |
| CJCR | 2325 | Legal Aspects of Corrections | 3 |
| PHIL | 2306 | Introduction to Ethics | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **60-61** |

*The Computer Applications Elective may be chosen from the following courses: ITSC 1309, Integrated Software Applications I; POFI 1301, Computer Applications I; or BCIS 1405, Business Computer Application.

## JUVENILE JUSTICE SPECIALIZATION

The AAS Juvenile Justice Specialization program prepares the student for a career as a Juvenile Probation Officer or for other related Juvenile Justice occupations. After program completion, students may transfer to Prairie View A&M's School of Juvenile Justice to complete the Bachelor of Science degree. This program features competency-based instruction from Juvenile Probation Officers working in the field.

The capstone is CJSA 2364, Practicum in Criminal Justice Studies.

For more information, call 713-718-8374 or e-mail johnny.sessums@hccs.edu.

### AAS

TSI Testing required prior to first enrollment.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| GOVT | 2301 | American Government I | 3 |
| PSYC | 2301 | Introduction to Psychology | 3 |
| CRIJ | 1301 | Introduction to Criminal Justice | 3 |
| XXXX | #3## | Computer Applications Elective* | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| CRIJ | 1310 | Fundamentals of Criminal Law | 3 |
| CRIJ | 1306 | The Courts and Criminal Procedure | 3 |
| GOVT | 2302 | American Government II | 3 |
| XXXX | #4## | Foreign Language Elective | 4 |
| XXXX | #3## | Approved Humanities/Fine Arts General Education Elective | 3 |
| | | **Semester Total** | **16** |

### SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| SGNL | 1301 | American Sign Language (ASL): Beginning I | 3 |
| MATH | 1314 | College Algebra | 3 |
| CRIJ | 2301 | Community Resources in Corrections | 3 |
| CRIJ | 1313 | Juvenile Justice Systems | 3 |
| SOCI | 1301 | Introduction to Sociology | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| SPCH | 1311 | Fundamentals of Speech | 3 |
| ENGL | 2311 | Technical and Industrial Correspondence and Report Writing I | 3 |
| CJSA | 1393 | Special Topics in Criminal Justice Studies | 3 |
| PHIL | 2306 | Introduction to Ethics | 3 |
| CJSA | 2364 | Practicum-Criminal Justice Studies | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **61** |

*The Computer Applications Elective may be chosen from the following courses: ITSC 1309, Integrated Software Applications I; POFI 1301, Computer Applications I; or BCIS 1405, Business Computer Application.

## CRIME SCENE TECHNOLOGY

Certificates in Crime Scene Technology & Computer Crime & Digital Evidence are replacing the AAS - Forensic Science to comply with current legal and industry standards. In addition to academic credit, police officers and arson investigators will earn TCLEOSE in-service credit. Students interested in forensic science should consider the AA in Criminal Justice or an AS in Biology, Chemistry, Physics, or Computer Science since crime lab analysts must have a master's degree in their field. Aspiring or current nurses, medical lab technicians, attorneys, paralegals, social workers, and insurance adjusters are encouraged to enroll in the certificate programs.

### CERTIFICATE

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| CRIJ | 2314 | Criminal Investigation | 3 |
| CJSA | 1308 | Criminalistics I | 3 |
| CJSA | 2323 | Criminalistics II | 3 |
| CJSA | 2332 | Criminalistics III | 3 |
| CJSA | 1393 | Special Topics / Police Photography | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **15** |

## COMPUTER CRIME AND DIGITAL EVIDENCE

### CERTIFICATE

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| CRIJ | 2314 | Criminal Investigation | 3 |
| CJSA | 1393 | Special Topics / Computer Crime and Digital Evidence | 3 |
| ITSC | 1301 | Introduction to Computers | 3 |
| ITSY | 1300 | Fundamentals of Information Security | 3 |
| ITSY | 1417 | Wireless Foundations | 3 |
| | | **Semester Total** | **16** |
| | | **Program Total** | **16** |

## LAW ENFORCEMENT

This two-year program prepares the student for a career in Law Enforcement. Upon successful completion of the program, the student will obtain an AAS degree and the opportunity to take the Texas Commission on Law Enforcement Officer Education and Standards (TCLEOSE) State Licensing Exam. This program satisfies all the educational requirements for such agencies as the Houston Police Department and the Department of Public Safety. Most of the coursework may be taken at any of the HCC campuses; however, the last semester must be taken at HCC Northeast Campus.

The capstone is CJLE 2384, Criminal Justice Cooperative Education-Law Enforcement/Police Science, which enables the student to work one semester in the field.

For more information, call 713-718-8363 or e-mail johnny.sessums@hccs.edu.

## AAS

TSI Testing required prior to first enrollment.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| GOVT | 2301 | American Government I | 3 |
| PSYC | 2301 | Introduction to Psychology | 3 |
| XXXX | #3## | Computer Applications Elective* | 3 |
| CRIJ | 1301 | Introduction to Criminal Justice | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| CRIJ | 1306 | The Courts and Criminal Procedures | 3 |
| CRIJ | 1307 | Crime in America | 3 |
| CRIJ | 1310 | Fundamentals of Criminal Law | 3 |
| SOCI | 1301 | Introduction to Sociology | 3 |
| ENGL | 1302 | Composition II | 3 |
| | | **Semester Total** | **15** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| CJLE | 2384 | Criminal Justice Cooperative Education-Law Enforcement/Police Science | 3 |
| CRIJ | 2314 | Criminal Investigation | 3 |
| | | **Semester Total** | **6** |

### SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| GOVT | 2302 | American Government II | 3 |
| CRIJ | 2328 | Police Systems and Practices | 3 |
| CRIJ | 2323 | Legal Aspects of Law Enforcement | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts General Education Elective | 3 |
| | | **Semester Total** | **12** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| PHED | 2113 | Physical Training for Law Enforcement | 1 |
| CJLE | 2421 | Texas Peace Officer Law | 4 |
| CJLE | 2420 | Texas Peace Officer Procedures | 4 |
| CJLE | 2522 | Texas Peace Officer Skills | 5 |
| | | **Semester Total** | **14** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| MATH | 1314 | College Algebra | 3 |
| SPCH | 1311 | Fundamentals of Speech | 3 |
| | | **Semester Total** | **6** |
| | | **Program Total** | **68** |

*The Computer Applications Elective may be chosen from the following courses: ITSC 1309, Integrated Software Applications I; POFI 1301, Computer Applications I; or BCIS 1405, Business Computer Application.

## BASIC PEACE OFFICER LICENSING

The Basic Peace Officer Licensing Certificate prepares students for a career as a Texas Peace Officer. Upon successful completion, a student may take the state licensure examination. Students must be at least 21 years of age, submit a criminal history report, achieve an acceptable score in reading and English on the ASSET test, and have appropriate documentation for having a GED with 12-semester hours college credit or high school diploma. Students must meet stringent requirements that exceed general college rules for continued enrollment and successful completion of this program. Students may enroll in day or night classes. All of the coursework for this certificate applies directly to the AAS in Law Enforcement.

Students may choose to enroll in the Basic Peace Officer Licensing Certificate Program for credit or the optional non-credit track .

The capstone is CJLE 1524, Basic Peace Officer IV.

For more information , call Janella Scott at the Law Enforcement Training Center at 713-718-8364 or email janelle.scott@hccs.edu.

## CERTIFICATE

### Level I

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| CJLE | 1506 | Basic Peace Officer I | 5 |
| CJLE | 1512 | Basic Peace Officer II | 5 |
| PHED | 2113 | Physical Training for Law Enforcement | 1 |
| | | **Semester Total** | **11** |

### Level II

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| CJLE | 1518 | Basic Peace Officer III | 5 |
| CJLE | 1524 | Basic Peace Officer IV | 5 |
| | | **Semester Total** | **10** |
| | | **Program Total** | **21** |

# FIRE PROTECTION TECHNOLOGY

The Fire Protection Technology program provides courses leading to AAS degrees in Fire and Arson Investigation Technology and in Fire Science and Safety Technology.

The AAS degree in Fire and Arson Investigation Technology provides advanced training and education in fire and arson investigation techniques and topics. The curriculum includes courses from the Criminal Justice Program.

The capstone is FIRT 2380, Cooperative Education-Fire Protection and Safety Technology/Technician.

For more information, call 713-718-5236 or e-mail rufus.summers@hccs.edu.

## FIRE AND ARSON INVESTIGATION TECHNOLOGY

### AAS

TSI Testing required prior to first enrollment.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| SPCH | #3## | Speech Elective* | 3 |
| CRIJ | 1301 | Introduction to Criminal Justice | 3 |
| CRIJ | 2323 | Legal Aspects of Law Enforcement | 3 |
| FIRT | 1338 | Fire Protection Systems | 3 |
| XXXX | #3## | Computer Applications Elective** | 3 |
| | | **Semester Total** | **18** |

## SECOND SEMESTER                                         CREDITS

| | | | |
|---|---|---|---|
| XXXX | #3## | Social Science General Education Elective | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts General Education Elective | 3 |
| CRIJ | 1307 | Crime in America | 3 |
| CRIJ | 1310 | Fundamentals of Criminal Law | 3 |
| FIRT | 1327 | Building Construction in the Fire Service | 3 |
| | | **Semester Total** | **15** |

## SECOND YEAR

### FIRST SEMESTER                                         CREDITS

| | | | |
|---|---|---|---|
| CHEM | 1405 | Introductory Chemistry | 4 |
| CRIJ | 2314 | Criminal Investigation | 3 |
| FIRT | 1303 | Fire and Arson Investigation I | 3 |
| FIRT | #3## | Fire Elective | 3 |
| FIRT | 1315 | Hazardous Materials I | 3 |
| | | **Semester Total** | **16** |

### SECOND SEMESTER                                        CREDITS

| | | | |
|---|---|---|---|
| CRIJ | 1306 | The Courts and Criminal Procedure | 3 |
| CRIJ | 2328 | Police Systems and Practices | 3 |
| FIRT | 1345 | Hazardous Materials II | 3 |
| FIRT | 2333 | Fire and Arson Investigation II | 3 |
| FIRT | 2380 | Cooperative Education-Fire Protection and Safety Technology/Technician | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **64** |

*Speech Elective may be chosen from SPCH 1311, SPCH 1315, and SPCH 1321.

**The Computer Applications Elective may be chosen from the following courses: ITSC 1309, Integrated Software Applications I;  POFI 1301, Computer Applications I; or BCIS 1405, Business Computer Application.

## FIRE SCIENCE AND SAFETY TECHNOLOGY

A growing trend in fire service nationwide is the creation of a college-educated fire-fighting workforce. The goal of the Fire Science and Safety Technology awards is to enhance technical competencies in the following areas: fire suppression, fire prevention, fire service management, life safety, and other related topics. Although this program is primarily directed toward the professional firefighter, it also provides training and education for personnel of insurance organizations and other industries involved in fire safety and protection.

## FIRE SCIENCE AND SAFETY - FIRE OFFICER SPECIALIZATION

The AAS Fire Officer Specialization will provide a career firefighter with skills and knowledge to manage in the upper echelon of a fire department. It will enhance the fire fighter's competencies in fire suppression, prevention, fire service management, and other related topics. This degree will qualify a firefighter to take the Fire Officer I exam from the Texas Commission on Fire Protection.  The Fire Officer I Certificate requires the completion of the Fire Instructor I Certificate.

The capstone is FIRT 2380, Cooperative Education-Fire Protection and Safety Technology/Technician.

For more information, call 713-718-5236 or e-mail rufus.summers@hccs.edu.

TSI Testing required prior to first enrollment.

## FIRST YEAR

### FIRST SEMESTER                                         CREDITS

| | | | |
|---|---|---|---|
| FIRT | 1331 | Firefighting Strategies and Tactics I | 3 |
| FIRT | 1307 | Fire Prevention Codes and Inspections | 3 |
| ENGL | 1301 | Composition I | 3 |
| XXXX | #3## | Computer Applications Elective*** | 3 |
| FIRT | #3## | Fire Elective* | 3 |
| | | **Semester Total** | **15** |

### SECOND SEMESTER                                        CREDITS

| | | | |
|---|---|---|---|
| FIRT | 1309 | Fire Administration I | 3 |
| FIRT | 1338 | Fire Protection Systems | 3 |
| SPCH | #3## | Speech Elective** | 3 |
| XXXX | #3## | Math/Natural Science General Education Elective | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts General Education Elective | 3 |
| | | **Semester Total** | **15** |

### THIRD SEMESTER                                         CREDITS

| | | | |
|---|---|---|---|
| FIRT | 1349 | Fire Administration II | 3 |
| PSYC | 2301 | Introduction to Psychology OR | |
| PSYC | 2302 | Applied Psychology | 3 |
| | | **Semester Total** | **6** |

## SECOND YEAR

### FIRST SEMESTER                                         CREDITS

| | | | |
|---|---|---|---|
| FIRT | 1433 | Fire Chemistry I | 4 |
| FIRT | 1327 | Building Construction in the Fire Service | 3 |
| FIRT | 1303 | Fire and Arson Investigation I | 3 |
| GOVT | 2301 | American Government: National, State and Local I | 3 |
| FIRT | #3## | Fire Elective* | 3 |
| | | **Semester Total** | **16** |

### SECOND SEMESTER                                        CREDITS

| | | | |
|---|---|---|---|
| FIRT | 1315 | Hazardous Materials I | 3 |
| FIRT | 2351 | Company Fire Officer | 3 |
| FIRT | #3## | Fire Elective* | 3 |
| FIRT | #3## | Fire Elective* | 3 |
| FIRT | 2380 | Cooperative Education-Fire Protection and Safety Technology | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **67** |

*FIRE Electives include: FIRT 1305, 1370, 1371, 1391, 1392, 1311, 1345, 1323, 1336, 2333, 1319, 1347, 1355, 2470, and FIRS 1301, 1313, 1319, 1323, 1329, 1407, 1433.

**Speech Elective may be chosen from SPCH 1311, SPCH 1315, and SPCH 1321.

***The Computer Applications Elective may be chosen from the following courses: ITSC 1309, Integrated Software Applications I;  POFI 1301, Computer Applications I; or BCIS 1405, Business Computer Application.

# FIRE OFFICER I

The Fire Officer I certificate is offered to fire fighters who complete the required courses and who reach the level of competency described by NFPA standard 1021. These six courses will allow fire fighters to take the Fire Officer I test from the Texas Commission on Fire Protection.

The capstone is FIRT 2351, Company Fire Officer.

For more information, call 713-718-5236 or e-mail rufus.summers@hccs.edu.

## CERTIFICATE

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| FIRT | 1331 | Firefighting Strategies and Tactics I | 3 |
| FIRT | 1307 | Fire Prevention Codes and Inspections | 3 |
| FIRT | 1309 | Fire Administration I | 3 |
| FIRT | 1303 | Fire and Arson Investigation I | 3 |
| FIRT | 2351 | Company Fire Officer | 3 |
| FIRT | 1370 | Fire Instructor I | 3 |
| | | **Semester Total** | **18** |
| | | **Program Total** | **18** |

# FIRE INSTRUCTOR TECHNOLOGY

The series of three courses provides training required to apply for the Texas Commission on Fire Protection (TCFP) Fire Instructor I, II, and III certifications. These courses provide a three-course certification step to becoming a Training Program Manager.

To obtain the TCFP Fire Instructor I, II, and III certification, participants must have a Basic Fire Fighter certification with TCFP and pass the Knowledge and Skills tests for each level of certification. An application fee of $15 per certification must be paid to TCFP when submitting an application to take the final assessment from the Texas Commission on Environmental Quality. For more information, call 713-718-5236 or e-mail rufus.summers@hccs.edu.

## MSA

(Marketable Skills Achievement Award)

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| FIRT | 1370 | Fire Instructor I | 3 |
| | | **Semester Total** | **3** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| FIRT | 1371 | Fire Instructor II | 3 |
| | | **Semester Total** | **3** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| FIRT | 2470 | Fire Instructor III | 4 |
| | | **Semester Total** | **4** |
| | | **Program Total** | **10** |

# FIRE SCIENCE AND SAFETY - FIRE FIGHTER SPECIALIZATION

Students seeking a career in the Fire Service can receive a certification required to work as a fire fighter in the State of Texas. By completing this Associate Degree, the student will be eligible to take the State exam. The demand for firefighters is increasing and those with certification and an associate degree will have an educational advantage over those with a basic certification. These awards will also meet the educational need for advanced certification from the Texas Commission on Fire Protection.

The capstone is FIRT 2380, Cooperative Education-Fire Protection and Safety Technology/Technician.

For more information, call 713-718-5236 or e-mail rufus.summers@hccs.edu.

## AAS

TSI Testing required prior to first enrollment.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| EMSP | 1401 | Emergency Medical Technician - Basic | 4 |
| FIRS | 1301 | Firefighter Certification I | 3 |
| FIRS | 1407 | Firefighter Certification II | 4 |
| FIRS | 1313 | Firefighter Certification III | 3 |
| EMSP | 1160 | Clinical - Emergency Medical Services | 1 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| FIRS | 1319 | Firefighter Certification IV | 3 |
| FIRS | 1423 | Firefighter Certification V | 4 |
| FIRS | 1329 | Firefighter Certification VI | 3 |
| FIRS | 1433 | Firefighter Certification VII | 4 |
| | | **Semester Total** | **14** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| FIRT | 1331 | Firefighting Strategies and Tactics I | 3 |
| PSYC | 2301 | Introduction to Psychology OR | |
| PSYC | 2302 | Applied Psychology | 3 |
| SPCH | #3## | Speech Elective* | 3 |
| | | **Semester Total** | **9** |

### SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| CHEM | 1405 | Introductory Chemistry | 4 |
| FIRT | 1327 | Building Construction in the Fire Service | 3 |
| ENGL | 1301 | Composition I | 3 |
| XXXX | #3## | Computer Applications Elective** | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts General Education Elective | 3 |
| | | **Semester Total** | **16** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| FIRT | 1309 | Fire Administration I | 3 |
| FIRT | 1338 | Fire Protection Systems | 3 |
| FIRT | 1315 | Hazardous Materials I | 3 |
| FIRT | 1303 | Fire and Arson Investigation I | 3 |
| FIRT | 2380 | Cooperative Education-Fire Protection and Safety Technology | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **69** |

*Speech Elective may be chosen from SPCH 1311, SPCH 1315, and SPCH 1321.

**The Computer Applications Elective may be chosen from the following courses: ITSC 1309, Integrated Software Applications I;  POFI 1301, Computer Applications I; or BCIS 1405, Business Computer Application.

# FIRE SCIENCE AND SAFETY - INDUSTRIAL SPECIALIZATION

Southeast Texas is one of the largest industrial communities in the nation. Students who have certifications in fire suppression, inspections, or fire investigation may transfer their experience to industry. This degree will provide education to augment their experience.

Although this program is primarily fire service courses, other students may seek a career as a safety person for industry or insurance services. This training provides knowledge that can benefit the industrial community.

The capstone is FIRT 2380, Cooperative Education-Fire Protection and Safety Technology/Technician or CTEC 2386, Internship-Chemical Technology/Technician.

For more information, call 713-718-5236 or e-mail rufus.summers@hccs.edu.

## AAS

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| FIRT | 1331 | Firefighting Strategies and Tactics I | 3 |
| FIRT | 1307 | Fire Prevention Codes and Inspections | 3 |
| FIRT | 1347 | Industrial Fire Protection | 3 |
| ENGL | 1301 | Composition I | 3 |
| XXXX | #3## | Computer Applications Elective* | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| FIRT | 1309 | Fire Administration I | 3 |
| FIRT | 1338 | Fire Protection Systems | 3 |
| SPCH | #3## | Speech Elective** | 3 |
| XXXX | #3## | Math/Natural Science General Education Elective | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts General Education Elective | 3 |
| | | **Semester Total** | **15** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| FIRT | 1433 | Fire Chemistry I | 4 |
| PSYC | 2301 | Introduction to Psychology OR | |
| PSYC | 2302 | Applied Psychology | 3 |
| | | **Semester Total** | **7** |

### SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| PTAC | 1308 | Safety, Health and Environment I | 3 |
| FIRT | 1327 | Building Construction in the Fire Service | 3 |
| FIRT | 1434 | Fire Chemistry II | 4 |
| FIRT | 1303 | Fire and Arson Investigation I | 3 |
| | | **Semester Total** | **13** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| PTAC | 2348 | Safety, Health and Environment II | 3 |
| GOVT | 2301 | American Government: National, State and Local I | 3 |
| FIRT | 1315 | Hazardous Materials I | 3 |
| CTEC | 1345 | Chemical Laboratory Safety | 3 |
| FIRT | 2380 | Cooperative Education-Fire Protection and Safety Technology OR | |
| CTEC | 2386 | Internship - Chemical Technology/Technician | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **65** |

*The Computer Applications Elective may be chosen from the following courses: ITSC 1309, Integrated Software Applications I; POFI 1301, Computer Applications I; or BCIS 1405, Business Computer Application.

**Speech Elective may be chosen from SPCH 1311, SPCH 1315, and SPCH 1321.

# FIRE SCIENCE AND SAFETY - PUBLIC ADMINISTRATION SPECIALIZATION

The AAS Public Administration Specialization will provide a foundation for firefighters or other students to expand their field of study to other Public Service areas. The students will receive a basic knowledge of how public agencies work and how different departments fit together to deliver public service.

## AAS

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| FIRT | 1331 | Firefighting Strategies and Tactics I | 3 |
| FIRT | 1307 | Fire Prevention Codes and Inspections | 3 |
| ENGL | 1301 | Composition I | 3 |
| XXXX | #3## | Computer Applications Elective* | 3 |
| FIRT | #3## | Fire Elective | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| FIRT | 1309 | Fire Administration I | 3 |
| FIRT | 1338 | Fire Protection Systems | 3 |
| SPCH | #3## | Speech Elective** | 3 |
| XXXX | #3## | Math/Natural Science General Education Elective | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts General Education Elective | 3 |
| | | **Semester Total** | **15** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| FIRT | #3## | Fire Elective | 3 |
| PSYC | 2301 | Introduction to Psychology OR | |
| PSYC | 2302 | Applied Psychology | 3 |
| | | **Semester Total** | **6** |

### SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| FIRT | 1433 | Fire Chemistry I | 4 |
| FIRT | 1303 | Fire and Arson Investigation I | 3 |
| PBAD | 1321 | Public Administration | 3 |
| FIRT | 1327 | Building Construction in the Fire Service | 3 |
| GOVT | 2301 | American Government: National, State and Local I | 3 |
| | | **Semester Total** | **16** |

## SECOND SEMESTER                                   CREDITS

| | | | |
|---|---|---|---|
| FIRT | 1315 | Hazardous Materials I | 3 |
| HRPO | 1305 | Management and Labor Relations | 3 |
| PBAD | 1341 | Governmental Agencies | 3 |
| PBAD | 2305 | Public Sector Management | 3 |
| FIRT | 2380 | Cooperative Education-Fire Protection and Safety Technology | 3 |

**Semester Total        15**

**Program Total        67**

*The Computer Applications Elective may be chosen from the following courses: ITSC 1309, Integrated Software Applications I; POFI 1301, Computer Applications I; or BCIS 1405, Business Computer Application.

**Speech Elective may be chosen from SPCH 1311, SPCH 1315, and SPCH 1321.

## BASIC FIREFIGHTER

The Basic Firefighter Certificate program is designed to meet all of the requirements of the fire-training phase of the Texas Commission on Fire Protection's minimum standards for Structure Fire Protection Personnel Certification. Successful completion of the program will prepare students to take the State certification written and skills test. The curriculum is divided into two semesters. Students must register for all courses in the semester, and all courses for each semester must be taken concurrently. Failure to successfully complete any of the requirements for any one course will result in a failing grade for all the courses in that semester. Each student must complete the first semester before being eligible to enroll in the second semester courses. As a minimum, each student must also complete an approved Emergency Care Attendant (ECA) course in order to be certified as a Structural Firefighter. HCC offers EMSP 1005, Emergency Care Attendant, as a non-credit course (see Continuing Education).

The program's current schedule is two semesters with classes being held on Monday and Wednesday nights from 6:00 p.m. to 10:00 p.m. and Saturday from 7:30 a.m. to 5:30 p.m.

Students may choose to enroll in the Basic Firefighter Certificate program for credit or the optional non-credit track.

The capstone is FIRS 1433, Firefighter Certification VII.

For more information, call 713-640-0323 or e-mail rufus.summers@hccs.edu.

### CERTIFICATE

## FIRST SEMESTER                                   CREDITS

| | | | |
|---|---|---|---|
| FIRS | 1301 | Firefighter Certification I | 3 |
| FIRS | 1407 | Firefighter Certification II | 4 |
| FIRS | 1313 | Firefighter Certification III | 3 |

**Semester Total        10**

## SECOND SEMESTER                                   CREDITS

| | | | |
|---|---|---|---|
| FIRS | 1319 | Firefighter Certification IV | 3 |
| FIRS | 1423 | Firefighter Certification V | 4 |
| FIRS | 1329 | Firefighter Certification VI | 3 |
| FIRS | 1433 | Firefighter Certification VII | 4 |

**Semester Total        14**

**Program Total        24**

## PARALEGAL TECHNOLOGY

The Paralegal Program prepares individuals to perform research, drafting, investigatory, record-keeping and related administrative functions under the supervision of an attorney or court. The program includes instruction in legal research, drafting legal documents, law office procedures, pleading, courthouse procedures, and legal specializations.

The field is growing rapidly, and the need for trained individuals in the area is critical. The program may also be useful for pre-law training.

The capstone course for the Paralegal Technology AAS is LGLA 2381, Cooperative Education-Legal Assistant/Paralegal. In this course, the student is placed in a law office, business or other legal entity and receives hands-on training in the field.

For more information call 713-718- 6505 or 713-718-5404 or e-mail ronald.esposito@hccs.edu or earl.smith@hccs.edu.

### PARALEGAL TECHNOLOGY

### AAS

TSI Testing is required prior to first enrollment.

### FIRST YEAR

## FIRST SEMESTER                                   CREDITS

| | | | |
|---|---|---|---|
| LGLA | 1303 | Legal Research | 3 |
| LGLA | 1344 | Texas Civil Litigation | 3 |
| XXXX | #3## | Computer Applications Elective* | 3 |
| LGLA | 1351 | Contracts | 3 |
| MATH | 1314 | College Algebra OR | |
| XXXX | #3## | General Education Math/Natural Science Elective | 3 |
| ENGL | 1301 | Composition I | 3 |

**Semester Total        18**

## SECOND SEMESTER                                   CREDITS

| | | | |
|---|---|---|---|
| LGLA | 1305 | Legal Writing | 3 |
| LGLA | 1345 | Civil Litigation | 3 |
| XXXX | #3## | Paralegal Technology Elective** | 3 |
| SPCH | 13## | Speech*** | 3 |
| PSYC | 2301 | Introduction to Psychology | 3 |

**Semester Total        15**

### SECOND YEAR

## FIRST SEMESTER                                   CREDITS

| | | | |
|---|---|---|---|
| LGLA | 1353 | Wills, Trusts and Probate Administration | 3 |
| LGLA | 2303 | Torts and Personal Injury Law | 3 |
| ACNT | 1303 | Introduction to Accounting I | 3 |
| LGLA | 2309 | Real Property | 3 |
| GOVT | 2301 | American Government: National, State, and Local I OR | |
| GOVT | 2302 | American Government: National, State, and Local II | 3 |

**Semester Total        15**

## SECOND SEMESTER                                   CREDITS

| | | | |
|---|---|---|---|
| LGLA | 2311 | Business Organizations | 3 |
| LGLA | 2313 | Criminal Law and Procedure | 3 |
| LGLA | 2307 | Law Office Management | 3 |
| LGLA | 2381 | Cooperative Education-Legal Assistant/Paralegal | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts General Education Elective | 3 |

**Semester Total        15**

**Program Total        63**

*The Computer Applications Elective may be chosen from the following courses: ITSC 1309, Integrated Software Applications I; POFI 1301 Computer Applications I; or BCIS 1405, Business Computer Application.

**The Paralegal Technology Elective may be chosen from the following courses: LGLA 1370, LGLA 1355, LGLA 2317, or POFM 1313.

***Speech may be chosen from the following courses: SPCH 1311, 1315, 1318, or 1321.

## LAW OFFICE CLERK

The Law Office Clerk Certificate is a stepping-stone to the Paralegal Technology degree. This certificate will allow students who are interested in working in a law office to gain entry to the legal world while working on courses which will advance them to a Paralegal position.

For more information call 713-718- 6505 or 713-718-5404 or e-mail ronald.esposito@hccs.edu or earl.smith@hccs.edu.

### CERTIFICATE

TSI Testing is required prior to first enrollment.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| LGLA | 1303 | Legal Research | 3 |
| ACNT | 1303 | Introduction to Accounting I | 3 |
| XXXX | #3## | Computer Applications Elective* | 3 |
| | | **Semester Total** | **9** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| LGLA | 2307 | Legal Office Management | 3 |
| LGLA | 2381 | Cooperative Education-Legal Assistant/Paralegal | 3 |
| | | **Semester Total** | **6** |
| | | **Program Total** | **15** |

*The Computer Applications Elective may be chosen from the following courses: ITSC 1309, Integrated Software Applications I; POFI 1301 Computer Applications I; or BCIS 1405, Business Computer Application.

## LEGAL ASSISTANT CERTIFICATE

The Legal Assistant Certificate allows a student to work in a Law Office or Corporation as an Assistant to an Attorney or a trained Paralegal. It consists of 30 semester hours which provides adequate training in the skils necessary to be a trained Legal Assistant. The capstone for the certificate is LGLA 2381, Cooperative Education-Legal Assistant/Paralegal which will provide students the opportunity and experience to seek gainful employment in the legal field.

For more information call 713-718- 6505 or 713-718-5404 or e-mail ronald.esposito@hccs.edu or earl.smith@hccs.edu.

### CERTIFICATE

TSI Testing is required prior to first enrollment.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| LGLA | 1303 | Legal Research | 3 |
| LGLA | 1344 | Texas Civil Litigation | 3 |
| LGLA | 2309 | Real Property | 3 |
| XXXX | #3## | Computer Applications Elective* | 3 |
| ACNT | 1303 | Introduction to Accounting | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| LGLA | 1305 | Legal Writing | 3 |
| LGLA | 1345 | Civil Litigation | 3 |
| LGLA | 2303 | Torts and Personal Injury Law | 3 |
| LGLA | 2307 | Law Office Management | 3 |
| LGLA | 2381 | Cooperative Education-Legal Assistant/Paralegal | 3 |
| LGLA | #3## | Elective Paralegal** | 3 |
| | | **Semester Total** | **18** |
| | | **Program Total** | **33** |

*The Computer Applications Elective may be chosen from the following courses: ITSC 1309, Integrated Software Applications I; POFI 1301 Computer Applications I; or BCIS 1405, Business Computer Application.

**The Paralegal Technology Elective may be chosen from the following courses: LGLA 1370, LGLA 1355, LGLA 2317, or POFM 1313.

## LEGAL ASSISTANT CERTIFICATE-MEDICAL SPECIALIZATION

The Legal Assistant Certificate-Medical Specialization is a step towards the Paralegal Technology degree from HCC with an emphasis in medical legal training. This certificate allows a student to work in a Law Office or Corporation as an Assistant to an Attorney or a trained Paralegal. The training and education offered by the certificate is ideal for those students who are interested or have been employed or who are currently employed in the medical field. It consists of 30 semester hours which provides adequate training in the skils necessary to be a trained Medical Legal Assistant with a specialization.

The capstone for the certificate is LGLA 2381, Cooperative Education-Legal Assistant/Paralegal which will provide students the opportunity and experience to seek gainful employment in the legal field and possible employment dealing with legal medical issues.

For more information call 713-718- 6505 or 713-718-5404 or e-mail ronald.esposito@hccs.edu or earl.smith@hccs.edu.

### CERTIFICATE

TSI Testing is required prior to first enrollment.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| LGLA | 1303 | Legal Research | 3 |
| LGLA | 1344 | Texas Civil Litigation | 3 |
| XXXX | #3## | Computer Applications Elective* | 3 |
| LGLA | 2309 | Real Property | 3 |
| POFM | 1313 | Medical Terminology I | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| LGLA | 1305 | Legal Writing | 3 |
| LGLA | 1345 | Civil Litigation | 3 |
| LGLA | 2303 | Torts and Personal Injury Law | 3 |
| LGLA | 2307 | Law Office Management | 3 |
| LGLA | 2381 | Cooperative Education-Legal Assistant/Paralegal | 3 |
| LGLA | #3## | Elective Paralegal** | 3 |
| | | **Semester Total** | **18** |
| | | **Program Total** | **33** |

*The Computer Applications Elective may be chosen from the following courses: ITSC 1309, Integrated Software Applications I; POFI 1301 Computer Applications I; or BCIS 1405, Business Computer Application.

**The Paralegal Technology Elective may be chosen from the following courses: LGLA 1370, LGLA 1355, LGLA 2317, or POFM 1313.

**Instrumentation & Controls Engineering Technology**
**Machining Technology**
**Manufacturing Engineering Technology**
**Welding Technology**
**(See Academic Degrees and Certificates 33-47)**

## Manufacturing

A Career Cluster is a grouping of occupations and broad industries based on commonalities. The Manufacturing career cluster is concerned with providing knowledge and skills related to planning, managing and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance and manufacturing/process engineering. This would include careers related to Manufacturing, Nanotechnology, Robotics, Instrumentation and Controls, Machining, Plastics Engineering and Welding.

Every HCC Workforce Educational program contains a "capstone," an experience for the student to "put it all together." The capstone might consist of an external learning experience (e.g., co-op, clinical, etc.), a course especially designed to help students synthesize knowledge and skills, or a licenser exam as appropriate

# INSTRUMENTATION AND CONTROLS ENGINEERING TECHNOLOGY

The HCC Instrumentation and Controls Engineering Technology program prepares individuals to apply basic engineering principles and technical skills in support of engineers engaged in developing control and measurement systems and procedures. Instruction stresses instrumentation design and maintenance, calibration, design and production testing and scheduling, automated equipment functions, applications to specific industrial tasks, and report preparation. The Instrumentation Technician troubleshoots, maintains, and installs process control equipment to produce quality products and ensure safe and cost effective operations.

The capstone for the AAS and Certificate in Instrumentation and Controls Engineering Technology is INTC 2436, Distributed Control, and Programmable Logic.

For more information, call 713-718-5293, 713-718-8316, or 713-718-5253, or john.galiotos@hccs.edu or alan.isaachsen@hccs.edu.

# INSTRUMENTATION AND CONTROLS ENGINEERING TECHNOLOGY

## AAS

TSI Testing is required prior to first enrollment.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| INTC | 1312 | Introduction to Instrumentation and Safety Technology | 3 |
| INTC | 1456 | Instrumentation Calibration | 4 |
| CPMT | 1407 | Electronic and Computer Skills | 4 |
| ITSC | 1309 | Integrated Software Applications I | 3 |
| MATH | 1314 | College Algebra | 3 |
| | | **Semester Total** | **17** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | English Composition | 3 |
| MATH | 1316 | Trigonometry | 3 |
| INTC | 1441 | Principles of Automatic Control | 4 |
| CPMT | 1403 | Introduction to Computer Technology | 4 |
| XXXX | #3## | Approved Humanities/Fine Arts General Education Elective | 3 |
| | | **Semester Total** | **17** |

### SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| INTC | 1343 | Application of Industrial Automatic Control | 3 |
| SPCH | #3## | Speech Elective | 3 |
| INTC | 2330 | Troubleshooting | 3 |
| XXXX | #3## | Program-Related Elective | 3 |
| PHYS | 1401 | College Physics | 4 |
| | | **Semester Total** | **16** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| INTC | 2436 | Distributed Control and Programmable Logic | 4 |
| XXXX | #3## | Math/Natural Science Elective | 3 |
| XXXX | #3## | Social Science General Education Elective | 3 |
| XXXX | #3## | Program-Related Elective | 3 |
| | | **Semester Total** | **13** |
| | | **Program Total** | **63** |

# INSTRUMENTATION AND CONTROLS ENGINEERING TECHNOLOGY

## CERTIFICATE

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| INTC | 1312 | Introduction to Instrumentation and Safety Technology | 3 |
| INTC | 1456 | Instrumentation Calibration | 4 |
| MATH | 1314 | College Algebra | 3 |
| CPMT | 1407 | Electronic and Computer Skills | 4 |
| | | **Semester Total** | **14** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| INTC | 1441 | Principles of Automatic Control | 4 |
| CPMT | 1403 | Introduction to Computer Technology | 4 |
| MATH | 1316 | Trigonometry | 3 |
| | | **Semester Total** | **11** |

| | | | CREDITS |
|---|---|---|---|
| INTC | 1343 | Application of Industrial Automatic Control | 3 |
| INTC | 2436 | Distributed Control and Programmable Logic | 4 |
| | | **Semester Total** | **7** |
| | | **Program Total** | **32** |

## INSTRUMENTATION AND CONTROLS ENGINEERING TECHNOLOGY FUEL CELL SPECIALIZATION

Students will be introduced to the basic concepts and principles of hydrogen-based and related energy fuel cells. The program is designed to provide students with the competencies, education, skills, and training on fuel cells in industrial, institutional, or commercial transportation applications. Careers of the future are projected to include jobs in hydrogen manufacturing and power plants, working on distribution and storage networks and developing hydrogen-fueling stations.

The capstone for the Instrumentation and Controls Engineering Technology Certificate - Fuel Cell Specialization is INTC 2473, Fuel Cell Instrumentation.

For more information, please call 713-718-5253 or 713-718-5293 or e-mail alan.isaachsen@hccs.edu or john.galiotos@hccs.edu.

## FUEL CELL SPECIALIZATION CERTIFICATE

**CERTIFICATE**

### FIRST YEAR

**FIRST SEMESTER** — CREDITS

| | | | CREDITS |
|---|---|---|---|
| CPMT | 1407 | Electronic and Computer Skills | 4 |
| MATH | 1314 | College Algebra | 3 |
| FCEL | 1302 | Introduction to Fuel Cell Technology | 3 |
| | | **Semester Total** | **10** |

**SECOND SEMESTER** — CREDITS

| | | | CREDITS |
|---|---|---|---|
| FCEL | 2400 | Fuel Cells Basic Operations and Maintenance | 4 |
| CPMT | 1403 | Introduction to Computer Technology | 4 |
| SCIT | 1414 | Applied General Chemistry I OR | |
| CHEM | 1411 | General Chemistry I | 4 |
| | | **Semester Total** | **12** |

**THIRD SEMESTER** — CREDITS

| | | | CREDITS |
|---|---|---|---|
| INTC | 2473 | Fuel Cell Instrumentation | 4 |
| INTC | 1343 | Application of Industrial Automatic Control | 3 |
| | | **Semester Total** | **7** |
| | | **Program Total** | **29** |

## MACHINING TECHNOLOGY

The Machining Technology Program is designed to meet industry's continued and growing need for trained machine operators and programmers. This program prepares students for employment in machine shops, manufacturing facilities and in the maintenance of industrial plants. The AAS degree in Machining Technology is designed to develop competent support technicians for employment in the field of machine shop and related occupations. The curricula are designed to provide a broad-based education with opportunities for specific employment and personal interest goals. The shop has more than sixty pieces of manual equipment (such as lathes and milling machines), seven pieces of computerized numerical control (CNC), turning and milling machines, six robotic arms, a computer integrated manufacturing (CIM) cell, hydraulic and pneumatic trainers, and sixty personal computers with up-to-date training materials. The program is also an Authorized Training Center (ATC) for Engineering Geometry Systems: FeatureCAM (CAD/CAM) software.

All of the courses in the 15 Semester Credit Hour (SCH) Basic Machining Technology Certificate apply toward the 31 SCH Machining Technology Certificate and the Machining Technology AAS degree.

The capstone for Machining Technology are as follows:

Machining Technology AAS: INMT 1380, Cooperative Education-Industrial/Manufacturing Technology/Technician.

Basic Machining Technology Certificate: MCHN 1391, Special Topics in Machinist/Machine Technologist.

Machining Technology Certificate: MCHN 1291, Special Topics in Machinist/Machine Technologist.

For more information, call 713-718-6805 or e-mail jimmy.vu@hccs.edu.

## MACHINING TECHNOLOGY

**AAS**

### FIRST YEAR

**FIRST SEMESTER** — CREDITS

| | | | CREDITS |
|---|---|---|---|
| MCHN | 1201 | Beginning Machine Shop | 2 |
| MCHN | 1217 | Machining I | 2 |
| MCHN | 1211 | Basic Lathe I | 2 |
| MCHN | 1220 | Basic Lathe II | 2 |
| MCHN | 1214 | Milling Machine I | 2 |
| MCHN | 1221 | Milling Machine II | 2 |
| MCHN | 1391 | Special Topics in Machinist/Machine Technologist | 3 |
| | | **Semester Total** | **15** |

**SECOND SEMESTER** — CREDITS

| | | | CREDITS |
|---|---|---|---|
| MCHN | 1230 | Statistical Process Control for Machinist | 2 |
| MCHN | 2231 | Advanced Engine Lathe I | 2 |
| MCHN | 2235 | Advanced Engine Lathe II | 2 |
| MCHN | 2230 | Milling Machine III | 2 |
| MCHN | 2238 | Milling Machine IV | 2 |
| MCHN | 2234 | Tools and Fixtures I | 2 |
| MCHN | 2239 | Tools and Fixtures II | 2 |
| MCHN | 1291 | Special Topics in Machinist/Machine Technologist | 2 |
| | | **Semester Total** | **16** |

## SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| MATH | 1314 | College Algebra | 3 |
| PSYC | 2302 | Applied Psychology | 3 |
| HYDR | 1309 | Basic Fluid Power I (Hydraulics) | 3 |
| HYDR | 1315 | Basic Fluid Power II (Pneumatics) | 3 |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 2311 | Technical and Industrial Correspondence and Report Writing | 3 |
| MATH | 1316 | Plane Trigonometry | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts Elective | 3 |
| ENTC | 1301 | Robotics I | 3 |
| INMT | 1240 | Computer Integrated Manufacturing (Short Course) | 2 |
| INMT | 1241 | Computer Integrated Manufacturing (Short Course) | 2 |
| INMT | 1380 | Cooperative Education-Industrial/Manufacturing Technology/Technician | 3 |
| | | **Semester Total** | **19** |
| | | **Program Total** | **65** |

## BASIC MACHINING TECHNOLOGY

### CERTIFICATE

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| MCHN | 1201 | Beginning Machine Shop | 2 |
| MCHN | 1217 | Machining I | 2 |
| MCHN | 1211 | Basic Lathe I | 2 |
| MCHN | 1220 | Basic Lathe II | 2 |
| MCHN | 1214 | Milling Machine I | 2 |
| MCHN | 1221 | Milling Machine II | 2 |
| MCHN | 1391 | Special Topics in Machinist/Machine Technologist | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **15** |

## MACHINING TECHNOLOGY

### CERTIFICATE

Prerequisite: Basic Machining Technology

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| MCHN | 1201 | Beginning Machine Shop | 2 |
| MCHN | 1217 | Machining I | 2 |
| MCHN | 1211 | Basic Lathe I | 2 |
| MCHN | 1220 | Basic Lathe II | 2 |
| MCHN | 1214 | Milling Machine I | 2 |
| MCHN | 1221 | Milling Machine II | 2 |
| MCHN | 1391 | Special Topics in Machinist/Machine Technologist | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| MCHN | 1230 | Statistical Process Control for Machinist | 2 |
| MCHN | 2231 | Advanced Engine Lathe I | 2 |
| MCHN | 2235 | Advanced Engine Lathe II | 2 |
| MCHN | 2230 | Milling Machine III | 2 |

| MCHN | 2238 | Milling Machine IV | 2 |
|---|---|---|---|
| MCHN | 2234 | Tools and Fixtures I | 2 |
| MCHN | 2239 | Tools and Fixtures II | 2 |
| MCHN | 1291 | Special Topics in Machinist/Machine Technologist | 2 |
| | | **Semester Total** | **16** |
| | | **Program Total** | **31** |

# MANUFACTURING ENGINEERING TECHNOLOGY

The Manufacturing Engineering Technology Program is designed to develop competent support technicians for employment in the field of manufacturing engineering and related occupations. The curricula are designed to provide broad-based education with opportunity for specific employment and personal interest goals. The shop has more than sixty pieces of manual equipment: six computerized numerical control (CNC) machines, five robotics arms, a computer integrated manufacturing (CIM) cell, and a 1500 square foot computer lab space with fifty-eight networked computer stations. These computers are installed with up-to-date application software as well as CAD/CAM software packages. The program is also an Authorized Training Center (ATC) for Engineering Geometry System: FEATURE CAM software.

The capstone for the AAS degree and certificates is INMT 1380, Cooperative Education.

For more information, call 713-718-6805 or e-mail jimmy.vu@hccs.edu.

## MANUFACTURING ENGINEERING TECHNOLOGY

### AAS

#### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| INMT | 1248 | Manufacturing Processes (Short Course) | 2 |
| INMT | 1249 | Manufacturing Processes (Short Course) | 2 |
| CETT | 1409 | DC-AC Circuits | 4 |
| XXXX | #3## | Approved Humanities/Fine Arts General Education Elective | 3 |
| ENGL | 1301 | Composition I | 3 |
| MATH | 1314 | College Algebra | 3 |
| | | **Semester Total** | **17** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| INMT | 1242 | CAD-CAM (Short Course) | 2 |
| INMT | 1243 | CAD-CAM (Short Course) | 2 |
| INMT | 1244 | Computer Numerical Controls (Short Course) | 2 |
| INMT | 1245 | Computer Numerical Controls (Short Course) | 2 |
| MATH | 1316 | Plane Trigonometry | 3 |
| XXXX | #3## | Social Science General Education Elective | 3 |
| ENTC | 1423 | Strength of Materials | 4 |
| | | **Semester Total** | **18** |

#### SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| INMT | 1391 | Special Topics-Plant Layout | 3 |
| INMT | 1391 | Special Topics-Time and Motion Study | 3 |
| PHYS | 1401 | College Physics | 4 |
| ENGL | 2311 | Technical and Industrial Correspondence and Report Writing | 3 |
| HYDR | 1309 | Basic Fluid Power 1 (Hydraulics) | 3 |
| HYDR | 1315 | Basic Fluid Power 2 (Pneumatics) | 3 |
| | | **Semester Total** | **19** |

## SECOND SEMESTER

| | | | CREDITS |
|---|---|---|---|
| INMT | 1391 | Special Topics-Principles of Tool Design | 3 |
| INMT | 1317 | Industrial Automation | 3 |
| INMT | 1240 | Computer Integrated Manufacturing (Short Course) | 2 |
| INMT | 1241 | Computer Integrated Manufacturing (Short Course) | 2 |
| ENTC | 1301 | Robotics I | 3 |
| INMT | 1380 | Cooperative Education - Industrial/Manufacturing Technology/Technician | 3 |
| | | **Semester Total** | **16** |
| | | **Program Total** | **70** |

## MANUFACTURING ENGINEERING TECHNOLOGY

### CERTIFICATE

#### FIRST SEMESTER

| | | | CREDITS |
|---|---|---|---|
| INMT | 1248 | Manufacturing Processes (Short Course) | 2 |
| INMT | 1317 | Industrial Automation | 3 |
| INMT | 1249 | Manufacturing Processes (Short Course) | 2 |
| INMT | 1244 | Computer Numerical Controls (Short Course) | 2 |
| INMT | 1245 | Computer Numerical Controls (Short Course) | 2 |
| HYDR | 1309 | Basic Fluid Power 1 (Hydraulic) | 3 |
| HYDR | 1315 | Basic Fluid Power 2 (Pneumatics) | 3 |
| | | **Semester Total** | **17** |

#### SECOND SEMESTER

| | | | CREDITS |
|---|---|---|---|
| ENTC | 1301 | Robotics I | 3 |
| INMT | 1391 | Special Topics-Principles of Tools Design | 3 |
| INMT | 1391 | Special Topics-Plant Layout | 3 |
| INMT | 1240 | Computer: Integrated Manufacturing (Short Course) | 2 |
| INMT | 1241 | Computer: Integrated Manufacturing (Short Course) | 2 |
| INMT | 1242 | CAD-CAM (Short Course) | 2 |
| INMT | 1243 | CAD-CAM (Short Course) | 2 |
| INMT | 1380 | Cooperative Education - Industrial/Manufacturing Technology/Technician | 3 |
| | | **Semester Total** | **20** |
| | | **Program Total** | **37** |

## MANUFACTURING PROCESSES

### CERTIFICATE

#### FIRST SEMESTER

| | | | CREDITS |
|---|---|---|---|
| INMT | 1240 | Computer Integrated Manufacturing (Short Course) | 2 |
| INMT | 1244 | Computer Numerical Controls (Short Course) | 2 |
| INMT | 1245 | Computer Numerical Controls (Short Course) | 2 |
| INMT | 1242 | CAD-CAM (Short Course) | 2 |
| INMT | 1243 | CAD-CAM (Short Course) | 2 |
| MCHN | 2234 | Tools and Fixtures I | 2 |
| MCHN | 2239 | Tools and Fixtures II | 2 |
| | | **Semester Total** | **14** |

## SECOND SEMESTER

| | | | CREDITS |
|---|---|---|---|
| ENTC | 1301 | Robotics I | 3 |
| INMT | 2334 | NC/CNC Programming | 3 |
| INMT | 1380 | Cooperative Education-Industrial/Manufacturing Technology | 3 |
| INMT | 1291 | Special Topics-Lathe Programming | 2 |
| INMT | 1241 | Computer Integrated Manufacturing II | 2 |
| ENTC | 1391 | Special Topics-Engineering Technology-Lathe Operation | 3 |
| | | **Semester Total** | **16** |
| | | **Program Total** | **30** |

## MANUFACTURING ENGINEERING TECHNOLOGY-PLASTIC ENGINEERING TECHNOLOGY SPECIALIZATION

The Plastic Engineering Technology (PLTC) program prepares students for high performance in plastic manufacturing employment opportunities. This program trains the student to operate and program the equipment used within plastic manufacturing environments. Students can earn an Associate of Applied Science and/or a one-year Certificate of Completion in Plastic Engineering Technology.

The capstone courses for Manufacturing Engineering Technology are as follows:

Plastic Engineering Technology AAS: PLTC 1445, Plastic Processes I.

Plastic Engineering Technology Certificate: PLTC 1343, Mold Design and Maintenance.

For more inforamtion, call 713-718-6805 or e-mail jimmy.vu@hccs.edu

### AAS

#### FIRST YEAR

##### FIRST SEMESTER

| | | | CREDITS |
|---|---|---|---|
| PLTC | 1301 | Introduction to Plastics | 3 |
| INMT | 1248 | Manufacturing Processes (Short Course) | 2 |
| INMT | 1249 | Manufacturing Processes (Short Course) | 2 |
| INMT | 1391 | Special Topics in Manufacturing Technology/Technician | 3 |
| ENGL | 1301 | Composition I | 3 |
| MATH | 1314 | College Algebra | 3 |
| XXXX | #3## | Social Science General Education Elective | 3 |
| | | **Semester Total** | **19** |

##### SECOND SEMESTER

| | | | CREDITS |
|---|---|---|---|
| XXXX | #3## | Approved Humanities Fine Arts General Education Elective | 3 |
| MATH | 1316 | Plane Trigonometry | 3 |
| PLTC | 1303 | Plastics Composites | 3 |
| PLTC | 1306 | Plastic Quality Control | 3 |
| INMT | 1242 | CAD-CAM (Short Course) | 2 |
| INMT | 1243 | CAD-CAM (Short Course) | 2 |
| | | **Semester Total** | **16** |

## SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| HYDR | 1315 | Basic Fluid Power II (Pneumatics) | 3 |
| HYDR | 1309 | Basic Fluid Power I (Hydraulics) | 3 |
| INMT | 1380 | Cooperative Education – Manufacturing Technology/Technician | 3 |
| ENGL | 2311 | Technical and Industrial Correspondence and Report Writing | 3 |
| INMT | 1391 | Special Topics in Manufacturing Technology/Technician | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| INMT | 1240 | Computer Integrated Manufacturing (Short Course) | 2 |
| INMT | 1241 | Computer Integrated Manufacturing (Short Course) | 2 |
| PLTC | 1343 | Mold Design and Maintenance | 3 |
| PLTC | 1445 | Plastic Processes I | 4 |
| INMT | 1391 | Special Topics in Manufacturing Technology/Technician | 3 |
| INMT | 1317 | Industrial Automation | 3 |
| | | **Semester Total** | **17** |
| | | **Program Total** | **67** |

## PLASTIC ENGINEERING TECHNOLOGY

### CERTIFICATE

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| PLTC | 1301 | Introduction to Plastics | 3 |
| INMT | 1248 | Manufacturing Processes (Short Course) | 2 |
| INMT | 1249 | Manufacturing Processes (Short Course) | 2 |
| HYDR | 1315 | Basic Fluid Power II (Pneumatics) | 3 |
| HYDR | 1309 | Basic Fluid Power I (Hydraulics) | 3 |
| INMT | 1391 | Special Topics in Manufacturing Technology/Technician | 3 |
| | | **Semester Total** | **16** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| PLTC | 1303 | Plastics Composites | 3 |
| PLTC | 1306 | Plastic Quality Control | 3 |
| INMT | 1242 | CAD-CAM (Short Course) | 2 |
| INMT | 1243 | CAD-CAM (Short Course) | 2 |
| INMT | 1317 | Industrial Automation | 3 |
| INMT | 1391 | Special Topics in Manufacturing Technology/Technician | 3 |
| | | **Semester Total** | **16** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| INMT | 1240 | Computer Integrated Manufacturing (Short Course) | 2 |
| INMT | 1241 | Computer Integrated Manufacturing (Short Course) | 2 |
| PLTC | 1343 | Mold Design and Maintenance | 3 |
| | | **Semester Total** | **7** |
| | | **Program Total** | **39** |

## WELDING TECHNOLOGY

The Welding Technology Program is designed to offer students the necessary skills for entry-level positions in the construction, maintenance, structural plate, and pipe welding trades.

The shop has 68 booths. The cutting stations include GAS, Plasma, and MIG and TIG machines. The lab also has orbital automated welding equipment and shares 1500 square feet of computer lab with fifty-eight networked computer stations. These computers are installed with up-to-date application and testing program software for welding students.

The capstones for Welding Technology are as follows:

Basic Welding Helper Certificate: WLDG 1407, Basic Welding Processes.

Basic Welding Certificate: WLDG 2443, Advanced Shielded Metal Arc Welding (SMAW).

Welding Certificate-MIG Specialization: WLDG 2447, Advanced Gas Metal Arc Welding (GMAW).

Welding Certificate-Pipe Specialization: WLDG 2453, Advanced Pipe Welding.

Welding Certificate-TIG Specialization: WLDG 2451, Advanced Gas Tungsten Arc TIG Welding (GTAW).

For more information, call 713-718-6805 or e-mail jimmy.vu@hccs. edu.

## BASIC WELDING HELPER

### CERTIFICATE

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| WLDG | 1421 | Introduction to Welding Fundamentals | 4 |
| WLDG | 1425 | Introduction to Oxy-Fuel Welding and Cutting | 4 |
| WLDG | 1428 | Introduction to Shielded Metal Arc Welding (SMAW) | 4 |
| WLDG | 1407 | Introduction to Welding Using Multiple Process | 4 |
| | | **Semester Total** | **16** |
| | | **Program Total** | **16** |

## BASIC WELDING

### CERTIFICATE

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| WLDG | 1421 | Introduction to Welding Fundamentals | 4 |
| WLDG | 1425 | Introduction to Oxy-Fuel Welding and Cutting | 4 |
| WLDG | 1428 | Introduction to Shielded Metal Arc Welding (SMAW) | 4 |
| | | **Semester Total** | **12** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| WLDG | 1413 | Introduction to Blueprint Reading for Welders | 4 |
| WLDG | 1457 | Intermediate Shielded Metal Arc Welding (SMAW) | 4 |
| WLDG | 2443 | Advanced Shielded Metal Arc Welding (SMAW) | 4 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **24** |

# WELDING - MIG SPECIALIZATION

| FIRST SEMESTER | | CREDITS |
|---|---|---|
| WLDG 1421 | Introduction to Welding Fundamentals | 4 |
| WLDG 1425 | Introduction to Oxy-Fuel Welding and Cutting | 4 |
| WLDG 1428 | Introduction to Shielded Metal Arc Welding (SMAW) | 4 |
| | **Semester Total** | **12** |

| SECOND SEMESTER | | CREDITS |
|---|---|---|
| WLDG 1413 | Introduction to Blueprint Reading for Welders | 4 |
| WLDG 1457 | Intermediate Shielded Metal Arc Welding (SMAW) | 4 |
| WLDG 2443 | Advanced Shielded Metal Arc Welding (SMAW) | 4 |
| | **Semester Total** | **12** |

| THIRD SEMESTER | | CREDITS |
|---|---|---|
| WLDG 1430 | Introduction to Gas Metal Arc MIG Welding | 4 |
| WLDG 2447 | Advanced Gas Metal Arc MIG Welding | 4 |
| WLDG 1417 | Introduction to Layout and Fabrication | 4 |
| | **Semester Total** | **12** |
| | **Program Total** | **36** |

# WELDING - TIG SPECIALIZATION

CERTIFICATE

| FIRST SEMESTER | | CREDITS |
|---|---|---|
| WLDG 1421 | Introduction to Welding Fundamentals | 4 |
| WLDG 1425 | Introduction to Oxy-Fuel Welding and Cutting | 4 |
| WLDG 1428 | Introduction to Shielded Metal Arc Welding (SMAW) | 4 |
| | **Semester Total** | **12** |

| SECOND SEMESTER | | CREDITS |
|---|---|---|
| WLDG 1413 | Introduction to Blueprint Reading for Welders | 4 |
| WLDG 1457 | Intermediate Shielded Metal Arc Welding (SMAW) | 4 |
| WLDG 2443 | Advanced Shielded Metal Arc Welding (SMAW) | 4 |
| | **Semester Total** | **12** |

| THIRD SEMESTER | | CREDITS |
|---|---|---|
| WLDG 1434 | Introduction to Gas Tungsten Arc TIG Welding (GTAW) | 4 |
| WLDG 2451 | Advanced Gas Tungsten Arc TIG Welding (GTAW) | 4 |
| WLDG 1417 | Introduction to Layout and Fabrication | 4 |
| | **Semester Total** | **12** |
| | **Program Total** | **36** |

# WELDING - PIPE SPECIALIZATION

CERTIFICATE

| FIRST SEMESTER | | CREDITS |
|---|---|---|
| WLDG 1421 | Introduction to Welding Fundamentals | 4 |
| WLDG 1425 | Introduction Oxy-Fuel Welding and Cutting | 4 |
| WLDG 1428 | Introduction to Shielded Metal Arc Welding (SMAW) | 4 |
| | **Semester Total** | **12** |

| SECOND SEMESTER | | CREDITS |
|---|---|---|
| WLDG 1413 | Introduction to Blueprint Reading for Welders | 4 |
| WLDG 1457 | Intermediate Shielded Metal Arc Welding (SMAW) | 4 |
| WLDG 2443 | Advanced Shielded Metal Arc Welding (SMAW) | 4 |
| | **Semester Total** | **12** |

| THIRD SEMESTER | | CREDITS |
|---|---|---|
| WLDG 1435 | Introduction to Pipe Welding | 4 |
| WLDG 2453 | Advanced Pipe Welding | 4 |
| WLDG 1417 | Introduction to Layout and Fabrication | 4 |
| | **Semester Total** | **12** |
| | **Program Total** | **36** |

# Science, Technology, Engineering and Mathematics

## ENGINEERING & TECHNOLOGY

**Biotechnology**
**Chemical Engineering Technology**
**Chemical Laboratory Technology**
**Computer & Electronic Engineering Technology**
**Drafting & Design Engineering Technology**
**Process Technology**
**(See Academic Degrees and Certificates 33-47)**

## MATHEMATICS, EARTH, NATURAL SCIENCES

**(See Academic Degrees and Certificates 33-47)**

### Science, Technology, Engineering and Mathematics

A Career Cluster is a grouping of occupations and broad industries based on commonalities. The Science, Technology, Engineering and Mathematics career cluster is concerned with providing knowledge and skills related to planning, managing, and providing scientific research and professional and technical services (e.g., physical science, social science, engineering) including laboratory and testing services, and research and development services. This would include careers related to Biotechnology, Chemical Laboratory Technology, Engineering, Drafting, Electronics, Process Technology, Water/Wastewater Treatment, Astronomy, Biology, Chemistry, Earth and Environmental Science, Genetics, Geology, Mathematics, Meteorology, Oceanography, Physics, Statistics and Scientific Research.

Every HCC Workforce Educational program contains a "capstone," an experience for the student to "put it all together." The capstone might consist of an external learning experience (e.g., co-op, clinical, etc.), a course especially designed to help students synthesize knowledge and skills, or a licenser exam as appropriate

## BIOTECHNOLOGY

Biotechnology is an emerging technology with wide applications in the fields of medicine, pharmaceuticals, biosafety, forensics, biomanufacturing, agriculture, and environmental science.

The HCC Biotechnology Program offers an Associate in Applied Science (AAS) degree as well as a Certificate of Completion. Students acquire the hands-on technical skills, competencies and technical training to enable them to work in diverse biotechnology industries. These include medical research labs, pharmaceutical companies, bio-analytical service laboratories, diagnostic centers, forensic labs, corporate R & D units, food processing, environmental, and agricultural lab services and other consumer goods manufacturers.

The capstone for the Associate in Applied Science (AAS) degree is BITC 2386, Internship-Biological Technology/Technician and the capstone for the Certificate is BITC 2386, Internship-Biological Technology/Technician or BITC 1491, Special Topics in Biological Technology/Technician.

For more information, please call 713-718-5253, 713-718-5249 or 713-718-8316; or e-mail chandra.mittal@hccs.edu or john.galiotos@hccs.edu.

## BIOTECHNOLOGY

### AAS

TSI Testing is required prior to first enrollment.

**FIRST YEAR**

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| MATH | 1314 | College Algebra | 3 |
| BITC | 1402 | Biotechnology Laboratory Methods and Techniques | 4 |
| BITC | 1311 | Introduction to Biotechnology | 3 |
| ENGL | 1301 | Composition I | 3 |
| XXXX | #3## | Computer Applications Elective* | 3 |
| | | **Semester Total** | **16** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| BITC | 2411 | Biotechnology Laboratory Instrumentation | 4 |
| BIOL | 1406 | General Biology I | 4 |
| CHEM | 1411 | General Chemistry I OR | |
| SCIT | 1414 | Applied General Chemistry I | 4 |
| BITC | 1370 | Introduction to Biochemistry | 3 |
| | | **Semester Total** | **15** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| SCIT | 2401 | Applied Organic Chemistry I OR | |
| CHEM | 2423 | Organic Chemistry I | 4 |
| XXXX | #3## | Social Science General Education Elective | 3 |
| BITC | 1491 | Special Topics in Biological Technology/Technician | 4 |
| | | **Semester Total** | **11** |

**SECOND YEAR**

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| BITC | 2431 | Cell Culture Techniques | 4 |
| BITC | 2441 | Molecular Biology Techniques | 4 |
| BIOL | 2420 | Microbiology | 4 |
| BIOL | 2401 | Anatomy and Physiology I | 4 |
| | | **Semester Total** | **16** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| BITC | 1445 | Medical Biotechnology | 4 |
| XXXX | #3## | Approved Humanities/Fine Arts General Education Elective | 3 |
| BITC | 2472 | Immunological Methods and Techniques | 4 |
| BITC | 2386 | Internship - Biological Technology/Technician | 3 |
| | | **Semester Total** | **14** |
| | | **Program Total** | **72** |

*The Computer Applications Elective may be chosen from the following courses: ITSC 1309, Integrated Software Applications I; POFI 1301, Computer Applications I; or BCIS 1405, Business Computer Application.

## BIOTECHNOLOGY

### CERTIFICATE

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| BITC | 1311 | Introduction to Biotechnology | 3 |
| ENGL | 1301 | Composition I | 3 |
| MATH | 1314 | College Algebra | 3 |
| BIOL | 1406 | General Biology I | 4 |
| | | **Semester Total** | **13** |

## SECOND SEMESTER | CREDITS

| | | | |
|---|---|---|---|
| BITC | 1402 | Biotechnology Laboratory Methods and Techniques ...... | 4 |
| CHEM | 1411 | General Chemistry I OR | |
| SCIT | 1414 | Applied General Chemistry I............................................ | 4 |
| BITC | 1370 | Introduction to Biochemistry.............................................. | 3 |
| | | **Semester Total** | **11** |

## THIRD SEMESTER | CREDITS

| | | | |
|---|---|---|---|
| BITC | 2411 | Biotechnology Laboratory Instrumentation ....................... | 4 |
| BITC | 2386 | Internship - Biological Technology/Technician OR | |
| BITC | 1491 | Special Topics in Biological Technology/Technician...... | 3-4 |
| | | **Semester Total** | **7-8** |
| | | **Program Total** | **31-32** |

# CHEMICAL ENGINEERING TECHNOLOGY

Chemical engineering technologists work closely with chemical engineers in designing equipment and developing commercial production facilities. They assist in evaluating and redesigning equipment processes in the energy and petroleum industries, manufacturing plants, and environmental control. Their knowledge and skills may also be applied to resolving process and production problems; assisting in designing new plants and processes; evaluating plant performance; replacing or installing new plant equipment; and training and supervising production unit operators.

The program prepares graduates to work in production, process development and environmental control for the expanding industries of petroleum, chemical, petrochemical, food and beverages, Bioprocessing and Biomanufacturing, including pharmaceuticals, and pulp and paper. Career opportunities also exist in engineering design, computer-based process simulation, technical sales, field operations and environmental related work. Graduates can work in process operations, troubleshooting and maintenance.

The capstone course for the AAS Chemical Engineering Technology is CTEC 2445, Unit Operations.

For more information, please call Dr. John Galiotos, 713-718-5253, 713-718-8316, or 713-718-5534, or e-mail john.galiotos@hccs.edu, or marian.ali@hccs.edu.

## CHEMICAL ENGINEERING TECHNOLOGY

**AAS**

TSI Testing is required prior to first enrollment.

### FIRST YEAR

#### FIRST SEMESTER | CREDITS

| | | | |
|---|---|---|---|
| CTEC | 1391 | Special Topics in Chemical Technology/Technician ......... | 3 |
| XXXX | #3## | Computer Applications Electives* ..................................... | 3 |
| PTAC | 1308 | Safety, Health, and Environment I ................................... | 3 |
| ENGL | 1301 | Composition I........................................................................ | 3 |
| MATH | 1314 | College Algebra................................................................... | 3 |
| | | **Semester Total** | **15** |

#### SECOND SEMESTER | CREDITS

| | | | |
|---|---|---|---|
| SCIT | 1414 | Applied General Chemistry I OR | |
| CHEM | 1411 | General Chemistry ............................................................ | 4 |
| SCIT | 1418 | Applied Physics I OR | |
| PHYS | 1401 | College Physics I .............................................................. | 4 |
| MATH | 1325 | Elements of Calculus with Applications............................ | 3 |
| PTAC | 1332 | Process Instrumentation I ................................................ | 3 |
| | | **Semester Total** | **14** |

## THIRD SEMESTER | CREDITS

| | | | |
|---|---|---|---|
| CTEC | 1491 | Special Topics in Chemical Technology/Technician ......... | 4 |
| SCIT | 2401 | Applied Organic Chemistry I OR | |
| CHEM | 2423 | Organic Chemistry I .......................................................... | 4 |
| PTAC | 1410 | Process Technology I - Equipment ................................... | 4 |
| | | **Semester Total** | **12** |

### SECOND YEAR

#### FIRST SEMESTER | CREDITS

| | | | |
|---|---|---|---|
| SCIT | 1543 | Applied Analytical Chemistry............................................. | 5 |
| SOCI | 1301 | Introduction to Sociology................................................... | 3 |
| CTEC | 1491 | Special Topics in Chemical Technology/Technician ......... | 4 |
| PTAC | 2420 | Process Technology II - Systems...................................... | 4 |
| | | **Semester Total** | **16** |

#### SECOND SEMESTER | CREDITS

| | | | |
|---|---|---|---|
| CTEC | 2445 | Unit Operations.................................................................. | 4 |
| CTEC | 2386 | Internship - Chemical........................................................ | 3 |
| PTAC | 2446 | Process Troubleshooting .................................................. | 4 |
| XXXX | #3## | Approved Humanities/Fine Arts General Education | |
| | | Elective ............................................................................... | 3 |
| | | **Semester Total** | **14** |
| | | **Program Total** | **71** |

*The Computer Applications Elective may be chosen from the following courses: ITSC 1309, Integrated Software Applications I; POFI 1341, Computer Applications II; or BCIS 1405, Business Computer Application.

# CHEMICAL LABORATORY TECHNOLOGY

Competent and skilled chemical laboratory technicians are in high demand in the ever-growing chemical and realted industries. The Chemical Laboratory Technology program at HCC combines laboratory experience with extensive theoretical background providing students with the knowledge, competencies and skills required to work alongside professional chemists and other related scientists in various industrial and research settings.

Chemical Laboratory Technology graduates are exposed to a broad range of employment opportunities in high demand industries that include petroleum and natural gas, petrochemicals, refining, food and beverage, agriculture, environmental science, government-related laboratories, water/wastewater treatment and purification municipal facilities, pharmaceutical, plastics and chemical plants other than petrochemical. Chemical Laboratory Technology graduates enjoy excellent salaries and frequently advance to more challenging and responsible positions.

The Chemical Laboratory Technology curriculum at HCC is based on the Voluntary Industry Skill Standards developed by the American Chemical Society in association with industry chemists and chemical laboratory technicians. These standards identify the competencies and skills that chemical laboratory technicians must be proficient and productive in to ensure safety during their daily operations. Students receive a solid foundation in chemical applications, synthetic and instrumentation techniques and hands-on experience with the type of equipment and procedures currently used in industrial and governmental settings.

The capstone for the AAS in Chemical Laboratory Technology is CTEC 2531, Applied Instrumental Analysis II. The capstone for the Certificate in Chemical Laboratory Technology is CTEC 1541, Applied Instrumental Analysis I.

For more information, call 713-718-5253, 713-718-5302, 713-718-5534 or 713-718-8316 or e-mail john.galiotos@hccs.edu or marion.ali@hccs.edu.

## CHEMICAL LABORATORY TECHNOLOGY

**AAS**

TSI Testing is required prior to first enrollment.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| MATH | 1314 | College Algebra | 3 |
| CTEC | 1213 | Introduction to Chemical Technology | 2 |
| XXXX | #3## | Computer Applications Elective** | 3 |
| PSYC | 2301 | Introduction to Psychology OR | |
| PSYC | 2303 | Business Psychology | 3 |
| | | **Semester Total** | **14** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| SCIT | 1414 | Applied General Chemistry I OR | |
| CHEM | 1411 | General Chemistry I | 4 |
| BIOL | 1406 | General Biology I OR | |
| PHYS | 1401 | College Physics | 4 |
| MATH | 1342 | Statistics | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts General Education Elective | 3 |
| | | **Semester Total** | **14** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| SCIT | 1543 | Applied Analytical Chemistry | 5 |
| SCIT | 1415 | Applied General Chemistry II OR | |
| CHEM | 1412 | General Chemistry II | 4 |
| | | **Semester Total** | **9** |

### SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| CTEC | 1541 | Applied Instrumental Analysis I | 5 |
| SCIT | 2401 | Applied Organic Chemistry I OR | |
| CHEM | 2423 | Organic Chemistry I | 4 |
| XXXX | #4## | Department Approved Program-Related Elective | 4 |
| | | **Semester Total** | **13** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| SCIT | 2402 | Applied Organic Chemistry II OR | |
| CHEM | 2425 | Organic Chemistry II | 4 |
| CTEC | 2531 | Applied Instrumental Analysis II | 5 |
| CTEC | 2381 | Cooperative Education OR | |
| CTEC | 2386 | Internship OR | |
| CTEC | 2333 | Comprehensive Studies in Chemical Technology | 3 |
| XXXX | #3## | Approved Program-Related Elective* | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **65** |

*Electives: PTAC 2314, PTAC 2334; GEOL 1403, GEOL 1404; CTEC 2441, CTEC 1349, CTEC 1345, CTEC 2443, CTEC 2445, CTEC 1401, EPTC 1427, EPTC 2414 or other department approved elective.

**The Computer Applications Elective may be chosen from the following courses: ITSC 1309, Integrated Software Applications I; POFI 1301, Computer Applications I; or BCIS 1405, Business Computer Application.

## CHEMICAL LABORATORY TECHNOLOGY CERTIFICATE

**CERTIFICATE**

Course prerequisite needs to be met for Math.

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| MATH | 1314 | College Algebra | 3 |
| CTEC | 1213 | Introduction to Chemical Technology | 2 |
| SCIT | 1414 | Applied General Chemistry I OR | |
| CHEM | 1411 | General Chemistry I | 4 |
| | | **Semester Total** | **9** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| SCIT | 2401 | Applied Organic Chemistry I OR | |
| CHEM | 2423 | Organic Chemistry I | 4 |
| SCIT | 1543 | Applied Analytical Chemistry | 5 |
| | | **Semester Total** | **9** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| SCIT | 2402 | Applied Organic Chemistry II OR | |
| CHEM | 2425 | Organic Chemistry II | 4 |
| CTEC | 1541 | Applied Instrumental Analysis I | 5 |
| | | **Semester Total** | **9** |
| | | **Program Total** | **27** |

## POLYMER TECHNOLOGY SPECIALIZATION CERTIFICATE

There is a growing need in the Houston area for chemical technicians who have additional knowledge in polymers,including their synthesis, characterization, and applications. Shell, Dow, DuPont, Bayer Corporation, GoodYear Rubber and Tire, Lubrizol, Akzo Nobel, Schlumberger, ExxonMobil, and Nalco Chemical Company are among some of the companies that have expressed strong interest in incorporating polymer science education, competencies, and skills into the Chemical Laboratory Technology curriculum.

The capstone for the Chemical Laboratory Technology-Polymer Technology Specialization Certificate is CTEC 2443, Polymers II.

For more information please call 713-718-5253, or 713-718-8316, or e-mail john.galiotos@hccs.edu.

**CERTIFICATE**

Course prerequisite needs to be met for Math.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| MATH | 1314 | College Algebra | 3 |
| CTEC | 1213 | Introduction to Chemical Technology | 2 |
| CHEM | 1411 | General Chemistry I OR | 4 |
| SCIT | 1414 | Applied General Chemistry I | 4 |
| | | **Semester Total** | **9** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| CHEM | 2423 | Organic Chemistry I OR | |
| SCIT | 2401 | Applied Organic Chemistry I | 4 |
| CTEC | 2441 | Polymers I | 4 |
| SCIT | 1543 | Applied Analytical Chemistry | 5 |
| | | **Semester Total** | **13** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| CTEC | 2443 | Polymers II | 4 |
| CTEC | 1541 | Applied Instrumental Analysis I | 5 |
| | | **Semester Total** | **9** |
| | | **Program Total** | **31** |

## MUNICIPAL AND INDUSTRIAL WATER TREATMENT OPERATIONS CERTIFICATE

The Municipal and Industrial Water Treatment Operations Certificate, is designed to prepare students for careers in wastewater treatment and other environmentally related water operations. Students successfully completing the program will obtain a strong background in water analysis and treatment, water characteristics, wastewater collection and processing, and water/wastewater operations. Students will gain hands-on experience in the laboratory water/wastewater industry.

The capstone course for the Municipal and Industrial Water Treatment Operations Certificate is EPCT 1380, Cooperative Education-Environmental Engineering Technology/Environmental Technology or CTEC 2333, Comprehensive studies in Chemical Technology/Technician.

For more information, call 713-718-5253 or 713-718-8316; or e-mail john.galiotos@hccs.edu.

### CERTIFICATE

Course prerequisite needs to be met for Math.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| EPCT | 1427 | Water Treatment and Operations | 4 |
| CTEC | 1345 | Chemical Laboratory Safety | 3 |
| MATH | 1314 | College Algebra | 3 |
| SCIT | 1414 | Applied General Chemistry I* | 4 |
| | | **Semester Total** | **14** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| SCIT | 1543 | Applied Analytical Chemistry | 5 |
| SCIT | 2401 | Applied Organic Chemistry I** | 4 |
| CTEC | 1349 | Environmental Chemistry | 3 |
| | | **Semester Total** | **12** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| CTEC | 1541 | Applied Instrumental Analysis I | 5 |
| EPCT | 2414 | Wastewater Chemistry | 4 |
| EPCT | 1380 | Cooperative Education – Environmental Engineering Technology/Environmental Technology OR | 3 |
| CTEC | 2333 | Comprehensive Studies in  Chemical Technology | 3 |
| | | **Semester Total** | **12** |
| | | **Program** | **38** |

*CHEM 1411 may be substituted for SCIT 1414.

** CHEM 2423 may be substituted for SCIT 2401.

## COMPUTER AND ELECTRONIC ENGINEERING TECHNOLOGY

In addition to a solid core of academic and technical courses, the Electronic Engineering Technology program requires a focus specialization in one of the following  areas to complete the AAS degree: Biomedical Electronics, Computer Engineering Technology, Cisco Router Technology, or Computer Networking.

Graduates of this program may secure entry-level employment in positions such as electronics technician, field service representative, technical writer, sales representative, computer technician and network technician.

Areas of employment may include research and development, servicing and maintenance, manufacturing and sales. Job responsibilities may require technicians to install and test newly designed equipment, operate and maintain complex electronic systems, write servicing or operating manuals, as well as represent manufacturers and wholesale/retail establishments.

The AAS Computer Engineering Technology Specialization is accredited by the Technology Accreditation Commission of the Accreditation Board for Engineering and Technology (TAC/ABET) 111 Market Place, Suite 1050, Baltimore, MD 21202, 410-347-7700. The Biomedical Electronics Specialization requires at least one full semester of employment in a hospital or biomedical equipment-manufacturing environment with the BIOM 2489, Internship course. The EECT 2380, Cooperative Education course is available to eligible HCC electronics students. Contact the Electronic Engineering Technology Department or an HCC counselor for more information.

All of the Electronic Engineering Technology AAS degrees are approved as Tech Prep awards. Qualified high school students may earn up to six credit hours toward the AAS degree through Tech Prep or dual credit. See an HCC counselor for information.

### MAJOR PROGRAMS OFFERED

### Electronic Engineering Technology AAS Degrees
- Biomedical Electronics Specialization
- Computer Networking Specialization
- Computer Engineering Technology Specialization
- Cisco Router Technology Specialization
- Wireless Telecommunications Specialization

### Electronic Engineering Technology Certificates
- Basic Electronics Certificate
- Computer Servicing/Networks Certificate
- Cisco Router Technology Certificate
- Network Security Certificate
- Wireless Telecommunications Certificate
- Cisco Router Technology Enhanced Skills Certificate

The capstones in Electronic Engineering Technology are as follows:

- Biomedical Electronics Specialization AAS—BIOM 2489, Internship: Biomedical Engineering-Related Technology/Technician.

- Computer Networking Specialization AAS—CPMT 2449, Advanced Computer Networking Technology

- Computer Engineering Technology Specialization AAS—CETT 2435, Advanced Microprocessor

- Cisco Router Technology Specialization AAS—ITCC 1446, CCNA 4: WAN Technologies

- Wireless Telecommunications Specialization AAS—EECT 2439, Communications Circuits

- Basic Electronics Certificate—CETT 1321, Electronic Fabrication

- Computer Servicing/Networks Certificate—CPMT 2449, Advanced Computer Networking Technology

- Cisco Router Technology Certificate—ITCC 1446, CCNA 4: WAN Technologies

- Wireless Telecommunications Certificate—EECT 2439, Communications Circuits

- Cisco Router Technology Enhanced Skills Certificate—ITCC 2444, CCNP 4: Internetwork Troubleshooting

- Network Security Certificate—ITSY 2401, Firewalls and Network Security or CPMT 2434, Network Security

For more information, call 713-718-5226 or e-mail reddy.talusani@hccs.edu.

## BIOMEDICAL ELECTRONICS SPECIALIZATION

### AAS

### FIRST YEAR

**FIRST SEMESTER**            CREDITS

| | | | |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| MATH | 1314 | College Algebra | 3 |
| PSYC | 2302 | Applied Psychology OR | |
| PSYC | 2301 | Introduction to Psychology | 3 |
| CETT | 1403 | DC Circuits | 4 |
| CETT | 1425 | Digital Fundamentals | 4 |
| | | **Semester Total** | **17** |

**SECOND SEMESTER**            CREDITS

| | | | |
|---|---|---|---|
| MATH | 1316 | Plane Trigonometry | 3 |
| CETT | 1405 | AC Circuits | 4 |
| CETT | 1429 | Solid State Devices | 4 |
| CPMT | 1303 | Introduction to Computer Technology | 3 |
| | | **Semester Total** | **14** |

**THIRD SEMESTER**            CREDITS

| | | | |
|---|---|---|---|
| MATH | 1325 | Elements of Calculus | 3 |
| PHYS | 1401 | College Physics I | 4 |
| | | **Semester Total** | **7** |

### SECOND YEAR

**FIRST SEMESTER**            CREDITS

| | | | |
|---|---|---|---|
| BIOM | 1309 | Applied Biomedical Equipment Technology | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts General Education Elective | 3 |
| ENGL | 2311 | Technical and Industrial Correspondence and Report Writing | 3 |
| CETT | 1331 | Technical Programming | 3 |
| CETT | 1457 | Linear Integrated Circuits | 4 |
| | | **Semester Total** | **16** |

**SECOND SEMESTER**            CREDITS

| | | | |
|---|---|---|---|
| BIOM | 2331 | Biomedical Clinical Instrumentation | 3 |
| BIOM | 2489 | Internship-Biomedical Engineering-Related Technology/Technician | 4 |
| POFM | 1313 | Medical Terminology I | 3 |
| PHYS | 1402 | College Physics II OR | |
| CHEM | 1413 | College Chemistry I | 4 |
| | | **Semester Total** | **14** |
| | | **Program Total** | **68** |

## COMPUTER NETWORKING SPECIALIZATION

### AAS

### FIRST YEAR

**FIRST SEMESTER**            CREDITS

| | | | |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| MATH | 1314 | College Algebra | 3 |
| PSYC | 2302 | Applied Psychology OR | |
| PSYC | 2301 | Introduction to Psychology | 3 |
| CETT | 1403 | DC Circuits | 4 |
| CETT | 1425 | Digital Fundamentals | 4 |
| | | **Semester Total** | **17** |

**SECOND SEMESTER**            CREDITS

| | | | |
|---|---|---|---|
| MATH | 1316 | Plane Trigonometry | 3 |
| CETT | 1405 | AC Circuits | 4 |
| CETT | 1429 | Solid State Devices | 4 |
| CPMT | 1303 | Introduction to Computer Technology | 3 |
| | | **Semester Total** | **14** |

**THIRD SEMESTER**            CREDITS

| | | | |
|---|---|---|---|
| MATH | 1325 | Elements of Calculus | 3 |
| PHYS | 1401 | College Physics I | 4 |
| | | **Semester Total** | **7** |

### SECOND YEAR

**FIRST SEMESTER**            CREDITS

| | | | |
|---|---|---|---|
| ENGL | 2311 | Technical and Industrial Correspondence and Report Writing | 3 |
| CETT | 1331 | Technical Programming | 3 |
| XXXX | #4## | Program-related Elective | 4 |
| CPMT | 1449 | Computer Networking Technology | 4 |
| XXXX | #3## | Approved Humanities/Fine Arts General Education Elective | 3 |
| | | **Semester Total** | **17** |

## SECOND SEMESTER

| | | | CREDITS |
|---|---|---|---|
| PHYS | 1402 | College Physics II OR | |
| CHEM | 1413 | College Chemistry I | 4 |
| CPMT | 1411 | Introduction to Computer Maintenance | 4 |
| CPMT | 2449 | Advanced Computer Networking Technology | 4 |
| XXXX | #3## | Program-Related Elective | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **70** |

# COMPUTER ENGINEERING TECHNOLOGY SPECIALIZATION

## AAS

### FIRST YEAR

#### FIRST SEMESTER

| | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| MATH | 1314 | College Algebra | 3 |
| PSYC | 2302 | Applied Psychology OR | |
| PSYC | 2301 | Introduction to Psychology | 3 |
| CETT | 1403 | DC Circuits | 4 |
| CETT | 1425 | Digital Fundamentals | 4 |
| | | **Semester Total** | **17** |

#### SECOND SEMESTER

| | | | CREDITS |
|---|---|---|---|
| MATH | 1316 | Plane Trigonometry | 3 |
| CETT | 1405 | AC Circuits | 4 |
| CETT | 1429 | Solid State Devices | 4 |
| CPMT | 1303 | Introduction to Computer Technology | 3 |
| | | **Semester Total** | **14** |

#### THIRD SEMESTER

| | | | CREDITS |
|---|---|---|---|
| MATH | 1325 | Elements of Calculus | 3 |
| ENGL | 2311 | Technical and Industrial Correspondence and Report Writing | 3 |
| | | **Semester Total** | **6** |

### SECOND YEAR

#### FIRST SEMESTER

| | | | CREDITS |
|---|---|---|---|
| CETT | 1331 | Technical Programming | 3 |
| PHYS | 1401 | College Physics I | 4 |
| CETT | 1457 | Linear Integrated Circuits | 4 |
| CETT | 1445 | Microprocessor | 4 |
| XXXX | #3## | Approved Humanities/Fine Arts General Education Elective | 3 |
| | | **Semester Total** | **18** |

#### SECOND SEMESTER

| | | | CREDITS |
|---|---|---|---|
| PHYS | 1402 | College Physics II OR | |
| CHEM | 1413 | College Chemistry I | 4 |
| CETT | 2435 | Advanced Microprocessor | 4 |
| CPMT | 1411 | Introduction to Computer Maintenance | 4 |
| XXXX | #3## | Program-Related Elective | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **70** |

# CISCO ROUTER TECHNOLOGY SPECIALIZATION

## AAS

### FIRST YEAR

#### FIRST SEMESTER

| | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| MATH | 1314 | College Algebra | 3 |
| PSYC | 2302 | Applied Psychology OR | |
| PSYC | 2301 | Introduction to Psychology | 3 |
| CETT | 1403 | DC Circuits | 4 |
| CETT | 1425 | Digital Fundamentals | 4 |
| | | **Semester Total** | **17** |

#### SECOND SEMESTER

| | | | CREDITS |
|---|---|---|---|
| MATH | 1316 | Plane Trigonometry | 3 |
| CETT | 1405 | AC Circuits | 4 |
| CPMT | 1411 | Introduction to Computer Maintenance | 4 |
| CPMT | 1303 | Introduction to Computer Technology | 3 |
| | | **Semester Total** | **14** |

#### THIRD SEMESTER

| | | | CREDITS |
|---|---|---|---|
| ENGL | 2311 | Technical and Industrial Correspondence and Report Writing | 3 |
| CETT | 1429 | Solid State Devices | 4 |
| | | **Semester Total** | **7** |

### SECOND YEAR

#### FIRST SEMESTER

| | | | CREDITS |
|---|---|---|---|
| PHYS | 1401 | College Physics I | 4 |
| ITCC | 1406 | CCNA 2: Router and Routing Basics | 4 |
| CPMT | 2449 | Advanced Computer Networking Technology | 4 |
| ITCC | 1402 | CCNA 1: Networking Basics | 4 |
| | | **Semester Total** | **16** |

#### SECOND SEMESTER

| | | | CREDIT |
|---|---|---|---|
| ITCC | 1442 | CCNA 3: Switching Basics and Intermediate Routing | 4 |
| ITCC | 1446 | CCNA 4: WAN Technologies | 4 |
| XXXX | #3## | Approved Humanities/Fine Arts General Education Elective | 3 |
| XXXX | #3## | Program-Related Elective OR | |
| ITCC | 2432 | CCNP 1: Advanced Routing | 4 |
| | | **Semester Total** | **14** |
| | | **Program Total** | **68** |

# CISCO ROUTER TECHNOLOGY

## CERTIFICATE

#### FIRST SEMESTER

| | | | CREDITS |
|---|---|---|---|
| CETT | 1425 | Digital Fundamentals | 4 |
| CPMT | 1411 | Introduction to Computer Maintenance | 4 |
| ITCC | 1402 | CCNA 1: Networking Basics | 4 |
| ITCC | 1406 | CCNA 2: Routers and Routing Basics | 4 |
| | | **Semester Total** | **16** |

#### SECOND SEMESTER

| | | | CREDITS |
|---|---|---|---|
| ITCC | 1442 | CCNA 3: Switching Basic and Intermediate Routing | 4 |
| ITCC | 1446 | CCNA 4: WAN Technologies | 4 |
| CPMT | 2449 | Advanced Computer Networking Technology | 4 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **28** |

## CISCO ROUTER TECHNOLOGY

The Cisco Router Technology Specialization AAS degree is required before this Enhanced Skills Certificate may be pursued.

### ENHANCED SKILLS CERTIFICATE

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ITCC | 2440 | CCNP 3: Multilayer Switching | 4 |
| ITCC | 2444 | CCNP 4: Internetwork Troubleshooting | 4 |
| ITCC | 2436 | CCNP 2: Remote Access | 4 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **12** |

## WIRELESS TELECOMMUNICATIONS SPECIALIZATION

### AAS

**FIRST YEAR**

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| MATH | 1314 | College Algebra | 3 |
| PSYC | 2302 | Applied Psychology OR | |
| PSYC | 2301 | Introduction to Psychology | 3 |
| CETT | 1403 | DC Circuits | 4 |
| CETT | 1425 | Digital Fundamentals | 4 |
| | | **Semester Total** | **17** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| MATH | 1316 | Plane Trigonometry | 3 |
| CETT | 1405 | AC Circuits | 4 |
| CETT | 1429 | Solid State Devices | 4 |
| CPMT | 1449 | Computer Networking Technology OR | |
| ITCC | 1402 | CCNA 1: Networking Basics | 4 |
| | | **Semester Total** | **15** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| CPMT | 1303 | Introduction to Computer Technology | 3 |
| PHYS | 1401 | College Physics I | 4 |
| | | **Semester Total** | **7** |

**SECOND YEAR**

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 2311 | Technical and Industrial Correspondence and Report Writing | 3 |
| CETT | 1331 | Technical Programming | 3 |
| CETT | 1457 | Linear Integrated Circuits | 4 |
| ITSY | 1417 | Wireless Foundations | 4 |
| | | **Semester Total** | **14** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| EECT | 2439 | Communications Circuits | 4 |
| XXXX | #3## | Approved Humanities/Fine Arts General Education Elective | 3 |
| ITSY | 1427 | Telecommunications Media: Physical Layer Implementation OR | |
| EECT | 1440 | Telecommunications Transmission Media | 4 |
| ITSY | 2417 | Wireless Security Development | 4 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **68** |

## WIRELESS TELECOMMUNICATIONS SPECIALIZATION

### CERTIFICATE

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| CETT | 1409 | DC-AC Circuits | 4 |
| CETT | 1425 | Digital Fundamentals | 4 |
| CPMT | 1303 | Introduction to Computer Technology | 3 |
| CPMT | 1449 | Computer Networking Technology OR | |
| ITCC | 1402 | CCNA 1: Networking Basics | 4 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| CETT | 1429 | Solid State Devices | 4 |
| ITSY | 1417 | Wireless Foundations | 4 |
| ITSY | 1427 | Telecommunications Media: Physical Layer Implementation OR | |
| EECT | 1440 | Telecommunications Transmission Media | 4 |
| | | **Semester Total** | **12** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| EECT | 2439 | Communications Circuits | 4 |
| ITSY | 2417 | Wireless Security Development | 4 |
| | | **Semester Total** | **8** |
| | | **Program Total** | **35** |

## BASIC ELECTRONICS

### CERTIFICATE

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| CPMT | 1303 | Introduction to Computer Technology | 3 |
| CETT | 1409 | DC-AC Circuits | 4 |
| CETT | 1415 | Digital Applications | 4 |
| | | **Semester Total** | **11** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| CETT | 1429 | Solid State Devices | 4 |
| CETT | 1321 | Electronic Fabrication | 3 |
| | | **Semester Total** | **7** |
| | | **Program Total** | **18** |

## COMPUTER SERVICING/NETWORKS

### CERTIFICATE

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| CPMT | 1303 | Introduction to Computer Technology | 3 |
| CETT | 1409 | DC-AC Circuits | 4 |
| CETT | 1415 | Digital Applications | 4 |
| CPMT | 1411 | Introduction to Computer Maintenance | 4 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| CPMT | 2433 | Computer Integration | 4 |
| CPMT | 2449 | Advanced Computer Networking Technology | 4 |
| CPMT | 1449 | Computer Networking Technology | 4 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **27** |

## NETWORK SECURITY

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| CPMT | 1411 | Introduction to Computer Maintenance | 4 |
| ITCC | 1402 | CCNA 1: Networking Basics | 4 |
| ITCC | 1406 | CCNA 2: Router and Routing Basics | 4 |
| | | **Semester Total** | **12** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| ITSY | 1300 | Fundamentals of Information Security | 3 |
| ITNW | 1351 | Fundamentals of Wireless LANs | 3 |
| CPMT | 2449 | Advanced Computer Networking Technology | 4 |
| | | **Semester Total** | **10** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| XXXX | #3## | Department Approved Elective | 3 |
| XXXX | #3## | Department Approved Elective | 3 |
| ITSY | 2401 | Firewalls and Network Security OR | |
| CPMT | 2434 | Network Security | 4 |
| | | **Semester Total** | **10** |
| | | **Program Total** | **32** |

## DRAFTING AND DESIGN ENGINEERING TECHNOLOGY

The Drafting and Design Engineering Technology program offers the technical training necessary for students considering a drafting/design career in the fields of architecture, construction, manufacturing, and engineering. This program provides a strong academic and technical base giving the graduate the needed skills and knowledge for immediate employment and the foundation for professional growth. It also provides professional growth for the experienced drafter/designer needing academic enrichment and knowledge of computer-aided drafting technology.

The Drafting/Design Engineering Technology program offers an Associate in Applied Science Degree in Drafting and Design Engineering Technology (60 semester hrs.) with four specializations, a Computer-Aided Drafting Certificate (30-33 semester hrs.) with four specializations and a Computer Aided Drafting/Designer Certificate (18 semester hrs.) with five specializations.

The capstone for the AAS in Drafting and Design Engineering Technology and the four specializations is DFTG 2381, Cooperative Education or ARCE 2344, Statics and Strength of Materials.

The capstone for the Computer-Aided Drafting Certificate and the four specializations is DFTG 2380, Cooperative Education or ARCE 2344, Statics and Strength of Materials.

The capstone for the Computer-Aided Drafting-Designer Certificate and the five specializations are as follows: Architectural Drafting Specialization-DFTG 2328, Architectural Drafting-Commercial; Piping Drafting Specialization-DFTG 2345, Advanced Piping Drafting; Mechanical Drafting Specialization-DFTG 2306, Machine Design; Electro-Mechanical Drafting Specialization-DFTG 2305, Printed Circuit Board Design; and Civil/Structural Drafting Specialization-ARCE 2344, Statics and Strength of Materials. Arrangements should be made through the program department chair prior to enrollment in a capstone course.

Advanced placement credit (21 credit hours max) is available to students who can provide written documentation of a minimum of two years, continuous related industry experience, within the past ten years.

For more information, call 713-718-5255 or 713-718-5231.

## DRAFTING AND DESIGN ENGINEERING TECHNOLOGY - GENERAL DRAFTING

TSI Testing is required prior to first enrollment.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| DFTG | 1305 | Technical Drafting | 3 |
| ENGL | 1301 | Composition I | 3 |
| MATH | 1314 | College Algebra | 3 |
| PSYC | 2301 | Introduction to Psychology | 3 |
| DFTG | 1309 | Basic Computer-Aided Drafting | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| DFTG | 2319 | Intermediate Computer-Aided Drafting | 3 |
| DFTG | 1358 | Electrical/Electronics Drafting | 3 |
| DFTG | 1333 | Mechanical Drafting | 3 |
| MATH | 1316 | Plane Trigonometry | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts Elective | 3 |
| | | **Semester Total** | **15** |

### SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| DFTG | 2317 | Descriptive Geometry | 3 |
| DFTG | 2335 | Advanced Technologies in Mechanical Design and Drafting | 3 |
| DFTG | 2302 | Machine Drafting | 3 |
| DFTG | 1317 | Architectural Drafting-Residential | 3 |
| ENGL | 2311 | Technical and Industrial Correspondence and Report Writing | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| DFTG | 1310 | Specialized Basic Computer Aided Drafting (CAD) | 3 |
| ARCE | 1352 | Structural Drafting | 3 |
| DFTG | 2330 | Civil Drafting | 3 |
| DFTG | 2323 | Pipe Drafting | 3 |
| DFTG | 2381 | Cooperative Education OR | |
| ARCE | 2344 | Statics and Strength of Materials | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **60** |

## COMPUTER-AIDED DRAFTING CERTIFICATE

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| DFTG | 1305 | Technical Drafting | 3 |
| DFTG | 1309 | Basic Computer-Aided Drafting | 3 |
| | | **Semester Total** | **6** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| DFTG | 1358 | Electrical/Electronics Drafting | 3 |
| DFTG | 2319 | Intermediate Computer-Aided Drafting | 3 |
| DFTG | 1333 | Mechanical Drafting | 3 |
| DFTG | 1317 | Architectural Drafting-Residential | 3 |
| | | **Semester Total** | **12** |

## SECOND YEAR

### First Semester — Credits

| | | | |
|---|---|---|---|
| ARCE | 1352 | Structural Drafting | 3 |
| DFTG | 2323 | Pipe Drafting | 3 |
| DFTG | 2330 | Civil Drafting | 3 |
| DFTG | 2380 | Cooperative Education OR | |
| ARCE | 2344 | Statics and Strength of Materials | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **30** |

# DRAFTING AND DESIGN ENGINEERING TECHNOLOGY-ARCHITECTURAL DRAFTING SPECIALIZATION

### AAS

## FIRST YEAR

### First Semester — Credits

| | | | |
|---|---|---|---|
| DFTG | 1305 | Technical Drafting | 3 |
| ENGL | 1301 | Composition I | 3 |
| MATH | 1314 | College Algebra | 3 |
| PSYC | 2301 | Introduction to Psychology | 3 |
| DFTG | 1309 | Basic Computer-Aided Drafting | 3 |
| | | **Semester Total** | **15** |

### Second Semester — Credits

| | | | |
|---|---|---|---|
| DFTG | 1317 | Architectural Drafting-Residential | 3 |
| DFTG | 2319 | Intermediate Computer-Aided Drafting | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts Elective | 3 |
| DFTG | 2330 | Civil Drafting | 3 |
| MATH | 1316 | Plane Trigonometry | 3 |
| | | **Semester Total** | **15** |

## SECOND YEAR

### First Semester — Credits

| | | | |
|---|---|---|---|
| DFTG | 2317 | Descriptive Geometry | 3 |
| DFTG | 2300 | Intermediate Architectural Drafting - Residential | 3 |
| DFTG | 1392 | Special Topics in Architectural Drafting and Architectural CAD/CADD | 3 |
| ARCE | 1352 | Structural Drafting | 3 |
| ENGL | 2311 | Technical and Industrial Correspondence and Report Writing | 3 |
| | | **Semester Total** | **15** |

### Second Semester — Credits

| | | | |
|---|---|---|---|
| DFTG | 1310 | Specialized Basic Computer Aided Drafting (CAD) | 3 |
| DFTG | 2328 | Architectural Drafting-Commercial | 3 |
| DFTG | 2331 | Advanced Technologies in Architectural Design and Drafting | 3 |
| ARCE | 2352 | Mechanical and Electrical Systems | 3 |
| DFTG | 2381 | Cooperative Education OR | |
| ARCE | 2344 | Statics and Strength of Materials | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **60** |

# COMPUTER-AIDED DRAFTING-ARCHITECTURAL DRAFTING SPECIALIZATION

### CERTIFICATE

## FIRST YEAR

### First Semester — Credits

| | | | |
|---|---|---|---|
| DFTG | 1305 | Technical Drafting | 3 |
| DFTG | 1309 | Basic Computer-Aided Drafting | 3 |
| | | **Semester Total** | **6** |

### Second Semester — Credits

| | | | |
|---|---|---|---|
| ARCE | 1352 | Structural Drafting | 3 |
| DFTG | 1317 | Architectural Drafting-Residential | 3 |
| DFTG | 2319 | Intermediate Computer-Aided Drafting | 3 |
| | | **Semester Total** | **9** |

## SECOND YEAR

### First Semester — Credits

| | | | |
|---|---|---|---|
| DFTG | 2330 | Civil Drafting | 3 |
| DFTG | 1392 | Special Topics in Architectural Drafting and Architectural CAD/CADD | 3 |
| DFTG | 2300 | Intermediate Architectural Drafting - Residential | 3 |
| | | **Semester Total** | **9** |

### Second Semester — Credits

| | | | |
|---|---|---|---|
| DFTG | 2328 | Architectural Drafting-Commercial | 3 |
| DFTG | 2331 | Advanced Technologies in Architectural Design and Drafting | 3 |
| DFTG | 2380 | Cooperative Education OR | |
| ARCE | 2344 | Statics and Strength of Materials | 3 |
| | | **Semester Total** | **9** |
| | | **Program Total** | **33** |

# DRAFTING AND DESIGN ENGINEERING TECHNOLOGY-ELECTROMECHANICAL DESIGN SPECIALIZATION

### AAS

TSI Testing is required prior to first enrollment.

## FIRST YEAR

### First Semester — Credits

| | | | |
|---|---|---|---|
| DFTG | 1305 | Technical Drafting | 3 |
| ENGL | 1301 | Composition I | 3 |
| MATH | 1314 | College Algebra | 3 |
| PSYC | 2301 | Introduction to Psychology | 3 |
| DFTG | 1309 | Basic Computer-Aided Drafting | 3 |
| | | **Semester Total** | **15** |

### Second Semester — Credits

| | | | |
|---|---|---|---|
| DFTG | 1358 | Electrical/Electronics Drafting | 3 |
| DFTG | 2319 | Intermediate Computer-Aided Drafting | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts Elective | 3 |
| DFTG | 1333 | Mechanical Drafting | 3 |
| MATH | 1316 | Plane Trigonometry | 3 |
| | | **Semester Total** | **15** |

## SECOND YEAR

### FIRST SEMESTER CREDITS
DFTG 2317 Descriptive Geometry ....................................................... 3
DFTG 1329 Electromechanical Drafting.............................................. 3
DFTG 2340 Solid Modeling /Design ..................................................... 3
DFTG 2302 Machine Drafting................................................................ 3
ENGL 2311 Technical and Industrial Correspondence and
Report Writing ................................................................. 3

**Semester Total 15**

### SECOND SEMESTER CREDITS
DFTG 2305 Printed Circuit Board Design............................................ 3
DFTG 1310 Specialized Basic Computer Aided Drafting (CAD) ......... 3
DFTG 2335 Advanced Technologies in Mechanical Design
and Drafting ...................................................................... 3
DFTG 1394 Special Topics in Electrical/Electronics Drafting and
Electrical/ Electronics CAD/CADD .................................. 3
DFTG 2381 Cooperative Education OR
ARCE 2344 Statics and Strength of Materials.................................... 3

**Semester Total 15**

**Program Total 60**

## COMPUTER-AIDED DRAFTING-ELECTROMECHANICAL DESIGN SPECIALIZATION

### CERTIFICATE

### FIRST YEAR

### FIRST SEMESTER CREDITS
DFTG 1305 Technical Drafting ............................................................. 3
DFTG 1309 Basic Computer-Aided Drafting ....................................... 3

**Semester Total 6**

### SECOND SEMESTER CREDITS
DFTG 2319 Intermediate Computer-Aided Drafting ............................ 3
DFTG 1358 Electrical/Electronics Drafting ......................................... 3
DFTG 1333 Mechanical Drafting .......................................................... 3

**Semester Total 9**

### SECOND YEAR

### FIRST SEMESTER CREDITS
DFTG 1329 Electromechanical Drafting .............................................. 3
DFTG 2335 Advanced Technologies in Mechanical Design
and Drafting ...................................................................... 3

**Semester Total 6**

### SECOND SEMESTER CREDITS
DFTG 2305 Printed Circuit Board Design............................................ 3
DFTG 1394 Special Topics in Electrical/Electronics Drafting and
Electrical/ Electronics CAD/CADD .................................. 3
DFTG 2380 Cooperative Education........................................................ 3

**Semester Total 9**

**Program Total 30**

## DRAFTING AND DESIGN ENGINEERING TECHNOLOGY-MECHANICAL DESIGN SPECIALIZATION

### AAS

TSI Testing is required prior to first enrollment.

### FIRST YEAR

### FIRST SEMESTER CREDITS
DFTG 1305 Technical Drafting ............................................................. 3
ENGL 1301 Composition I.................................................................... 3
MATH 1314 College Algebra................................................................ 3
PSYC 2301 Introduction to Psychology.............................................. 3
DFTG 1309 Basic Computer-Aided Drafting ....................................... 3

**Semester Total 15**

### SECOND SEMESTER CREDITS
DFTG 1333 Mechanical Drafting .......................................................... 3
DFTG 2319 Intermediate Computer-Aided Drafting ............................ 3
XXXX #3## Approved Humanities/Fine Arts Elective...................... 3
DFTG 2302 Machine Drafting................................................................ 3
MATH 1316 Plane Trigonometry........................................................... 3

**Semester Total 15**

### SECOND YEAR

### FIRST SEMESTER CREDITS
DFTG 2340 Solid Modeling/Design ..................................................... 3
DFTG 2317 Descriptive Geometry ....................................................... 3
DFTG 1358 Electrical/Electronics Drafting ......................................... 3
DFTG 2306 Machine Design ................................................................ 3
ENGL 2311 Technical and Industrial Correspondence and
Report Writing ................................................................. 3

**Semester Total 15**

### SECOND SEMESTER CREDITS
DFTG 1310 Specialized Basic Computer Aided Drafting (CAD) ......... 3
DFTG 1329 Electromechanical Drafting.............................................. 3
DFTG 2335 Advanced Technologies in Mechanical Design
and Drafting ...................................................................... 3
DFTG 2358 Advanced Machine Design ............................................... 3
DFTG 2381 Cooperative Education OR
ARCE 2344 Statics and Strength of Materials.................................... 3

**Semester Total 15**

**Program Total 60**

## COMPUTER-AIDED DRAFTING-MECHANICAL DESIGN SPECIALIZATION

### CERTIFICATE

### FIRST YEAR

### FIRST SEMESTER CREDITS
DFTG 1305 Technical Drafting ............................................................. 3
DFTG 1309 Basic Computer-Aided Drafting ....................................... 3

**Semester Total 6**

### SECOND SEMESTER CREDITS
DFTG 2319 Intermediate Computer-Aided Drafting ............................ 3
DFTG 1333 Mechanical Drafting .......................................................... 3
DFTG 2302 Machine Drafting................................................................ 3

**Semester Total 9**

## SECOND YEAR

### FIRST SEMESTER

| | | | CREDITS |
|---|---|---|---|
| DFTG | 2306 | Machine Design | 3 |
| DFTG | 2340 | Solid Modeling/Design | 3 |
| | | **Semester Total** | **6** |

### SECOND SEMESTER

| | | | CREDITS |
|---|---|---|---|
| DFTG | 2335 | Advanced Technologies in Mechanical Design and Drafting | 3 |
| DFTG | 2358 | Advanced Machine Design | 3 |
| DFTG | 2380 | Cooperative Education OR | |
| ARCE | 2344 | Statics and Strength of Materials | 3 |
| | | **Semester Total** | **9** |
| | | **Program Total** | **30** |

## DRAFTING AND DESIGN ENGINEERING TECHNOLOGY-PROCESS PIPING DESIGN SPECIALIZATION

### AAS

TSI Testing is required prior to first enrollment.

### FIRST YEAR

#### FIRST SEMESTER

| | | | CREDITS |
|---|---|---|---|
| DFTG | 1305 | Technical Drafting | 3 |
| ENGL | 1301 | Composition I | 3 |
| MATH | 1314 | College Algebra | 3 |
| PSYC | 2301 | Introduction to Psychology | 3 |
| DFTG | 1309 | Basic Computer-Aided Drafting | 3 |
| | | **Semester Total** | **15** |

#### SECOND SEMESTER

| | | | CREDITS |
|---|---|---|---|
| DFTG | 2319 | Intermediate Computer-Aided Drafting | 3 |
| DFTG | 2323 | Pipe Drafting | 3 |
| DFTG | 2317 | Descriptive Geometry | 3 |
| MATH | 1316 | Plane Trigonometry | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts Elective | 3 |
| | | **Semester Total** | **15** |

### SECOND YEAR

#### FIRST SEMESTER

| | | | CREDITS |
|---|---|---|---|
| DFTG | 1310 | Specialized Basic Computer Aided Drafting (CAD) | 3 |
| DFTG | 2345 | Advanced Pipe Drafting | 3 |
| DFTG | 1391 | Special Topics in Drafting and Design Technology/Technician, General | 3 |
| DFTG | 1396 | Special Topics in Computer Graphics | 3 |
| ENGL | 2311 | Technical and Industrial Correspondence and Report Writing | 3 |
| | | **Semester Total** | **15** |

#### SECOND SEMESTER

| | | | CREDITS |
|---|---|---|---|
| DFTG | 2370 | Intermediate Computer-Aided Drafting-Microstation | 3 |
| DFTG | 2308 | Instrumentation Drafting | 3 |
| ARCE | 1352 | Structural Drafting | 3 |
| DFTG | 2371 | Advanced Technologies in Process Plant Design | 3 |
| DFTG | 2381 | Cooperative Education OR | |
| ARCE | 2344 | Statics and Strength of Materials | 3 |
| | | **Semester Total** | **15** |
| | | **Program Total** | **60** |

## COMPUTER-AIDED DRAFTING-PROCESS PIPING DESIGN SPECIALIZATION

### CERTIFICATE

### FIRST YEAR

#### FIRST SEMESTER

| | | | CREDITS |
|---|---|---|---|
| DFTG | 1305 | Technical Drafting | 3 |
| DFTG | 1309 | Basic Computer-Aided Drafting | 3 |
| | | **Semester Total** | **6** |

#### SECOND SEMESTER

| | | | CREDITS |
|---|---|---|---|
| DFTG | 2319 | Intermediate Computer-Aided Drafting | 3 |
| DFTG | 2323 | Pipe Drafting | 3 |
| | | **Semester Total** | **6** |

### SECOND YEAR

#### FIRST SEMESTER

| | | | CREDITS |
|---|---|---|---|
| DFTG | 2308 | Instrumentation Drafting | 3 |
| DFTG | 2345 | Advanced Pipe Drafting | 3 |
| DFTG | 1395 | Special Topics in Mechanical Drafting and Mechanical Drafting CAD/CADD | 3 |
| | | **Semester Total** | **9** |

#### SECOND SEMESTER

| | | | CREDITS |
|---|---|---|---|
| ARCE | 1352 | Structural Drafting | 3 |
| DFTG | 2371 | Advanced Technologies in Process Plant Design-Autoplant | 3 |
| DFTG | 2380 | Cooperative Education OR | |
| ARCE | 2344 | Statics and Strength of Materials | 3 |
| | | **Semester Total** | **9** |
| | | **Program Total** | **30** |

## COMPUTER-AIDED DRAFTING-DESIGNER CERTIFICATE

The Computer-Aided Drafting-Designer Certificate provides an opportunity for the beginning and experienced drafter/designer, engineer, or architect to acquire training and educational credentials in the Drafting and Design Engineering Technology program. Students with industry experience may qualify for advanced placement, but must complete a minimum of 9 semester hours in the specialization area toward the certificate at HCC before advanced placement is awarded. Program advisement is encouraged prior to registration.

### CERTIFICATE

### FIRST YEAR

#### FIRST SEMESTER

| | | | CREDITS |
|---|---|---|---|
| DFTG | 1305 | Technical Drafting | 3 |
| DFTG | 1309 | Basic Computer-Aided Drafting | 3 |
| | | **Semester Total** | **6** |

#### SECOND SEMESTER

| | | | CREDITS |
|---|---|---|---|
| DFTG | 2317 | Descriptive Geometry | 3 |
| DFTG | 2323 | Pipe Drafting | 3 |
| DFTG | 2330 | Civil Drafting | 3 |
| DFTG | 1333 | Mechanical Drafting | 3 |
| | | **Semester Total** | **12** |
| | | **Program Total** | **18** |

# COMPUTER-AIDED DRAFTING-DESIGNER-ARCHITECTURAL DRAFTING SPECIALIZATION

## CERTIFICATE

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| DFTG | 1305 | Technical Drafting | 3 |
| DFTG | 1309 | Basic Computer-Aided Drafting | 3 |
| | | **Semester Total** | **6** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| DFTG | 1317 | Architectural Drafting-Residential | 3 |
| ARCE | 1352 | Structural Drafting | 3 |
| | | **Semester Total** | **6** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| DFTG | 2328 | Architectural Drafting - Commercial | 3 |
| DFTG | 2300 | Intermediate Architectural Drafting - Residential | 3 |
| | | **Semester Total** | **6** |
| | | **Program Total** | **18** |

# COMPUTER-AIDED DRAFTING-DESIGNER-PIPING DRAFTING SPECIALIZATION

## CERTIFICATE

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| DFTG | 1305 | Technical Drafting | 3 |
| DFTG | 1309 | Basic Computer-Aided Drafting | 3 |
| | | **Semester Total** | **6** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| DFTG | 2323 | Pipe Drafting | 3 |
| ARCE | 1352 | Structural Drafting | 3 |
| | | **Semester Total** | **6** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| DFTG | 2308 | Instrumentation Drafting | 3 |
| DFTG | 2345 | Advanced Pipe Drafting | 3 |
| | | **Semester Total** | **6** |
| | | **Program Total** | **18** |

# COMPUTER-AIDED DRAFTING-DESIGNER-MECHANICAL DRAFTING SPECIALIZATION

## CERTIFICATE

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| DFTG | 1305 | Technical Drafting | 3 |
| DFTG | 1309 | Basic Computer-Aided Drafting | 3 |
| | | **Semester Total** | **6** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| DFTG | 1333 | Mechanical Drafting | 3 |
| DFTG | 2302 | Machine Drafting | 3 |
| | | **Semester Total** | **6** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| DFTG | 1329 | Electro-Mechanical Drafting | 3 |
| DFTG | 2306 | Machine Design | 3 |
| | | **Semester Total** | **6** |
| | | **Program Total** | **18** |

# COMPUTER-AIDED DRAFTING-DESIGNER-ELECTRO MECHANICAL DRAFTING SPECIALIZATION

## CERTIFICATE

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| DFTG | 1305 | Technical Drafting | 3 |
| DFTG | 1309 | Basic Computer-Aided Drafting | 3 |
| | | **Semester Total** | **6** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| DFTG | 1333 | Mechanical Drafting | 3 |
| DFTG | 1358 | Electrical/Electronics Drafting | 3 |
| | | **Semester Total** | **6** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| DFTG | 1329 | Electro-Mechanical Drafting | 3 |
| DFTG | 2305 | Printed Circuit Board Design | 3 |
| | | **Semester Total** | **6** |
| | | **Program Total** | **18** |

# COMPUTER-AIDED DRAFTING-DESIGNER-CIVIL/STRUCTURAL DRAFTING SPECIALIZATION

## CERTIFICATE

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| DFTG | 1305 | Technical Drafting | 3 |
| DFTG | 1309 | Basic Computer-Aided Drafting | 3 |
| | | **Semester Total** | **6** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| ARCE | 1352 | Structural Drafting | 3 |
| SRVY | 1301 | Introduction to Surveying | 3 |
| | | **Semester Total** | **6** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| DFTG | 2330 | Civil Drafting | 3 |
| ARCE | 2344 | Statics and Strength of Materials | 3 |
| | | **Semester Total** | **6** |
| | | **Program Total** | **18** |

# PROCESS TECHNOLOGY

The Process Technology program educates and trains technicians who control and monitor various industrial and plant processes. Areas of employment include the petrochemical and refining, food and beverage processing, pharmaceutical and biomanufacturing, paper and pulp, oil and gas exploration, energy and power generation, water and waste water treatment, chemical and agricultural manufacturing, environmental safety, and brewing and distilling process industries.

Process technicians ensure safety, health and other environmental practices and standards in all areas of plant activities. They also provide routine and preventive maintenance and service to process equipment, systems, and other plant units. They may also monitor and operate manufacturing instrumentation. Process technicians generally interface with other technical personnel, such as chemical laboratory technicians, in inspecting, troubleshooting, repairing and testing process related equipment.

The capstone requirement for the Certificate of Completion and Associate in Applied Science (AAS) degrees is PTAC 2438, Process Technology III-Operations.

For more information call: 713-718-5302, 713-718-5293, 713-718-5534, or e-mail alan.isaachsen@hccs.edu or marion.ali@hccs.edu.

## PROCESS TECHNOLOGY

### AAS

TSI Testing is required prior to first enrollment.

### FIRST YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| ENGL | 1301 | Composition I | 3 |
| MATH | 1314 | College Algebra | 3 |
| SOCI | 1301 | Introduction to Sociology | 3 |
| PTAC | 1302 | Introduction to Process Technology | 3 |
| PTAC | 1308 | Safety, Health and Environment I | 3 |
| | | **Semester Total** | **15** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| XXXX | #3## | Computer Applications Elective* | 3 |
| SCIT | 1418 | Principles of Applied Physics ** | 4 |
| SCIT | 1414 | Applied General Chemistry I | 4 |
| PTAC | 1410 | Process Technology I - Equipment | 4 |
| PTAC | 1332 | Process Instrumentation I | 3 |
| | | **Semester Total** | **18** |

### SECOND YEAR

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| SPCH | 1311 | Fundamentals of Speech | 3 |
| PTAC | 2314 | Principles of Quality | 3 |
| PTAC | 2420 | Process Technology II - Systems | 4 |
| PTAC | 1354 | Industrial Processes | 3 |
| BMGT | 1301 | Supervision | 3 |
| | | **Semester Total** | **16** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| PTAC | 2438 | Process Technology III - Operations | 4 |
| PTAC | 2446 | Process Troubleshooting | 4 |
| HRPO | 2301 | Human Resource Management | 3 |
| XXXX | #3## | Approved Humanities/Fine Arts General Education Elective | 3 |
| | | **Semester Total** | **14** |
| | | **Program Total** | **63** |

*The Computer Applications Elective may be chosen from the following courses: ITSC 1309, Integrated Software Applications I; POFI 1301, Computer Applications I; or BCIS 1405, Business Computer Application.

**PHYS 1401 may be substituted.

## PROCESS TECHNOLOGY-PROCESS OPERATOR

### CERTIFICATE

| FIRST SEMESTER | | | CREDITS |
|---|---|---|---|
| MATH | 1314 | College Algebra | 3 |
| PTAC | 1302 | Introduction to Process Technology | 3 |
| PTAC | 1308 | Safety, Health and Environment I | 3 |
| PTAC | 1410 | Process Technology I - Equipment | 4 |
| | | **Semester Total** | **13** |

| SECOND SEMESTER | | | CREDITS |
|---|---|---|---|
| PTAC | 1332 | Process Instrumentation I | 3 |
| PTAC | 2420 | Process Technology II - Systems | 4 |
| PTAC | 2314 | Principles of Quality | 3 |
| SCIT | 1414 | Applied General Chemistry I | 4 |
| | | **Semester Total** | **14** |

| THIRD SEMESTER | | | CREDITS |
|---|---|---|---|
| PTAC | 2438 | Process Technology III - Operations | 4 |
| PTAC | 2446 | Process Troubleshooting | 4 |
| | | **Semester Total** | **8** |
| | | **Program Total** | **35** |
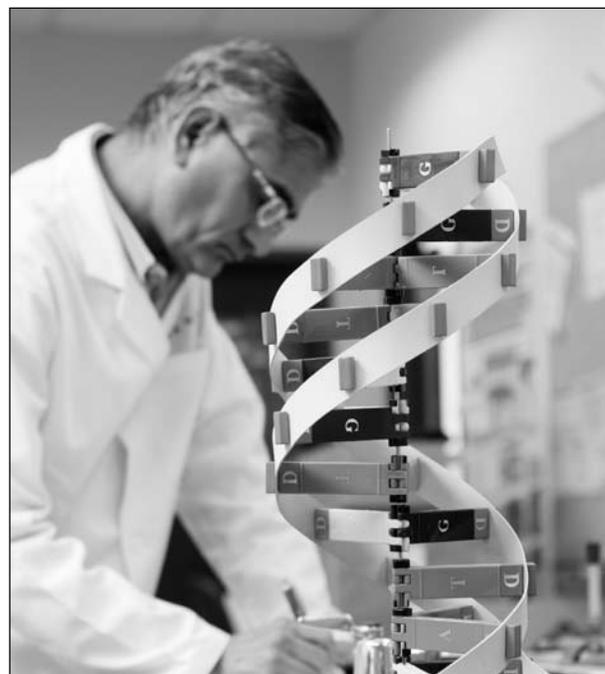
# Transportation, Distribution and Logistics

**Autobody/Collision Repair Technician**
**Automotive Technology**
**Diesel Engine Mechanic & Repairer**
**(See Academic Degrees and Certificates 33-47)**

## Transportation, Distribution and Logistics

A Career Cluster is a grouping of occupations and broad industries based on commonalities. The Transportation, Distribution and Logistics career cluster is concerned with providing knowledge and skills related to planning, management, and movement of people, materials, and goods by road, pipeline, air, rail and water and related professional and technical support services such as transportation infrastructure planning and management, logistics services, mobile equipment and facility maintenance. This would include careers related to Autobody and Automotive Repair, Truckdriving, Diesel Engine, Light Rail, Import and Export, Logistics, Distribution and Aviation.

Every HCC Workforce Educational program contains a "capstone," an experience for the student to "put it all together." The capstone might consist of an external learning experience (e.g., co-op, clinical, etc.), a course especially designed to help students synthesize knowledge and skills, or a licenser exam as appropriate.

## AUTOBODY
## AUTOBODY/COLLISION REPAIR TECHNICIAN

### FIRST YEAR

FIRST SEMESTER                                                    CREDITS
ABDR 1441  Structural Analysis and Damage Repair I ...................... 4
ABDR 2441  Major Collision Repair and Panel Replacement ............. 4
ABDR 1207  Auto Body Welding ......................................................... 2
ABDR 1214  Vehicle Trim and Hardware............................................ 2
                                    **Semester Total      12**

SECOND SEMESTER                                                  CREDITS
ABDR 1431  Basic Refinishing ........................................................... 4
ABDR 1458  Intermediate Refinishing................................................ 4
ABDR 2449  Advanced Refinishing...................................................... 4
                                    **Semester Total      12**

THIRD SEMESTER                                                   CREDITS
ABDR 1442  Structural Analysis and Damage Repair II ..................... 4
ABDR 2431  Structural Analysis and Damage Repair III ..................... 4
ABDR 1291  Special Topics in Auto/Automotive Body Repairer ........... 2
ABDR 1280  Cooperative Education Autobody/Collision and Repair
                Technology/Technician................................................. 2
                                    **Semester Total      12**
                                    **Program Total       36**

*Pending approval of the Texas Higher Education Coordinating Board.

## AUTOMOTIVE TECHNOLOGY

The rapid pace of technological change in the automotive industry requires that the Automotive Technician receive quality instruction to stay abreast of the constantly changing demands of the industry. The technician is required to analyze high-tech electronic and mechanical systems, as well as keep informed on changing materials and construction techniques used on modern vehicles. Using advanced meters, testing equipment and procedures, the automotive technician must determine what component parts or systems are malfunctioning and make the appropriate repair. Skilled automotive technicians are in great demand and command high salaries for their expertise. Students are required to purchase tools and books.

The Automotive Technology Program and curriculum is certified by the National Automotive Technicians Education Foundation (NATEF), and students receiving this degree can look forward to a variety of employment opportunities in the automotive industry including repair technician, service writer, service manager, shop foreman, and business owner. All instructors are ASE certified in their area of instruction.

The capstone for the AAS and Certificate is AUMT 1380, Cooperative Education.

For more details call 713-718-8100 or e-mail carl.clark@hccs.edu.

## AUTOMOTIVE TECHNICIAN

TSI Testing is required prior to first enrollment.

### FIRST YEAR

FIRST SEMESTER                                                    CREDITS
AUMT 1305  Introduction to Automotive Technology ........................... 3
AUMT 1310  Automotive Brake Systems............................................. 3
AUMT 1316  Suspension and Steering................................................ 3
AUMT 2328  Automotive Service ........................................................ 3
XXXX #3##  General Education Math/Science Elective...................... 3
                                    **Semester Total      15**

SECOND SEMESTER                                                  CREDITS
AUMT 1345  Automotive Heating and Air-conditioning ........................ 3
AUMT 2437  Automotive Electronics .................................................. 4
AUMT 2321  Automotive Electrical Lighting and Accessories.............. 3
AUMT 1307  Automotive Electrical Systems........................................ 3
ENGL 1301  Composition I................................................................. 3
                                    **Semester Total      16**

THIRD SEMESTER                                                   CREDITS
AUMT 2334  Engine Performance and Analysis II............................... 3
AUMT 2317  Engine Performance Analysis I ....................................... 3
AUMT 1319  Automotive Engine Repair .............................................. 3
AUMT 1306  Automotive Engine Removal and Installation .................. 3
                                    **Semester Total      12**

## SECOND YEAR

### FIRST SEMESTER CREDITS
AUMT 2325 Automatic Transmission and Transaxle ........................... 3
AUMT 2209 Manual Drivetrain and Axle Theory ................................. 2
SPCH 1311 Fundamentals of Speech ................................................. 3
AUMT 2223 Theory of Automotive Transmissions ............................. 2
AUMT 2313 Manual Drivetrain and Axles ........................................... 3
**Semester Total** **13**

### SECOND SEMESTER
AUMT 2455 Automotive Engine Machining ......................................... 4
AUMT 1380 Cooperative Education - Auto/Automotive Mechanic/
Technician ......................................................................... 3
XXXX #3## General Education Social Science Elective ..................... 3
XXXX #3## Approved Humanities/Fine Arts Elective .......................... 3
**Semester Total** **13**
**Program Total** **69**

## AUTOMOTIVE TECHNICIAN

The Automotive Technician Certificate provides the student with the same automotive technology core as the AAS degree. The program is NATEF certified and all instructors are ASE certified in their areas of instruction just as in the AAS degree program. Students receiving the Automotive Technician Certificate are more inclined to seek careers related to the service aspect of the field, though, in many instances, the opportunities afforded a certificate holder may be the same as those afforded a degree holder. The certificate program does not include the academic classes which are required in the degree.

### CERTIFICATE

## FIRST YEAR

### FIRST SEMESTER CREDITS
AUMT 1305 Introduction to Automotive Technology ........................... 3
AUMT 1310 Automotive Brake Systems .............................................. 3
AUMT 1316 Suspension and Steering ................................................. 3
AUMT 2328 Automotive Service ......................................................... 3
**Semester Total** **12**

### SECOND SEMESTER CREDITS
AUMT 1307 Automotive Electrical Systems ......................................... 3
AUMT 1345 Automotive Heating and Air-Conditioning ........................ 3
AUMT 2437 Automotive Electronics ................................................... 4
AUMT 2321 Automotive Electrical Lighting and Accessories .............. 3
**Semester Total** **13**

### THIRD SEMESTER CREDITS
AUMT 1380 Cooperative Education - Auto/Automotive
Mechanic/Technician ....................................................... 3
AUMT 2334 Engine Performance and Analysis II ................................ 3
AUMT 2317 Engine Performance Analysis I ........................................ 3
AUMT 1319 Automotive Engine Repair ............................................... 3
AUMT 1306 Automotive Engine Removal and Installation .................. 3
**Semester Total** **15**
**Program Total** **40**

## LIGHT AUTOMOTIVE MAINTENANCE TECHNICIAN

The Light Automotive Maintenance Technician Marketable Skills Achievement Award is designed to provide the student with the basic knowledge of proper servicing practices, study of shop safety, rules, basic shop tools, test equipment, and an introduction to the basic principles of gasoline engines and systems.

### MSA

(Marketable Skills Achievement Award)

## FIRST YEAR

### FIRST SEMESTER CREDITS
AUMT 1305 Introduction to Automotive Technology ........................... 3
AUMT 1310 Automotive Brake Systems .............................................. 3
AUMT 1316 Suspension and Steering ................................................. 3
AUMT 2328 Automotive Service ......................................................... 3
**Program Total** **12**

## DIESEL ENGINE MECHANIC AND REPAIRER

The Diesel Engine Mechanic and Repairer Program is designed to provide the student with the skills needed to obtain entry-level employment. The program includes repair of fuel injection, turbo chargers, cylinder heads, and starting systems in addition to the repair and replacement of defective engine parts. Students are required to purchase tools and books.

The capstone for the Diesel Engine Mechanic and Repairer Certificate is DEMR 1381, Cooperative Education, or DEMR 2334, Advanced Diesel Tune-Up and Troubleshooting.

For more information, call 713-718-8100 or e-mail george.washington@hccs.edu.

## DIESEL ENGINE MECHANIC AND REPAIRER

### CERTIFICATE

### FIRST SEMESTER CREDITS
DEMR 1305 Basic Electrical Systems ................................................. 3
DEMR 1306 Diesel Engine I ................................................................ 3
DEMR 1329 Preventative Maintenance ............................................... 3
DEMR 1301 Shop Safety and Procedures ........................................... 3
**Semester Total** **12**

### SECOND SEMESTER CREDITS
DEMR 1316 Basic Hydraulics ............................................................. 3
DEMR 1313 Fuel Systems ................................................................... 3
DEMR 1310 Diesel Engine Testing and Repair I .................................. 3
DEMR 2348 Failure Analysis ............................................................... 3
**Semester Total** **12**

### THIRD SEMESTER CREDITS
DEMR 1349 Diesel Engine II ............................................................... 3
DEMR 1342 Power Train Applications I ............................................... 3
DEMR 2312 Diesel Engine Testing and Repair II ................................. 3
DEMR 2334 Advanced Diesel Tune-Up and Troubleshooting OR
DEMR 1381 Cooperative Education ..................................................... 3
**Semester Total** **12**
**Program Total** **36**

# DIESEL PREVENTATIVE MAINTENANCE

The Diesel Preventative Maintenance Marketable Skills Achievement Award is designed to provide the student with the basic knowledge of proper servicing practices, a study of shop safety, rules, basic shop tools, test equipment, and an introduction to the basic principles of diesel engines and systems.

## MSA

(Marketable Skills Achievement Award)

| FIRST SEMESTER | | CREDITS |
|---|---|---|
| DEMR 1301 | Shop Safety and Procedures | 3 |
| DEMR 1329 | Preventative Maintenance | 3 |
| DEMR 1305 | Basic Electrical Systems | 3 |
| DEMR 1306 | Diesel Engine I | 3 |
| | **Semester Total** | **12** |
| | **Program Total** | **12** |

# Community and Adult Education

Community and Adult Education provides ESL/ABE/ASE classes that are tuition-free to the public. HCC is the fiscal agent for the Houston Literacy Consortium. As such, it provides monitoring, guidance and support for subcontracted community-based organization (CBO) partners in the consortium. HCC offers classes to the general public at more than 50 sites throughout the geographic area of HISD. These courses are also offered through CBO partners in the Houston Literacy Consortium.

## ELIGIBILITY CRITERIA

(For ABE, ASE and ESL)

Eligibility for the Adult Education and Literacy Program is based on the following:

- The individual has obtained 18 years of age
- has not completed the GED
- has not graduated from a U.S. high school
- has limited English language skills

Exceptions to the eligibility criteria are made on a case-by-case basis. All exceptions must be cleared through the program's administrative office.

## GRANT SUPPORTED ADULT BASIC EDUCATION (ABE)

Adults with fewer than 8 years of formal education or with basic reading, language or math difficulties may benefit from ABE classes prior to entry in the ASE program. ABE develops basic literacy, general reading, writing, mathematics and decision-making skills as well as application of these skills in real life. There is no cost to students. Call 713-718-5400.

## GRANT SUPPORTED ADULT SECONDARY EDUCATION(ASE)

The GED program helps adults prepare for five General Education Development (GED) tests (a high school equivalence exam). The five GED tests include:

- Writing
- Social Studies
- Science
- Reading
- Mathematics

Students enrolled in Adult Secondary Education classes pay a $25 materials usage fee per semester. Adult Secondary Students score at the 9th grade or higher in math,reading and language portions of the test of Adult Basic Education (TABE) call 713-718-5400.

## ENGLISH-AS-A-SECOND-LANGUAGE (ESL) PROGRAM OPTIONS

Houston Community College serves a wide variety of non-native English speakers in its English-as-a-Second-Language (ESL) programs. Appropriate placement into one of these programs is based on the educational background, scheduling needs, and goals and objectives of the student.

## GRANT SUPPORTED ADULT BASIC EDUCATION ENGLISH AS A SECOUND LANGUAGE (ABE-ESL)

This program is designed for adult students with limited English skills in speaking, reading, and writing. Basic literacy as well as beginning, intermediate, and advanced classes are offered. Students who need a flexible schedule may benefit from the student-centered instructional format utilized by ABE-ESL. Students do not receive college credit for these courses. There is no cost to the students.

- serves non-English speaking students eligible for program services according to TEA guidelines
- assesses student placement and progress using the basic English Skills Test (BEST)
- offers classes directly by HCC in various college and community locations
- offers basic literacy, beginning, intermediate, and advanced levels
- schedules a variety of flexible classes
- collaborates with several community partner organizations to offer ABE-ESL
- does not give college credit to students
- hires degreed faculty who complete a minimum of twelve hours of professional development annually
- registers students on-site at each instructional location
- makes class locations and schedules available through the HCC Literacy Hotline: 713-718-5400
- actively transitions students into further education, training or employment

## CONTINUING EDUCATION (CE) ESL

This program is designed for a wide variety of adult students. Some students may have less than a high school education while others have earned degrees in the native country.

Students who need a short-term commitment may benefit from CE-ESL. Classes focus on conversation, reading, and writing for the business professional as well as for casual students who want instruction in a certain language skill, such as listening and speaking. Students do not receive college credit for these courses. The cost to students is $197.00 per 48 hour course.

per course.

- serves permanent U.S. residents, undocumented residents, and citizens
- places students after an oral interview
- offers 4-week, 5-week and 10-week classes, not semesters
- prepares students for developmental college classes and workforce programs
- enhances English language skills for personal enrichment
- has a flexible part-time schedule; students study English 4-8 hours per week
- offers courses at beginning, low-intermediate, intermediate, and advanced levels
- offers courses for specific purposes (example: TASP preparation)
- does not give college credits; students earn Continuing Education units
- uses COMG course prefix in the HCC Continuing Education Schedule of Classes
- registers students at all HCC campuses when schedules are available

## INTENSIVE ENGLISH PROGRAM (IEP) ESOL

IEP is designed for adult students who want to study only English. The majority of students have finished high school and have studied some English in their native country.

Students who are able to commit to a 16-week (10-week summer) semester in a program with mandatory attendance may benefit from IEP. These courses focus on academic English and prepare students for college-level course work. Students range in ability from the beginner with little English skills to the advanced with near-native fluency. Students receive non-transferable college credit for IEP courses. The cost per credit hour is determined by residency status, with a maximum of $1524 each semester for 20 hours of instruction per week.

- serves international students on a visa
- serves permanent U.S. residents, undocumented residents, and citizens
- places students with the CELSA objective test and a writing sample
- offers 16-week (Fall and Spring) and 10-week (Summer) semesters
- prepares students for academic course work and college classes
- concentrates only on English instruction; students may not take other academic classes if they are enrolled in the IEP full-time
- has a full-time schedule, 20 hours of English instruction each week
- has a part-time schedule,10 hours of English instruction each week
- requires co-requisite enrollment; students place into and take ALL courses on one  level (Level II reading, Level II writing, Level II grammar, Level II conversation)
- gives non-transferable college credits
- uses the ESOL course prefix in the HCC Schedule of Classes
- registers students with CELSA scores and a writing sample where the IEP is offered

## ACADEMIC ESL (AESL)

AESL is designed for adult students who want to study English while they take other college classes. The majority of students have finished high school and have studied some English in their native country. Some students have completed high school in the United States. Students must commit to a 16-week (10-week summer) semester in a program with mandatory attendance. These courses prepare students for college-level course work. Students must demonstrate the ability to comprehend and speak some English; students range in ability from the intermediate to the pre-university levels.

AESL focuses primarily on writing and introduces students to library research.

Students receive non-transferable college credit for AESL courses. The cost per credit hour is determined by the residency status of the student.

- serves international students on a visa after fulfilling IEP requirements

- serves permanent U.S. residents, undocumented residents, and citizens

- places students with the CELSA test

- offers 16-week (Fall and Spring) and 10-week (Summer) semesters

- prepares students for academic course work and other college classes

- allows students to take certain other college classes with AESL courses

- has a part-time schedule , 4 or 5 hours per week

- requires courses to be taken in sequential order; after placement into the program, one course prepares students for the next course in the series (example: ENGL 0340, 0341, 0346, 0347, 0349)

- gives students non-transferable college credits

- prepares students for ENGL 1301, TASP writing, and workplace writing

- uses the ENGL course prefix in the HCC Schedule of Classes

- registers students with CELSA placement test scores at all HCC campuses

## ADULT HIGH SCHOOL (AHS)

The Adult High School (AHS) program is designed for students, seventeen years or older, who are in need of high school credit to graduate. This is a part-time rather than a full-time program; therefore only two half-credit courses can be taken per term unless a student attends multiple campuses during the week and on weekends.

Two types of students attend the AHS. One type is no longer enrolled in school and only needs two credits or less to graduate. These students earn transfer credit and their former high school ultimately awards the diploma once all state requirements are satisfied. Students must verify that their school will accept transfer credit before enrolling.

The other type student is enrolled in school full-time during the day and needs transfer credit for a remedial course or to makeup credit for courses lacking for graduation. These students must obtain approval from their school of attendance before being allowed to enroll in AHS classes.

Students in need of more than two credits should consider a GED rather than a high school diploma because the time required and cost would be excessive.

A non-refundable tuition of $140 is charged for each half-credit course. Forms of payment are cash, check, money order or credit card.

Registration may be done online or in person at the campus where classes are offered. For more information call 713-718-7611.

## REFUGEE PROGRAM

The HCC Refugee Program at Central College, 3821 Caroline, is uniquely designed to provide the most essential element of the resettlement process, Vocational Skills Training. The program's primary objective is to assist refugees in the acquisition vocational training skills necessary for the achievement of economic self-sufficiency.

Services are offered only to individuals with official refugee, asylee, victim of trafficking,  parolee or other eligible status as determined by the U.S. Immigration and Customs Enforcement (ICE). The definition of refugee is anyone outside one's homeland because of a well-founded fear of being persecuted for reasons of race, religion, nationality, membership in a particular social group, or political opinion. Call 713-718-6951.

## INDOCHINESE CULTURE AND REFUGEE INFORMATION AND RESOURCE CENTER

The Indochinese Culture and Refugee Information Center is located at the Learning Center in the J.B. Whiteley Building of Central College and houses material on the cultures of Laos, Cambodia, and Vietnam, and on the resettlement of Indochinese refugees in the Houston area. The Center, established though donations from the community, contains Indochinese cassettes, newspapers, magazines, books, photographs, and films about these cultures.  In addition, there are newspaper and magazine articles on refugee resettlement.

# HCC Online

**HOUSTON COMMUNITY COLLEGE NOW OFFERS SEVERAL DEGREES AND CERTIFICATES THROUGH ITS DISTANCE EDUCATION PROGRAM**

## HCC NOW OFFERS

- **ASSOCIATE IN ARTS (AA) DEGREE***
- **ASSOCIATE IN SCIENCE (AS) DEGREE*E**
- **ASSOCIATE IN APPLIED SCIENCE (AAS) DEGREES AND CERTIFICATES* WITH SPECIALIZATIONS IN:**

◆ Accounting

◆ Real Estate

Several courses are in development phase. Cooperative education courses contain special requirements. Contact Distance Education Counselors for information regarding specific program availability and degree planning.

For information on HCC Online contact:
Distance Education Counseling
713-718-5275 option #4 or
*decounseling@hccs.edu*

HCC is accredited by the
Southern Association of
Colleges and Schools (SACS).

# Distance Education

Houston Community College 3100 Main Street, MC 1740

Houston, TX  77002  713-718-5275

http://distance.hccs.edu

# Distance Education

## GENERAL INFORMATION

Distance courses offer one to four semester hours of credit and are equivalent to on-campus courses in terms of transferability (no distinction is made on college transcripts). Although there are no special requirements for enrolling in these courses, an extra amount of self-discipline is required.

Most courses are offered in the regular 16 week semester during the spring and fall and 10 weeks in summer. All courses are offered in one or more of three formats: Telecourse, Videocassette, and Internet.

Some classes include a required weekly lab on campus. Times and llocations of the labs are available by calling 713-718-5275.

For more information, visit our web page at www.distance.hccs.edu.

## PROFESSORS

An HCC professor is assigned to each course and students may contact this instructor when they need assistance or have questions. The professor's office hours and contact information will be provided at the orientation session.

## CLASS MEETINGS

All Distance Education students, both new and returning, are REQUIRED to complete an orientation session in person or online for each course they take. At the orientation students will receive course and textbook information, as well as information on procedures.

Most orientations will be available online at the web site: www.distance.hccs.edu.

The campus attended for in-person orientations may be different from the campus attended for review sessions and testing.

## IMPORTANT PHONE NUMBERS

Distance Education Counselor . . . . . . . . . . . . . 713-718-5275 ext: 4
Distance Education Office . . . . . . . . . . . . . . . . . 713-718-5275 ext:1
Distance Education Tech Support . . . . . . . . . . . 713-718-5275 ext: 3
Main Bookstore (HCC Central) . . . . . . . . . . . . . . . . 713-718-8255
Gneneral Line . . . . . . . . . . . . . . . . . . . . . . . . . . . . 713-718-2000
Veterans Affairs . . . . . . . . . . . . . . . . . . . . . . . . . . . 713-718-8520
Transcripts . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 1-800-646-1858

## DISTANCE EDUCATION ORIENTATIONS

Most orientations are online. However, all in-person orientations will be held at the HCC System Administration Building at 3100 Main, unless otherwise noted. Call 713-718-5275 if you need more information or directions to campus.

Orientation is mandatory for all Distance Education courses.

NOTE: Most orientations will be conducted online only. The web address will be listed with each course.

CHILDREN ARE NOT PERMITTED

AT IN-PERSON ORIENTATIONS.

## TESTING

Students enrolled in distance courses take two or three exams during the semester. Most, exams are given on weekends at a designated campus, yet some are offered online.

## VETERANS

Students receiving VA benefits are eligible to enroll in distance education.

## COUNSELING

Advising can be accomplished by telephone at 713-718-5275 – press option #4, via email at de.counseling@hccs.edu, by visiting the Distance Education Office at the HCC Administration Building, 3100 Main Street, 3rd floor, and/or by on-site advising at other HCCS locations upon request. Confidential sessions with the distance education counselors will help students understand admissions, registration, entrance testing requirements, degree planning, transfer issues, and career counseling. Houston Community College counselors also maintain a local referral base in order to provide appropriate referrals to students with personal or family issues that may require long-term solutions.

## DISABILITY NOTIFICATION

Disability Support Service (DSS) counselors are available to assist students who have special needs. Distance Education students who have a documented disability and would like to request educational accommodations should contact the Distance Education Counselors, in order to be referred to the appropriate Disability Support Service counselor for assistance.

The Distance Education Counselors can be reached at 713-718-5275, option #4, or by email: decounseling@hccs.edu

# Corporate Training

Employees are your greatest asset. Rapid changes in technology and the economy require ongoing upgrading of employee skills. Houston Community College System offers a full range of customized training services to help you keep a well-trained, globally-competitive workforce.

We invite you to work in partnership with our professional training staff to develop a customized training program designed to meet the unique needs of your employees. Call us today!

## CORPORATE TRAINING OFFICES

Central . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 713-718-5303
Coleman College For Health Sciences . . . . . . . . . . . . . 713-718-7382
Northeast . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 713-718-8119
Northwest . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 713-718-5722

Southeast . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 713-718-7580
Southwest . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 713-718-7720
System Office . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 713-718-8127
Online Continuing Education . . . . . . . . . . . . . . . . . . . . 713-718-5149

## SOME OF OUR CUSTOMIZED EMPLOYEE TRAINING BUSINESS PARTNERSHIPS

Alltec

Anheuser Bush

Aramark

Association of Building
   Contractors

Baylor College of Medicine

Bison Bldg LTD.

Brighter Future, Inc.

British Petroleum

CenterPoint Energy

CGA America, Inc

CITGO

City of Houston

ConocoPhillips

CRST

El Franco Lee

El Paso Energy

EMC Services

Entergy

ESPA Corp

Fidelity

Flooring Svcs Of Texas

Gallegos Elementary

Genesys, Inc.

Good Year

Goodman Manufacturing

Greater East End
   Management District

Grocer Supply

Halliburton

Harris County

Harris County Commissioners
   Court

Harris County Hospital District

HDVAMC

Houston Aboretum

Houston Chronicle

Houston Independent
   School District

Houston Inn Hotels
   Medical Center

Ismailia Cultural

J.W. Marriott Hotel

Key Equipment Finance and
   Health Help

Koelter Elementary

Lamons Gasket Company

Lantrip Elementary

Massage Envy

McDonald's/GEEMD

MD Anderson

Men's Warehouse

Methodist Hospital

NATCO

North Harris County

North Harris Montgomery
   Community College District

Professional Compounding
   Centers of America

RHJ-JOC, Inc.

Rotary

S & B Engineers &
   Constructors, LTD

Salvation Army

Sara Lee

Schlumberger

SCORE

Solutions to Change

Sodexho - Marriott

Spaw Maxwell

Spring Branch ISD

St. Joseph Hospital

St. Luke's Hospital

Kelsey Sebold

Stevens  Transportation

Technip Offshore Inc.

The Methodist

The Sullivan Group

Tarkett

Texas Children's Hospital

Thermador

Tidwell Estates

Tinsley Elementary

TIRR

Training Tuesday

Tyson Foods

United EFP

University of Texas MD
   Anderson Center

USA Truck

Veteran's Administration

Whataburger

Westin Oaks

Windsor Village

YouthBuild

# Continuing Education

Corporate Training and Continuing Education provides lifelong learning, occupational skills training and professional development through the following:

- Affordable and accessible education
- Workforce skills development
- Customized training
- Continuing education
- Workforce literacy
- Corporate services
- Personal enrichment opportunities
- Community outreach
- Student support services
- An environment conducive to learning

Generally, there are no entrance requirements, although some courses may have age restrictions or prerequisites. Admission is on a first-come, first-served basis. To register, students must complete a registration form and pay the course fee.

Public classes and activities are scheduled throughout the year at HCC campuses/centers and at numerous off-campus locations. Courses are also offered via the Internet to accommodate the schedule needs of working adults.

Efforts are made to include courses for all interests and age groups. Planning is ongoing, and new courses are added regularly to meet the changing needs of the community, business and industry. In addition to the regularly scheduled courses, on-campus or off-campus classes may be started at any time by special request.

For schedules of classes, class locations, fees and registration information, refer to the systemwide corporate training/continuing education class schedule or the individual college class schedules.

## CONTINUING EDUCATION OFFICES

Central . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 713-718-5303
Coleman College for Health Sciences . . . . . . . . . . . . . 713-718-7624
Northeast . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 713-718-8119
Northwest . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 713-718-5722
Southeast . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 713-718-7580
Southwest . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 713-718-7720
System Office . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 713-718-5127
Continuing Education Online . . . . . . . . . . . . . . . . . . . 713-718-5149

## CONTINUING EDUCATION UNIT (CEU)

One CEU is 10 contact hours of successful participation/completion in an organized continuing education experience under responsible sponsorship, capable direction and qualified instruction. CEUs are not substituted for college credit hours, but rather are a means of reporting continuing education achievements. Transcripts listing CEU credits satisfactorily completed are available on request. CEUs are recognized internationally as a measure of substantial professional education and training.

Course listing with designated contact hours and CEU credit follows these course and program descriptions. Refer to current HCCS Class Schedule for course availability, meeting dates and times, and locations.

### HCCS.EDU/CE/

## 5 Ways To get your company to send you to a HCC Class

1. Ask. A simple verbal request is usually all it takes. A written memo is better.

2. Show the HCC CTCE Schedule of Classes. Get your supervisor or training coordinator to read it. Attach it to your memo.

3. Stress the benefits. Additional skill training will make you a more productive employee ready to meet new challenges.

4. Emphasize the convenience. Why go out of town for your training when you can get quality training right here at an HCC Campus or utilizing our online courses

5. Compare the competitive prices. Your boss will be pleased to know the company is paying a little and getting a lot.

# Online Education

## THE ACT CENTER AND ONLINE CONTINUING EDUCATION OFFICE OFFERS:

- Over 2,000 Online Continuing Education courses
- Professional and Licensure Certification testing
- Authorized Testing Center for MOS, IC3
- Authorized Prometric Testing
- Customized Corporate Training Services
- Job SKills Assessment - WorkKeys

## ONLINE CERTIFICATES

- Small Business Management Fundamentals Certificate
- Small Business HR Certificate
- Small Business Accounting Certificate
- Non-Profit Management Certificate

## TELEPHONE:

General Information: Yolanda Cardenas 713-718-5149
Customized Training: Madeline Burillo 713-718-5145
Technical: Leslie Burnett 713-718-5198

## POSTAL ADDRESS:

Houston Community College System
Americana Building
ACT Center
811 Dallas, 7th Floor
Houston, TX 77002

## WWW.HCCS.EDU/ONLINECEU

A+ Certification Prep
A to Z Grantwriting
Accounting Fundamentals I - II
ACT!
Achieving Success with Difficult People
Advanced Coding for the Physician's Office
ADMINISTRACION DE EMPRESSAS (ESPANOL)
Administrative Dental Assistant
Adobe Acrobat
Adobe FrameMaker
Adobe Ilustrator
Adobe Illustrator CS
Adobe Illustrator 10
Administrative Medical Specialist
Advanced Hospital Coding and CCS Prep
Advanced Coding for the Physician's Office
Assisting Aging Parents
Beginner's Guide to Getting Published
Beginning Braille
Beginning Conversational French

Business Management
Business Planning for the Retired
Business Writing
C## for the Beginner
Certificate in End of Life Care
Certificate in Legal and Ethical Issues in Nursing
Certificate in Issues in Oxygenation
Certificate in Pain Assessment and Management
Certificate in Perinatal Issues
Certified Bookeeper
Certified Bookkeeper Preparation
Certified National Pharmaceutical Rep
Change Management
Coaching Management
Coding, Reimbursement,& Documentation
Coding Reimbursement Documentation for Physicians (CRDP)
Conflict Management
Construction Business Management
Corporate Governance and Ethics
Creating a Successful Business Plan
Creating a Successful Business Plan
Creating Web Pages I and II
Critical Thinking
Cultural Diversity
Customer Service Fundamentals
Desktop Applications (Various)
Digital Photography
Dreamweaver MX 2004: Creating a Basic Web Site
Effective Selling
Electricity/Electronics
Employment Law Fundamentals
English as a Second Language (600-800 hrs)
Evidence Law
Financial Management
FireWorks MX
Flash MX
Flash MX 2004: Fundamental Design
Food and Fitness to Fight Cancer
Food Safety Manager Certification Prep
Forensic Science
FreeHand MX 7.1
FrontPage 2003: Creating a Basic Web Page
Fundamentals of Supervision and Management
Fundamentals of Technical Writing
GED Test Preparation
Getting Published
GMAT Test Preparation
Grammar Refresher
GRE Test Preparation I
GRE Test Preparation II
Growing Plants for Fun and Profit

HAZWOPER 8 Hour Annual Refresher
HAZWOPER 40
Heating, Refrigeration, & Air Conditioning
Home Inspection Certificate
Hire Smart
Human Anatomy & Physiology
Human Resources for Healthcare Professionals
i-Net Certification Prep
ICD-10 Medical Coding: Prep & Instruction for Implementation
InDesign 2.0
Industrial Controls
Intermediate Braille Transcription
Interpersonal Communication
Introduction to Algebra
Introduction to Criminal Law
Introduction to Crystal Reports 10
Introduction to Nonprofit Management
Introduction to Perl Programming
Introduction to Quickbooks
Leadership
Learn to Buy and Sell on eBay
Low-Fat Quick Meals
LSAT Test Preparation I
LSAT Test Preparation II
Macintosh, Working with
Macromedia Director MX 2004
Magazine Writing
Marketing Your Business on the Internet
Marketing Your Nonprofit
Making Movies with Windows XP
Mastering Business Fundamentals
Mechanical Maintenance
Medical Transcription Certificate
Medical Terminology
Microsoft Access XP or 2003
Microsoft Excel XP or 2003
Microsoft Front Page
Microsoft Office Specialist (MOS) Preparation
Microsoft Outlook 2003
Microsoft Power Point XP or 2003
Microsoft Project 2003
Microsoft Publisher 2003
Microsoft Word XP or 2003
Natural Health and Healing
Network + Certification Prep
Network and Operating Systems (Various)
Notes 6.0 and 6.5
Oracle Courses
Organizational Management
OSHA- Construction
OSHA-General Industry
Paralegal Certificate Part I-VI
Performing Payroll with QuickBooks

Personal Development
Personnel Management
Pharmaceutical Representative
Photoshop Elements 4.0
Photoshop 7.0 for the Beginner
PMP Certification I & II
PowerPoint in the Classroom
Premiere Courses
Prepare for the GED Math Test
Presentation Skills
Principles of Sales Management
Problem and Decision Making
Programming & Web Development (Various)
Project + Certification Prep
Project Management
Professional Sales Skills
Purchasing Fundamentals
Purchasing Applications
QuarkXpress
QuarkXpress
Real Estate
Records Management
Resume Writing Workshop
Revenue Cycle Management for Healthcare
Providers
Secrets of the Caterer
Security + Certification Prep
Seller/Server Certification Preparation
Six Sigma Blackbelt
Speed Spanish I, II and III
SQL Introduction
Start Your Own Publishing Business
Start and Operate Your Home Based Business
Sybase Introduction
Technical Writing
Technology Security
Telephony
Texas Alcoholic Beverage Commission
Understanding the Human Resources Function
Using the Internet in the Classroom
VISIO 2003 Preofessional
Visual Basic .Net
Web Design and Media
WebMaster Preparation
Wine Appreciation for Beginners
WordPerfect
Workers' Compensation
Write Your Life Story
Writing for Children

# CAMPUS-BASED CONTINUING EDUCATION

## ALTERNATIVE CERTIFICATION PROGRAM

The Alternative Certification Program is a non-credit program that is a state-approved comprehensive program that prepares individuals seeking Texas State Teacher Certification. Training will include pedagogy and professional responsibilities and education in various content areas. Training will also reflect the state teacher proficiencies and TExES (Texas Examinations of Educator Standards) competencies. Service to three different levels of teaching experience including individuals on emergency certification, individuals adding a subject area to their certification, and individuals who are seeking certification. Certificate areas include:

- Bilingual Education (EC-4, 4-8)
- ESL (EC-12)
- History (8-12)
- Generalist (EC-4)
- Life Science (8-12)
- Physical Science (8-12)
- Science (4-8)
- Math (4-8, 8-12)
- Special Education (EC-12)
- Technology Applications (8-12)
- Course: ACP 1000
- Training Days: Tuesdays and Thursdays
- Site: Pinemont Center
- Times: 5:30 PM – 10:00 PM
- Please call 713-718-8185 for additional information.

## APPENTICESHIP TRAINING

### What is Apprenticeship?

Apprenticeship is an effective job training system for skilled trade and craft workers that combines structured on-the-job training supervised by experienced journey workers designed to prepare individuals for occupations in skilled trades and crafts with related technical instruction. It combines on-the-job training under the supervision of experienced journey workers with related classroom instruction. Apprentices who successfully complete the prescribed number of training hours in an apprenticeship program become certified skilled craft workers. All programs must be registered with the Bureau of Apprenticeship and Training of the U.S. Department of Labor.

### What does Apprenticeship offer?

Apprentices have the opportunity to "earn while they learn." People who complete apprenticeship programs are highly skilled craft workers and hold good jobs with good pay. Statistics show that apprenticeship program graduates earn higher wages, have more stable work records, and are promoted sooner and more often than workers who have not been trained through apprenticeship programs. Their skills are a source of personal satisfaction, employment security, and long term career opportunities. Apprenticeships provide employers with systematic training to develop more informed, productive, and motivated employees. Because of their investment in their workers, employers with apprenticeship programs experience less employee turnover and absenteeism. Workers develop the up-to-date skills and skill levels necessary for increasing company productivity and customer satisfaction.

### What is needed to qualify for Apprenticeship?

Qualifications vary according to the program. However, all apprenticeship programs require applicants to meet minimum age requirements and be physically able to perform the essential functions of the job. In addition, most program sponsors require a high school diploma or equivalent certificate (GED), and/or the completion of some mathematics and science courses. Some construction and manufacturing trades require considerable physical stamina, or some related work experience.

### How long does the training last?

The length of training varies by occupation and is determined by industry standards. Most training programs last from three to five years.

### What is related classroom instruction?

This is the job-related coursework required to learn the technical part of the occupation. Classes are taken outside working hours and usually meet from three to six hours a week for a minimum of 144 hours a year. Examples are classes on safety, mathematics, blueprint reading, applied English and other technical courses related to the specific occupation.

### How are apprentices selected?

Apprentices are selected on the basis of qualifications, without regard to race, color, religion, sex or national origin. The actual selection is done by members of a local apprenticeship committee or a sponsoring employer. Joint apprenticeship committees represent both management and labor and are composed of persons with considerable experience in the industry. Committee members select applicants in accordance with an approved unbiased selection procedure. The apprenticeship committee determines the need for apprentices and sets the minimum standards of education, experience and training.

### Benefits to Apprentices

- Nationally-recognized Certificate of Completion of Apprenticeship
- Nationally-recognized journey-worker certification and certification of completion from Bureau of Apprenticeship and Training (BAT) of the U.S. Department of Labor
- High-wage opportunities that meet or exceed those of college graduates
- Challenging and interesting work in a wide range of occupations
- Sustainable wages -- average hourly wage of first-year apprentice $10.00+
- Health Benefits
- The opportunity to earn as you learn (apprentices earn wages that increase as their knowledge and skills increase)
- Comprehensive career training combining on-the-job training with classroom instruction
- Transferable skills from one job to another
- Knowledge and skills
- Increased marketability and job security
- Opportunity to earn college credit in many occupational areas

HCC is working with all of the apprenticeship training programs to provide students the option of obtaining credit toward a college certificate or associate degree for their classroom training and on-the-job training. If you are interested in the credit option, please contact the Dean of Workforce Development at HCC-Central, 713-718-6215.

## ASBESTOS WORKERS (4YRS)

Training Director/Robert Chadwick
1301 Alabama, rm. 222
Houston, TX. 77004
713-718-6842, Fax 713-718-6884

## BRICKLAYERS (4YRS)

The bricklayer apprenticeship is a four-year program consisting of on-the-job training in bricklaying, stone mason, tile layer, and other allied craftsmen. Candidates must be at least 18 years old, have a minimum of eighth grade education, U.S. citizen or lawful resident, and the physical ability to do work normally done by Journeyman to hold employment. Applications are taken in person, by appointment only. For more information, call 713-941-5668.

Training Director/Keith Behrens
9105 Edgebrook
Houston, TX. 77075
713-941-5668, Fax 713-941-5681

## CARPENTERS/MILLWRIGHTS (4YRS)

This apprenticeship is a 4 year program consisting of two trades Carpenters and Millwrights. Apprentices are taught Mathematics, Blueprint Reading and many other training workshops. Apprentices work under the guidance of skilled workers, called journeymen. It is on-the-job-training which allows our apprentices to "Earn While They Learn". Applications are taken in person, by appointment only. For more information, call Don Rodger, Director of Training, at 713-641-0610.

Training Director/Don Rodgers
8505 Glen Vista
Houston, TX. 77061
713-641-0275, Fax 713-641-0610

## CEMENT MASONS (3YRS)

The cement mason apprenticeship is a four-year program consisting of approximately 6,000 hours on-the-job training coupled with 480 clock hours of classroom instruction. The program is a part of the Operative Plasters & Cement Masons Local #681 and is registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training. Candidates must be at least 18 years old and have a minimum of eighth grade education. Applications are taken in on May 1st. For more information, call 281-358-3758.

Training Director/David Gonzales
1212 Stonehollow Dr.
Kingwood, TX. 77339
281-358-3758, Fax 281-358-3175

## ELECTRICIANS (5YRS)

Training Director/Gary Strouz
108 Covern
Houston, TX. 77061
713-649-2739, Fax 713-649-1166

## I.E.C. -(INDEPENDENT ELECTRICAL CONTRACTORS (4YRS)

Training Director/Madeline Borthick
601 N. Shepherd, Suite 330
Houston, TX. 77007
713-869-1976, Fax 713-862-9552

## IRONWORKERS  (4YRS)

Training Director/Terry Sieck
7521 Fauna
Houston, TX. 77061
713-644-3206, Fax 713-644-3207

## OPERATING ENGINEERS (3 YRS)

Training Director/Anita Witt
1301 Alabama, rm. 101H
Houston, TX 77004
713-718-6836, Fax 713-718-6883

## PAINTERS (3YRS), GLAZIERS (3 1/2YRS), & FLOORLAYERS (3YRS)

Training Director/Ruben Viesca
1301 Alabama, rm. 101D
Houston, TX. 77004
713-718-6802, Fax 713-718-6883

## PIPEFITTERS (5YRS)

The Houston Area Pipefitters Joint Apprenticeship and Training Committee (JATC) is a 5 year apprenticeship program for the pipefitting trade. On the job training and classroom training include WELDING, DRAFTING, INSTRUMENTATION along with many other trade related courses and job functions. Candidate must be at least 18 years old, be a high school graduate or have a GED. Apprentices will work during the day and attend class at night. Selections are made in July and December. Apply in person Monday thru Friday year round.

Training Director/Steve Dement
P.O. Box 5026 (2507 Old Galveston Rd.)
Houston, TX. 77262-5026
713-649-0201, Fax 713-649-1051

## PLUMBERS (5YRS)

The Houston Area Plumbing Joint Apprenticeship Committee  is a 5 year apprenticeship program for the plumbing trade. On the job training and related classroom instruction include Job Safety, Use and Care of Tools, Plumbing Fixtures, Water Supply, Drainage, Blue Print Reading, Computer Aided Plumbing Drafting, Mathematics, Soldering, Brazing, Welding and training supervised by skilled journey-workers. Candidate must be at least 18 years old, be a high school graduate or have a GED. Apprentices will work during the day and attend class at night or on Saturdays. Selections are made in July and December. Apply in person Wednesdays during announced application periods.

Training Director/Robert Cross
P.O. Box 8653 (454 Link Rd.)
Houston, TX. 77249-8653
713-861-3202, Fax 713-861-5616

## SHEETMETAL (4YRS)

The sheet metal apprenticeship is a four-year program consisting of approximately 8,000 hours on-the-job training coupled with 1,088 clock hours of classroom instruction. The program is a part of the Sheet Metal Workers Local Union #54 and is registered with the U.S. Department of Labor, Bureau of Apprenticeship and Training. Applications are taken in person, by appointment only. For more information, call Carl Sides, Director of Training, at 713-869-5843.

Training Director/Carl Sides
900 W. 34th
Houston, TX. 77018-6319
713-869-5843, Fax 713-864-4598

**STATIONARY ENGINEERS (4YRS)**

Training Director/Don McCartney
1301 Alabama, rm. 101M
Houston, TX. 77004
713-718-6840, Fax 713-718-6883

# HEALTH SCIENCES CONTINUING EDUCATION

Continuing Education for health professionals is available through the Colman College. In addition to the courses listed, there are a number of short courses, workshops, and seminars available for professional continuing education credit. For information, call 713-718-7382.

Activities Director
Advanced Arrhythmia Interpretation
Advanced Level ICD-9-CM Coding
Advanced Life and Trauma Support
Advanced Vertical Rescue
Basic Life Support
Basic Vertical Rescue
Brief Conseling Methods
Cardiopulmonary Resuscitation
CPR Instructor Trainer Development
Dental Inter-Oral Techniques
Dental Infection Control
Dental X-Ray Techniques
Electrocardiography
Entry-Level ICD-9 Coding
Introduction to Arrhythmia Analysis
Intermediate Level ICD-9 Coding
Introduction to Nursing Principles
Licensed Vocational Nurse Refresher
Mammography Basics for Radiologic Technicians
Massage Therapy
 Anatomy
 Physiology
 Hydrotherapy
 Business Practices & Professional Standards
 Health and Hygiene
 Swedish Massage
Massage Therapy Internship
Medical Terminology
Medication Aide
Medication Aide Refresher
NCLEX Review
Nurse Aide
Nurse Aide Review
Pediatric Nurse Aide
Pediatric-ALS
Pharmacy PTCB Review
Pharmacy ACPA Admixture Review
Phlebotomy

Sexual Assault Nurse Examiners (SANE) Courses
Spanish for Dental Office Staff
Spanish for Medical Personnel
Spanish for Nursing
Spanish for EMS and Paramedics
Vascular Technology Review
Vascular Ultrasound
12-Lead EK6 Interpretation

# HEALTH SCIENCE SPECIAL SEMINARS

### Advanced Cardiac Life Support (ACLS)
ACLS training is designed to provide Advanced Cardiac methodologies for emergency medical services personnel. The methodologies are designed to treat acute cardiac situations, as well as other medical emergencies.

### Basic Trauma Life Support (BTLS)
BTLS training is designed to provide advanced trauma life support measures for the pre-hospital care provider. These two training courses are a mixture of didactic and training skills. Completion of these courses usually represents a change in professional status for emergency medical personnel.

### Pediatric Advanced Life Support (PALS)
PALS training covers a system of protocols for management of the pediatric patient experiencing difficulties in medical and/or trauma-related emergencies.

# Continuing Education Certificates

## A+ CERTIFICATION
### CERTIFICATE

**OVERVIEW**

A+ is a certification sponsored by Comp TIA, the Computer Technology Industry Association and is an entry level IT certificate. The A+ Certification establishes a nationally recognized standard in the competency of service technicians in the computer industry. This certificate provides the student with a solid foundation in PC hardware and operating system knowledge as well as the hands-on training necessary to succeed in the A+ Certification curriculum. A+ Certification affirms that you are capable of assembling a computer, installing operating systems and applications, and successfully troubleshooting them when the inevitable happens. SW College A+ Certification is partnered with Cisco curriculum and sponsored with Hewlett Packard and Comp TIA.

**LICENSURE/CERTIFICATION**

A+ Certification

**LENGTH OF CERTIFICATE**

The certification is approximately 9 weeks.

**PREREQUISITES**

Microsoft Windows, Introduction (ITSC 1006)

**MORE INFORMATION**

Southeast Campus: . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7581
    or Martha.Martinez@hccs.edu
Southwest Campus: . . . . . . . . . . . . . . . . . . . . . . . . . .281-491-9358
    or swccisco@hccs.edu
Northeast Campus: . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5215
Northwest Campus: . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5763
    or mozhgan.amini@hccs.edu

| Coursework | Hrs. | CEU |
|---|---|---|
| **ITSC 2040 A+ Certification** | **72** | **7.2** |
| **Total** | **72** | **7.2** |

Course offerings vary by semester.

## AIR CONDITIONING, BILINGUAL
### CERTIFICATE

**OVERVIEW**

A study of components, applications, and installation of mechanical air conditioning systems including operating conditions, troubleshooting, repair, and charging of air conditioning systems. After completion of this class students will be prepared to take the EPA Certification Test. The class will prepare the students to work in apartment complexes in air conditioning maintenance or assist in residential A/C installation and services. Students will learn field terminology in English to facilitate professional and technical growth.

**CERTIFICATION**

HCC Certificate of Completion

**LENGTH OF CERTIFICATION**

160 course contact hours

**PREREQUISITES**

See individual course description.

**MORE INFORMATION**

Southwest Campus
Julio Araujo at . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .281-491-3819
Central Campus . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5303

| Coursework | Hrs. | CEU |
|---|---|---|
| **HART 1041 Air Conditioning, Bilingual** | **160** | **16.0** |
| **Total** | **160** | **16.0** |

Course offerings vary by semester.

## AUTO BODY REPAIR, ADVANCED
### CERTIFICATE

**OVERVIEW**

Auto Body Repair is a continuing education curriculum with class offerings to meet the need, educate, and motivate individuals who wish to enter the service aspect of the Auto Body industry. The industry is experiencing a lack of qualified individuals to service automobiles. The changes in technology are occurring at a rapid pace. A good technician must have a formal education. Otherwise, it will be impossible for them to keep up with these changes. The auto body repair certificate will fulfill the long and short-term needs of the community. There are multiple start dates to allow the student to enter at dates other than the traditional registration period.

**LICENSURE/CERTIFICATION**

Auto Body Certificate

**LENGTH OF CERTIFICATE**

224 course contact hours

**PREREQUISITES**

None

**MORE INFORMATION**

Automotive Technology Training Center . . . . . . . . . . . .713-718-8100

| Coursework | Hrs. | CEUs |
|---|---|---|
| ABDR 1027 Suspension Systems | 48 | 4.8 |
| ABDR 2055 Collision Repair Estimating | 48 | 4.8 |
| ABDR 2053 Color Analysis and Paint Matching | 48 | 4.8 |
| ABDR 2049 Refinishing I, Advanced | 80 | 8.0 |
| Total | 224 | 22.4 |

## AUTO BODY REPAIR, BASIC

**CERTIFICATE**

### OVERVIEW

Auto Body Repair is a continuing education curriculum with class offerings to meet the need, educate, and motivate individuals who wish to enter the service aspect of the Auto Body industry. The industry is experiencing a lack of qualified individuals to service automobiles. The changes in technology are occurring at a rapid pace. A good technician must have a formal education. Otherwise, it will be impossible for them to keep up with these changes. The auto body repair certificate will fulfill the long and short-term needs of the community. There are multiple start dates to allow the student to enter at dates other than the traditional registration period.

### LICENSURE/CERTIFICATION

Auto Body Certificate

### LENGTH OF CERTIFICATE

328 course contact hours

### PREREQUISITES

None

### MORE INFORMATION

Automotive Technology Training Center . . . . . . . . . . .713-718-8100

| Coursework | Hrs. | CEUs |
|---|---|---|
| ABDR 1001 Auto Body and Repainting | 64 | 6.4 |
| ABDR 1015 Vehicle Interior Trim | 64 | 6.4 |
| ABDR 1019 Metal Repair, Basic | 100 | 10.0 |
| ABDR 1031 Refinishing, Basic | 100 | 10.0 |
| Total | 328 | 32.8 |

## AUTO BODY REPAIR, INTERMEDIATE

**CERTIFICATE**

### OVERVIEW

Auto Body Repair is a continuing education curriculum with class offerings to meet the need, educate, and motivate individuals who wish to enter the service aspect of the Auto Body industry. The industry is experiencing a lack of qualified individuals to service automobiles. The changes in technology are occurring at a rapid pace. A good technician must have a formal education. Otherwise, it will be impossible for them to keep up with these changes. The auto body repair certificate will fulfill the long and short-term needs of the community. There are multiple start dates to allow the student to enter at dates other than the traditional registration period.

### LICENSURE/CERTIFICATION

Auto Body Certificate

### LENGTH OF CERTIFICATE

304 course contact hours

### PREREQUISITES

None

### MORE INFORMATION

Automotive Technology Training Center . . . . . . . . . . .713-718-8100

| Coursework | Hrs. | CEUs |
|---|---|---|
| ABDR 1011 Vehicle Measurement and Damage Repair Procedures | 48 | 4.8 |
| ABDR 1055 Minor Metal Repair | 64 | 6.4 |
| ABDR 1058 Refinishing, Intermediate | 128 | 12.8 |
| ABDR 2041 Major Collision Repair and Panel Replacement | 64 | 6.4 |
| Total | 304 | 30.4 |

## CERTIFIED MEDICATION AIDE (C.M.A.)

**CERTIFICATE**

### Overview

The Certified Medication Aide certificate provides instruction in preparation and administration of designated medications by non-licensed nursing staff employed in licensed health care agencies, including the responsibilities associated with such administration. The student will learn about Texas Department of Human Services' guidelines and responsibilities associated with medication administration.

### LICENSURE/CERTIFICATION

Successful completion of the Certified Medication Aide certification makes one eligible
to take the State of Texas C.M.A. Certification Licensing Exam

### LENGTH OF CERTIFICATE

**12 weeks/140 course contact hours**

### PREREQUISITES

• Nurse Aide Certification
• High school diploma or GED
• Test of Adult Basic Education (TABE) Assessment
• Hepatitis B vaccination series
• Attend an Information Session

### MORE INFORMATION

Southeast Campus
Marian Dixon at . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7227
    or Marian.Dixon@hccs.edu

| Coursework | Hrs. | CEUs |
|---|---|---|
| NURA 1013 Certified Medication Aide | 140 | 14.0 |
| Total | 140 | 14.0 |

Course offerings vary by semester

# CERTIFIED NURSE AIDE (CNA)

## CERTIFICATE

### Overview

The Certified Nurse Aide Certificate provides the skills, knowledge, and abilities essential to provide basic care to residents of long-term care facilities. You will learn about resident rights, communication, safety, observation and reporting. You will learn to assist residents in maintaining basic comfort and safety. You will also learn about the theory, concepts, and skills involving specialized materials, equipment, procedures, regulations, laws and interactions within social systems associated with the nurse aide occupation. You will be prepared for entry-level employment in long-term care facilities, doctor's offices and hospitals. Income will depend on the area of employment chosen. Fast Track is designed for those with CNA experience but no license.

### LICENSURE/CERTIFICATION

Successful completion of the Certified Nurse Aide certificate makes one eligible to take the State of Texas C.N.A. Certification Licensing Exam

### LENGTH OF CERTIFICATE

**Regular Certificate is 9 weeks / 144 Course Contact Hours**

**Bilingual Certificate is 10 weeks / 160 Course Contact Hours**

**Fast Track Certificate is 6 weeks / 96 Course Contact Hours**

### PREREQUISITES

• Test of Adult Basic Education (TABE) Assessment
• Hepatitis B vaccination series
• Attend an Information Session
• TB Screening

### MORE INFORMATION

Southeast Campus: Marian Dixon at . . . . . . . . . . . . . .713-718-7227
   or Marian.Dixon@hccs.edu

Southwest Campus: Ollie Williams at . . . . . . . . . . . . . .713-718-8236
   or Ollie.Williams@hccs.edu

Northwest Campus: Kay Linson  . . . . . . . . . . . . . . . .713-718-5722
   or Kay.Linson@hccs.edu

| Coursework | Hrs. | CEUs |
|---|---|---|
| **Regular certificate** | | |
| **NURA 1001 Certified Nurse Aide** | **96** | **9.6** |
| **NURA 1060 Certified Nurse Aide Clinical** | **48** | **4.8** |
| **Total** | **144** | **14.4** |
| **Bilingual certificate** | | |
| **NURA 1001 Certified Nurse Aide Bilingual** | **112** | **11.2** |
| **NURA 1060 Certified Nurse Aide** | | |
| **Clinical, Bilingual** | **48** | **4.8** |
| **Total** | **160** | **16.0** |
| **Fast Track certificate** | | |
| **NURA 1001 Certified Nurse Aide Fast Track** | **64** | **6.4** |
| **NURA 1060 Certified Nurse Aide** | | |
| **Clinical, Fast Track** | **32** | **3.2** |
| **Total** | **96** | **9.6** |

Course offerings vary by semester

# CERTIFIED PROFESSIONAL SECRETARY (CPS) AND CERTIFIED ADMINISTRATIVE PROFESSIONAL REVIEW (CAP)

## CERTIFICATE

### Overview

These courses are designed to provide professional and administrative secretaries with a review of the fundamentals and skills needed in the modern office. More importantly, these modules serve as a review of the topics covered on the CPS and CAP examination, which is administered by Professional Secretaries International. It is a one-day three part exam covering office technology, office administration, business communications, behavioral science in business, human resources, management, team skills, strategic planning, organizations and management. The curriculum consists of four review courses which prepare students to pass the CPS and CAP exams given on the first Saturday in May and November.

### LICENSURE/CERTIFICATION

Certified Professional Secretary (CPS)

Certified Administrative Professional (CAP)

### LENGTH OF CERTIFICATE

The length is 21 weeks

### PREREQUISITES

Students must have at least four years of continuous secretarial work experience.

### MORE INFORMATION

Central Campus: . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-6833

| Coursework | Hrs. | CEUs |
|---|---|---|
| **POFT 2047 CPS - Office Systems and** | | |
| **Technology** | **40** | **4.0** |
| **POFT 1092 CPS - Office  Administration** | **40** | **4.0** |
| **POFT 2046 CPS - Management** | **40** | **4.0** |
| **Total** | **120** | **12.0** |
| **Course offerings vary by semester** | | |
| **Coursework (CAP Review)\*** | | |
| **POFT 1092 CAP -  Organizational** | | |
| **Management, Advance** | **40** | **4.0** |
| **Total** | **40** | **4.0** |

\*This class is offered for additional certification, beyond (CPS), only to those students who have successfully passed the CPS exam.

Course offerings vary by semester

# CERTIFIED WIRELESS NETWORK ADMINISTRATOR(CWNA)

## CERTIFICATE

### Overview
CWNA brings IT professionals who are new to wireless networking up to speed quickly. For those individuals already familiar with wireless LANs, earning the CWNA certification fills in any gaps in their knowledge.

### LICENSURE/CERTIFICATION
Certified Wireless Network Administrator

### LENGTH OF CERTIFICATE
80 course contact hours

### PREREQUISITES
See individual course descriptions.

### MORE INFORMATION
Southwest Campus: . . . . . . . . . . . . . . . . . . . . . . . . . . .281-491-9358

or swccisco@hccs.edu

| Coursework | Hrs. | CEU |
|---|---|---|
| **ITNW 1091 Certified Wireless** | | |
| **Network Administrator (CWNA)** | **80** | **8.0** |
| **Total** | **80** | **8.0** |

Course offerings vary by semester

# CHILD DEVELOPMENT ASSOCIATE (CDA)

## CERTIFICATE

### OVERVIEW
This series of three courses (144 hours) provides training that is required to apply for the Child Development Associate credential sponsored by The Council for Early Childhood Professional Recognition. This is a study of the principles of normal child growth and development from conception to adolescence. The focus will be on cognitive, physical, emotional, and social development.

Participants must complete 120 hours of formal childcare education in eight subject areas as mandated by the Council. An additional 480 hours or 12 weeks of experience in a licensed daycare facility must be completed within a five year period. An application fee of $325 must be paid to the Council when submitting an application to take the final assessment from the Council for Early Childhood Professional Recognition.

### LICENSURE/CERTIFICATION
Child Development Associate

### LENGTH OF CERTIFICATE
Length is approximately 18 weeks

### PREREQUISITES
None

### MORE INFORMATION
Classes are held on Saturdays from 8:00 AM to 5:00 PM at the Central Campus in the Child Development Center.

Central College . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5303

for registration information.

| Coursework | Hrs. | CEUs |
|---|---|---|
| **CDEG 1017 Child Development** | | |
| **Associate TrainingI** | 48 | 4.8 |
| **CDEC 2022 Child Development** | | |
| **Associate Training II** | 48 | 4.8 |
| **CDEC 2024 Child Development** | | |
| **Associate Training III** | 48 | 4.8 |
| **TOTAL** | **144** | **14.4** |

Course offerings vary by semester.

# CISCO CERTIFIED NETWORK ASSOCIATE (CCNA)

## CERTIFICATE

### Overview
Cisco Networking Academy offers Cisco Certified Network Associate (CCNA) courses using Cisco's on-line Curriculum. This certification consists of 40 weeks of instruction delivered over the course of four-ten-week semesters. Students are prepared for the CCNA exam at the Academy and referred to an independent test site for certification.

### LICENSURE/CERTIFICATION
Cisco Certified Network Associate

### LENGTH OF CERTIFICATE
320 course contact hours

### PREREQUISITES
See individual course descriptions.

### MORE INFORMATION
Southwest Campus at . . . . . . . . . . . . . . . . . . . . . . . . .281-491-9358
or swccisco@hccs.edu

| Coursework | Hrs. | CEUs |
|---|---|---|
| **ITCC 1002 CCNA 1: Network Design** | **80** | **8.0** |
| **ITCC 1006 CCNA 2: Router and Routing Basics** | **80** | **8.0** |
| **ITCC 1042 CCNA 3: Switching Basic** | | |
| **and Intermediate Routing** | **80** | **8.0** |
| **ITCC 1046 CCNA 4: WAN Technologies** | **80** | **8.0** |
| **Total** | **320** | **32.0** |

Course offerings vary by semester

# CISCO CERTIFIED NETWORK PROFESSIONAL (CCNP)PROGRAM

## CERTIFICATE

### Overview
CCNP classes at the Cisco Southwest HCC Networking Academy provides students with approximately 380 hours of classroom and hands-on lab instruction. Students learn about complex network configurations and how to diagnose and troubleshoot network problems. Students who successfully complete the advanced curriculum should be prepared to take the Cisco Certified Network Professional (CCNP™) certification examinations upon completion of each course.

### LICENSURE/CERTIFICATION
Cisco Certified Network Professional

### LENGTH OF PROGRAM
380 course contact hours

### PREREQUISITES
See individual course descriptions.

### MORE INFORMATION
Southwest Campus at . . . . . . . . . . . . . . . . . . . . . . . . .281-491-9358
    or swccisco@hccs.edu

| Coursework | Hrs. | CEUs |
|---|---|---|
| ITCC 2032 CCNP 1: Advanced Routing | 100 | 10.0 |
| ITCC 2036 CCNP 2: Remote Access | 100 | 10.0 |
| ITCC 2040 CCNP 3: Multilayer Switching | 80 | 8.0 |
| ITCC 2044 CCNP 4: Network Troubleshooting | 100 | 10.0 |
| Total | 380 | 38.0 |

Course offerings vary by semester

# CLINICAL CARE SPECIALIST/PATIENT CARE TECHNICIAN, INTERMEDIATE

## CERTIFICATE

### Overview
A Clinical Care Specialist, also known as a Patient Care Technician Level Two, is a multi-skilled healthcare worker trained to perform basic nursing tasks and phlebotomy. Because of the demand in the Houston market for registered nurses, certified nurse aids are being cross-trained to provide technical skills that require certification, such as phlebotomy. Houston hospitals' career ladder is structured so that there is an incremental salary increase for each skill set added to the basic certified nurse assistant training. Both the Certified Nurse Aide and Phlebotomy Technician programs are currently designated as HCC Marketable Skills Award certificate programs.

### LICENSURE/CERTIFICATION
Certified Nurse Assistant state licensure by the State of Texas. National Certification in Phlebotomy, offered by multiple certifying agencies such as the American Certification Agency for Health Care Professionals and American Society of Clinical Pathologists.

### LENGTH OF CERTIFICATE
A student can complete the program within six to seven months, depending on the availability of courses and the time the student takes to complete the phlebotomy clinical assignment.

### PREREQUISITES
Applicant must have a passing score on the Healthcare TABE exam

### MORE INFORMATION
Southeast Campus
Sharon Benthall,MT(ASCP) at . . . . . . . . . . . . . . . . . . .713-718-7624
or sharon.benthall@hccs.edu

| Coursework | Hrs. | CEUs |
|---|---|---|
| NURA 1001 Certified Nurse Aide | 96 | 9.6 |
| NURA 1060 Certified Nurse Aide Clinical | 48 | 4.8 |
| PLAB 1023 Phlebotomy | 80 | 8.0 |
| PLAB 1060 Phlebotomy Clinical | 120 | 12.0 |
| Total | 344 | 34.4 |

Course offerings vary by semester

# COMMUNITY HEALTH WORKER

## CERTIFICATE

### Overview
Community Health Workers bridge the gaps between individuals and communities and the healthcare system, serving as a mediators, educators, advocates, and links between communities, of which they are a member, and the health and social service systems. The Community Health Worker certificate focuses on eight core competencies: advocacy, capacity building, knowledge, organization, service coordination, interpersonal skills, teaching and communication. (For Train the Trainer Certification, see our online section).

### LICENSURE/CERTIFICATION
Texas Department of State Health Services

### LENGTH OF CERTIFICATE
160 total course contact hours

### PREREQUISITES
Current involvement in community activities

### MORE INFORMATION
Southeast College at . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7226
or Aracelia.Saucedo@hccs.edu

| Coursework | Hrs. | CEUs |
|---|---|---|
| CEC 9820 Community Health Worker – Advocacy | 20 | 0 |
| CEC 9821 Community Health Worker – Capacity Building | 20 | 0 |
| CEC 9822 Community Health Worker – Communication | 20 | 0 |
| CEC 9823 Community Health Worker – Health Knowledge | 20 | 0 |
| CEC 9824 Community Health Worker – Interpersonal Relations | 20 | 0 |
| CEC 9825 Community Health Worker – Organization | 20 | 0 |
| CEC 9826 Community Health Worker – Service Coordination | 20 | 0 |
| CEC 9827 Community Health Worker – Teaching | 20 | 0 |
| TOTAL | 160 | 0 |

Course offerings vary by semester

## CONVERGENCE TECHNOLOGY PROFESSIONAL

**Overview:**

A new set of skills is required to sell, install and support convergence technologies, and professionals who perform these services need new skills to remain competitive. The Telecommunications Industry Association (TIA) created the Convergence Technologies Professional (CTP) certification to validate the skills necessary to fill job roles that are in demand. Obtaining an industry-recognized certification validates an individual's skills set and enhances an individual's career by demonstrating to employers that the individual is qualified to perform required job tasks. This course is a study of telecommunications convergent technologies including telephone, LAN, WAN, wireless, voice, video, and internet protocol, and covers networking skills required for entry-level professionals seeking employment in the information technology or telecommunications industry.

**LICENSURE/CERTIFICATION:**

The course provides preparation for the Telecommunications Industry Association (TIA) Convergence Technology Professional (CTP) Examination.

**LENGTH OF CERTIFICATE:**

60 course contact hours over six (6) weeks

**PREREQUISITES:**

Basic knowledge of personal computers

**MORE INFORMATION:**

Southeast Campus: . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7580
or Hector.Garza@hccs.edu
Northwest Campus: . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5763
or mozhgan.amini@hccs.edu

| Coursework | Hrs. | CEUs |
|---|---|---|
| EECT 1007 Convergence Technology Professional | 60 | 6.0 |
| TOTAL | 60 | 6.0 |

Classes offered days, evenings and weekends
Course offerings vary by semester

## CUSTOMER SERVICE SPECIALIST (CSS)

**Overview**

Customer Service involves handling customers and satisfying their needs in all types of companies in a wide variety of fields. This includes communication skills, calming upset individuals, and being proactive in handling customer needs.

**LICENSURE/CERTIFICATION**

Customer Service Specialist

**LENGTH OF CERTIFICATE**

The length is 7 weeks

**PREREQUISITES**

None

**MORE INFORMATION**

Classes are held every week.
Call Central Campus at . . . . . . . . . . . . . . . . . . . . . . .713-718-5303
Southeast Campus at . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7580
for registration information

Core Courses – required for completion of the certificate:

| Coursework | Hrs. | CEUs |
|---|---|---|
| BMGT 1091 Customer Service | 7 | 0.7 |
| MRKG 1001 Beyond Customer Service | 7 | 0.7 |
| BMGT 1094 Communication Skills: Listening | 7 | 0.7 |
| BMGT 1094 Calming Upset Customers | 7 | 0.7 |
| BMGT 1091 Conflict Management & Resolution | 7 | 0.7 |

Course offerings vary by semester

2 electives from the following are also required for completon of the certificate:

| | Hrs. | CEUs |
|---|---|---|
| POFT 1002 Business Speaking Skills | 7 | 0.7 |
| FITT 1092 Managing Stress | 7 | 0.7 |
| BMGT 1094 Effective Time Management | 7 | 0.7 |
| MRKG 1091 Writing That Sells | 7 | 0.7 |
| BMGT 1095 Goals & Goal Setting | 7 | 0.7 |
| BMGT 1004 Thinking & Problem Solving | 7 | 0.7 |
| BMGT 1091 Leadership Skills | 7 | 0.7 |
| POFT 1004 Business Writing (Small Business) | 7 | 0.7 |
| BMGT 1091 Team Building & Communications | 7 | 0.7 |
| TOTAL | 49 | 4.9 |

A total of 7 courses are required to successfully complete the certificate. Course offerings vary by semester.

## DESKTOP SUPPORT AND NETWORKING SPECIALIST PROGRAM

**CERTIFICATE**

### Overview

The Desktop Support and Networking Specialist will learn a multitude of skills including A+ and CCNA certification. A+ provides the students with a solid foundation in PC Hardware and Operating System as well as hands-on training. This is a nine-week course and an excellent foundation for Cisco - CCNA. The CCNA courses using Cisco's on-line curriculum consists of forty weeks of instruction delivered over the course of four ten-week semesters. Students are prepared for the CCNA and A+ exams at the Academy and referred to an independent test site for certification.

### LICENSURE/CERTIFICATION

A+ Certification and Cisco Certified Network Administrator

### LENGTH OF CERTIFICATE

The certification is 49 weeks/392 course contact hours

### PREREQUISITE

Microsoft Windows

### MORE INFORMATION

http://swc2.hccs.edu/contech/

Southwest Campus: . . . . . . . . . . . . . . . . . . . . . . . . .281-491-9358 or swccisco@hccs.edu

| Coursework | Hrs. | CEUs |
|---|---|---|
| ITSC 2040 A+ Certification | 72 | 7.2 |
| ITCC 1002 CCNA I: Network Design | 80 | 8.0 |
| ITCC 1006 CCNA II: Router and Routing Basics | 80 | 8.0 |
| ITCC 1042 CCNA III: SwitchingBasic and Intermediate Routing | 80 | 8.0 |
| ITCC 1046 CCNA IV: WAN Technologies | 80 | 8.0 |
| TOTAL | 392 | 39.2 |

**Classes offered days, evenings and weekends**
**FINANCIAL AID AVAILABLE THROUGH PELL GRANTS FOR QUALIFIED APPLICANTS.**

Course offerings vary by semester

## ELECTROCARDIOGRAPHY (EKG)TECHNICIAN

**CERTIFICATE**

### Overview

Electrocardiography Technicians prepare patients for testing on ECG machines, and Holter Monitors, and assist physicians in ECG Stress Testing. They take histories and do actual ECGs for physicians to interpret. The curriculum is conducted in a college setting surrounded by other health care professionals and a well-equipped library. These tools allow the student to successfully research and complete assignments. ECG Technician skill labs are located in the Texas Medical Center.

### CERTIFICATION

Electrocardiography prepares students to take a national certification examination. Houston Community College Southeast is an approved testing site for the ACA Certification Exam.

### LENGTH OF CERTIFICATE

Four months:
64 classroom course contact hours
128 clinical course contact hours
192 total course contact hours

### PREREQUISITES

A high school diploma or GED
Hepatitis B Vaccination Series
Assessment Testing
Attend an Information Session
Criminal Background Check

### MORE INFORMATION

Southeast Campus at . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7580
or Konnie King-Briggs at . . . . . . . . . . . . . . . . . . . . . . .713-718-7235
Konnie.King@hccs.edu

| Coursework | Hrs. | CEUs |
|---|---|---|
| ECRD 1011 Electrocardiography | 64 | 6.4 |
| ECRD 1091 Diagnostic Electrocardiography | 24 | 2.4 |
| CVTT 1060 Electrocardiography Clinical | 120 | 12.0 |
| Total | 208 | 20.8 |

Course offerings vary by semester

# ENGLISH AS A SECOND LANGUAGE (ESL)

## Overview

This certificate is for students who wish to demonstrate that they have attained a recognizable level of English proficiency. The students will take a series of courses that will help them to improve their English for the workplace.

## LICENSURE/CERTIFICATION

ESL Language Proficiency

## LENGTH OF CERTIFICATE

192 course contact hours for Levels I-IV

## PREREQUISITES

## MORE INFORMATION

Central Campus: . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5303
Northwest Campus: . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5515
   or Shirley.Santibenez@hccs.edu
Southwest Campus: . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7720
Northeast Campus: . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-8163
Southeast Campus: . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7580

| Coursework | Hrs. | CEUs |
|---|---|---|
| **Core Curriculum** | | |
| **COMG 1000 ESL I** | **48** | **4.8** |
| **COMG 1001 ESL II** | **48** | **4.8** |
| **COMG 1004 ESL III** | **48** | **4.8** |
| **COMG 1005 ESL IV** | **48** | **4.8** |
| **Total** | **192** | **19.2** |
| **60 hour courses also available** | | |
| | | |
| **Electives** | | |
| **COMG 1091 ESL Advanced: Pronunciation** | **48** | **4.8** |
| **COMG 1091 ESL Advanced: Grammar** | | |
|    **Workshop** | **48** | **4.8** |
| **COMG 1091 ESL Advanced: Listening** | | |
|    **and Speaking** | **48** | **4.8** |
| **COMG 1091 ESL Advanced: Reading** | | |
|    **and Writing** | **48** | **4.8** |
| **Total** | **192** | **19.2** |

Course offerings vary by semester

# GENERAL OFFICE ASSISTANT

## Overview

The daily responsibilities of general office clerks change with the needs of the specific job and the employer. General Office Assistants file, type, enter data at a computer terminal, operate the photocopiers, fax machines, and other office equipment; prepare mailings; proofread copies; and answer telephones and deliver messages. The specific duties assigned to a clerk also vary by level of experience.

## LICENSURE/CERTIFICATION

General Office Assistant.

## LENGTH OF CERTIFICATE

The length is approximately 6-7 months*

*Dependent upon availability of course offerings and number of courses student enrolls for each term.

## PREREQUISITES

None.

## MORE INFORMATION

Central Campus: . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5303
Northeast Campus: . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-8119
Northwest Campus: . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5763
Southeast Campus: . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7580

Curriculum may be modified or changed based on the previous educational background of the participant or needs of the individual.

| Coursework | Hrs | CEUs |
|---|---|---|
| **ITSW 1006 Microsoft Windows,** | | |
|    **Introduction** | **24** | **2.4** |
| **POFT 1010 Keyboarding, Basic** | **24** | **2.4** |
| **ITNW 1007 Internet, Fundamentals** | **24** | **2.4** |
| **POFT 1012 Keyboarding, Intermediate** | **24** | **2.4** |
| **POFI 1024 Microsoft Word, Introduction** | **24** | **2.4** |
| **POFT 1022 General Office Skills** | **24** | **2.4** |
| **POFI 1042 Microsoft Word, Intermediate** | **24** | **2.4** |
| **ITSW 1022 Microsoft Excel, Introduction** | **24** | **2.4** |
| **ITSW 1046 Microsoft Excel, Intermediate** | **24** | **2.4** |
| **ITSW 1037 Microsoft PowerPoint,Introduction** | **24** | **2.4** |
| **Total** | **240** | **24.0** |

Course offerings vary by semester

# GERONTOLOGY

## CERTIFICATE

### Overview
Overview of the social, mental, and physical changes that accompany aging and an overview of the implications of these changes for the individual, as well as for the larger society. Discussion regarding the biological theories of aging, physical changes in specific systems and changes in sensation/perception with age. It provides a general profile of the older person in our society, including values, ageism and society's responses to the elderly.

### LICENSURE/CERTIFICATION
Gerontology

### LENGTH OF CERTIFICATE
Gerontology: 60 course contact hours
Aspects of Aging, Fast Track: 24 course contact hours

### PREREQUISITES
See individual course description.

### MORE INFORMATION
Southwest Campus:
ML Young at . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7966
or ML.Young@hccs.edu

| Coursework | Hrs | CEUs |
|---|---|---|
| GERS 1001 Gerontology, Introduction | 60 | 6.0 |
| Total | 60 | 6.0 |
| OR | | |
| GERS 1092 Aspects of Aging, Fast Track | 24 | 2.4 |
| Total | 24 | 2.4 |

Course offerings vary by semester

# HEALTH INFORMATION SPECIALIST

## CERTIFICATE

### Overview
These courses will provide knowledge and skills that are required of all clerical health care professionals. You will be taught medical terminology, acronyms, and abbreviations. Understand different health insurance plans, such as HMOs, PPOs, Medicare and Medicaid. You will also learn all aspects and procedures of a medical billing software and claims processing along with ICD and CPT Coding.

### LICENSURE/CERTIFICATION
Health Information Specialist

### LENGTH OF CERTIFICATE
256 course contact hours

### PREREQUISITES
Students should have a high school diploma or GED.

### MORE INFORMATION
Southwest Campus: Jackie Franklin at . . . . . . . . . . .713-718-8235

| Coursework | Hrs | CEUs |
|---|---|---|
| HITT 1005 Medical Terminology I | 32 | 3.2 |
| HITT 1003 Medical Terminology II | 32 | 3.2 |
| POFM 1009 Medical Office Procedures | 64 | 6.4 |
| HITT 1013 Medical Coding I | 32 | 3.2 |
| HITT 2046 Medical Coding II | 32 | 3.2 |
| HITT 1091 Medical Billing I | 32 | 3.2 |
| HITT 1091 Medical Billing II | 32 | 3.2 |
| Total | 256 | 25.6 |
| Optional Course, not requied | | |
| HITT 2000 HIPPA Professional Seminar | 8 | 8.0 |
| CEC 3434 HIPPA Basic Compliance | 4 | 0.0 |

Course offerings vary by semester

# HOME TECHNOLOGY INTEGRATION +

## OVERVIEW

In this course, the student will learn about HTI, home technology network basics, home network design and configuration, video and audio fundamentals and installation, and home lighting control. Security/access system fundamentals, installation/set up, telecommunications fundamentals and installation, heating, ventilation, and AC management, water system management, and miscellaneous automated control systems are also covered.
1. Define Home Technology Integration and identify the types of subsystems that make up a Home with Integrated technologies.

2. Define, design, and install structured wiring systems for distributed home technology integration projects including rough in and trim out.

3. Identify and apply codes and practices that address the minimum requirements to ensure safety during installation, safety for the customer, use and disposal of hazardous materials and dangerous equipment, home technology systems and components, fixtures, and other related items.

4. Critically evaluate Technologies and materials for optimum customer satisfaction and effective cost ratios.

5. Troubleshoot and service existing home technology systems.

6. Document home technology systems.

7. Monitor current and future trends in the Industry.

### LICENSURE/CERTIFICATION
Home Technology Integration +

### LENGTH OF CERTIFICATE
Approximately 12 weeks

### PREREQUISITES
None
### MORE INFORMATION
Southeast Campus: . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7580

| Coursework | Hrs. | CEUs |
|---|---|---|
| CPMT 2002 Home Technology Integration + | 96 | 9.6 |
| TOTAL | 96 | 9.6 |

Course offerings vary by semester.

# HOME APPLIANCE REPAIR, BILINGUAL

"The bilingual program will provide a basic understanding of basic electricity in both English and Spanish that is fundamental in the appliance/air conditioning industry. Mathematics is the basis in understanding how to diagnose electrical failures and calculating electrical formulas used in the industry. Air conditioning control principles are introduced to help students understand all basic functions of a refrigeration system and its applications. The EPA Program is unique in that students will be trained in refrigerant safety procedures as outlined by the Environmental Protection Agency. Training is administered by HCCS and the actual certification is administered by an independent testing source. Refrigeration principles clearly help students to understand low temperature applications such as refrigerators and domestic freezers. The refrigeration cycle is heavily explained to maximize student understanding. Domestic cooking equipment involves microwave ovens and gas/electric ranges. This segment includes electrical diagnosis, working with high voltage, service and repair. Appliance repair involves automatic washers and clothes dryers, both gas and electric. Electrical and mechanical diagnosis, repair and testing are highly essential in understanding electrical controls and mechanics operate together. A professional update for the program details a review of all courses taught, up-to-date service procedures and professional ethics.

## LICENSURE/CERTIFICATION

Students must train for and test at an independent testing source to obtain EPA Certification to work safely with refrigerant in the areas of refrigerant recovery, recycling and reclamation. Students may earn Certification at levels of Type I, Type II, Type III or achieving all three certification levels rendering Universal Certification

## LENGTH OF CERTIFICATE

248 course contact hours

## PREREQUISITES

None
## MORE INFORMATION

Southeast College

Martha Martinez at. . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7580

| Coursework | Hrs. | CEUs |
|---|---|---|
| **HART 1001 Electricity for HVAC** | | |
| **Basic (Bilingual)** | 48 | 4.8 |
| **HART 1003 Air Conditioning Control** | | |
| **Principles, Bilingual** | 48 | 4.8 |
| **HART 1056 EPA Recovery Certification** | | |
| **Preparation, Bilingual** | 32 | 3.2 |
| **HART 1007 Refrigeration Principles,** | | |
| **Bilingual** | 48 | 4.8 |
| **MAIR 1051 Appliance Repair, Bilingual** | 16 | 1.6 |
| **MAIR 1041 Domestic Cooking Equipment,** | | |
| **Bilingual** | 48 | 4..8 |
| **MAIR 2000 Major Appliance Installer &** | | |
| **Repairer, Bilingual** | 8 | .8 |
| **TOTAL** | 248 | 24.8 |

Course Offerings vary by semester

# INDUSTRY CERTIFICATION INTRODUCTION TO NETWORK CABLING

## Overview

Preparation for the certifications required by industry. This course is designed to familiarize the student with modern wiring technology concepts, components, and applications. The advantages, characteristics, operation and configurations of fiber optics and network wiring systems are studied. Topics include light sources, light transmission, fiber optics principles and terminology, shielded cables and networking system components. The proper use of testing equipment and accepted terminiation, installation, diagnostic, troubleshooting procedures and safety regulations are emphasized.

## LICENSURE/CERTIFICATION

Intro to Network Cabling
## LENGTH OF CERTIFICATION

48 course contact hours

## PREREQUISITES

None.

## MORE INFORMATION

Southwest Campus: . . . . . . . . . . . . . . . . . . . . . . . . . .281-491-9358
or melanie.hudson@hccs.edu
Northwest Campus:. . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5763
or mozhgan.amini@hccs.edu

| Coursework | Hrs | CEUs |
|---|---|---|
| **CSIR 1055 Network Cabling,** | | |
| **Introduction** | 48 | 4.8 |
| **Total** | 48 | 4.8 |

Course offerings vary by semester

# MASSAGE THERAPY

## CERTIFICATE

## Overview

In the area of natural health and the healing arts, massage therapy is one of the fastest growing sectors. There is an ever-increasing acceptance of massage as a holistic approach to health care and health maintenance. As a result, opportunities for Massage Therapists are abundant. Massage Therapists are health care practitioners who provide skilled manipulation of the body, soft tissue, or connective tissue through scientific manipulation, touching, rubbing, pressing or otherwise moving body tissues. The distinguishing characteristics of a person entering this career include a deep commitment to the service of others, willingness to provide quality health care through teamwork, and an avid interest in the day-to-day operations of a modern health care facility.

## LICENSURE/CERTIFICATION

Upon successful completion of this certificate, students are eligible to take the Texas Department of Health Massage Therapy Examination.

## LENGTH OF CERTIFICATE

9 months: 300 hours course contact hours

## PREREQUISITES

- A high school diploma or GED
- Assessment testing
- Attend an information session

## MORE INFORMATION

Southeast (Americana Bldg.): . . . . . . . . . . . . . . . . . . 713- 718-7389
or Deborah.Kelly@hccs.edu

| Coursework | Hrs | CEUs |
|---|---|---|
| MSSG 1001 Massage Therapy, Anatomy | 50 | 5.0 |
| MSSG 1003 Physiology | 25 | 2.5 |
| MSSG 1009 Massage Therapy, Health and Hygiene | 20 | 2.0 |
| MSSG 1005 Massage Therapy, Hydrotherapy | 15 | 1.5 |
| MSSG 1007 Business Practices and Professional Standards | 15 | 1.5 |
| MSSG 1011 Massage Therapy, Swedish Massage | 125 | 12.5 |
| MSSG 2086 Massage Therapy Internship | 50 | 5.0 |
| Total | 300 | 30.0 |

Course offerings vary by semester

# MEDICAL BILLING CLERK

## CERTIFICATE

## Overview

This certification is designed to train health information personnel to analyze medical records and assign codes for the indexing of diagnoses and procedures. Participants will also be provided with the skills and knowledge for handling a medical office, processing forms for reimbursement of medical and insurance services, and a thorough knowledge of medical forms. You will learn techniques for building a medical vocabulary and the classification and indexing systems of ICD-9 and CPT-4.

## LICENSURE/CERTIFICATION

Medical Billing Clerk

## LENGTH OF CERTIFICATE

The length is approximately 6-7 months*

*Dependent upon availability of course offerings and number of courses student enrolls for each term.

## PREREQUISITES

None.

## MORE INFORMATION

Classes start every month.
Call Central Campus at . . . . . . . . . . . . . . . . . . . . . . . .713-718-5303
for registration information.
Curriculum may be modified or changed based on the previous educational background of the participant or needs of the individual.

| Coursework | Hrs | CEUs |
|---|---|---|
| HITT 1005 Medical Terminology I | 32 | 3.2 |
| HITT 1003 Medical Terminology II | 32 | 3.2 |
| HITT 2031 Medical Terminology III | 32 | 3.2 |
| POFT 1010 Keyboarding, Basic | 24 | 2.4 |
| ITSC 1006 Microsoft Windows, Introduction | 24 | 2.4 |
| POFI 1024 Microsoft Word, Introduction | 24 | 2.4 |
| HITT 1013 Medical Coding I | 32 | 3.2 |
| HITT 2046 Medical Coding II | 32 | 3.2 |
| POFM 1009 Medical Office Procedures | 32 | 3.2 |
| HITT 1009 CPT Medical Coding | 32 | 3.2 |
| HITT 1011 MediSoft Patient Accounting | 32 | 3.2 |
| Total | 328 | 32.8 |

Course offerings vary by semester

# MEDICAL RECEPTIONIST

## Overview

The objective of the Medical Receptionist Certificate is to prepare the student to secure an entry-level position in the represented occupational area. The graduate of the Medical Receptionist certification assumes a vital role in the smooth operation of the medical facility and in the initial contact with prospective patients. Duties may include scheduling appointments for doctor, hospital, and referral visits. They may also include laboratory pick-ups, prescriptions, and supply orders; receiving payments; preparing billing statements; handling the mail and duties related to basic insurance, clerical, and medical records duties.

### LICENSURE/CERTIFICATION

Medical Receptionist

### LENGTH OF CERTIFICATE

The length is approximately 6-7 months*

*Dependent upon availability of course offerings and number of courses student enrolls for each term.

### PREREQUISITES

Introduction to Keyboarding

### MORE INFORMATION

Classes start every month.

Central Campus: . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5303

for registration information.

Curriculum may be modified or changed based on the previous educational background of the participant or; needs of the individual

| Coursework | Hrs | CEUs |
|---|---|---|
| HITT 1005 Medical Terminology I | 32 | 3.2 |
| ITSC 1006 Microsoft Windows, Introduction | 24 | 2.4 |
| POFT 1010 Keyboarding, Basic | 24 | 2.4 |
| POFI 1024 Microsoft Word, Introduction | 24 | 2.4 |
| ITNW 1022 Microsoft Excel, Introduction | 24 | 2.4 |
| ITNW 1007 Internet Fundamentals | 24 | 2.4 |
| HITT 1013 Medical Coding I | 32 | 3.2 |
| POFM 1009 Medical Office Procedures | 32 | 3.2 |
| HITT 1011 Medisoft Patient Accounting | 32 | 3.2 |
| FRNL 1091 Spanish I: Conversational | 24 | 2.4 |
| Total | 272 | 27.2 |

Course offerings vary by semester

# MICROCOMPUTER APPLICATIONS SPECIALIST

## Overview

This course of study is designed to serve students who want to learn how to work with microcomputers because they are common to the career field that they have chosen. It is also a good choice for persons who are already employed and need to develop or upgrade skills necessary to be effective users of microcomputers and microcomputer software. Students will learn the operation of microcomputers, work with application software; namely, word processing, electronic spreadsheets and database management systems, and be familiar with microcomputer disk operating systems.

### LICENSURE/CERTIFICATION

Microcomputer Applications Specialist

### LENGTH OF CERTICATE

The length is approximately 6-7 months*

*Dependent upon availability of course offerings and number of courses student enrolls for each term.

### PREREQUISITES

None.

### MORE INFORMATION

Central Campus: . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5303
Northwest Campus: . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5763
Southeast Campus: . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7580

Curriculum may be modified or changed based on the previous educational background of the participant or needs of the individual.

| Coursework | Hrs. | CEUs |
|---|---|---|
| ITSC 1006 Microsoft Windows, Introduction | 24 | 2.4 |
| POFT 1010 Keyboarding, Basic | 24 | 2.4 |
| POFT 1022 General Office Skills | 24 | 2.4 |
| POFI 1024 Microsoft Word, Introduction | 24 | 2.4 |
| ITSW 1022 Microsoft Excel, Introduction | 24 | 2.4 |
| ITSW 1053 Microsoft Access, Introduction | 24 | 2.4 |
| ITSW 1037 Microsoft PowerPoint, Introduction | 24 | 2.4 |
| ITNW 1007 Internet, Fundamentals | 24 | 2.4 |
| POFI 1042 Microsoft Word, Intermediate | 24 | 2.4 |
| ITSW 1046 Microsoft Excel, Intermediate | 24 | 2.4 |
| ITSW 1055 Microsoft Access, Intermediate | 24 | 2.4 |
| Total | 264 | 26.4 |

Course offerings vary by semester

# MICROSOFT CERTIFIED SYSTEM ADMINISTRATOR (MCSA)

## CERTIFICATE

### Overview
The Microsoft Certified System Administrator certificate program focuses on learning to implement, manage, and troubleshoot existing Microsoft Windows 2000 based systems, including Windows and NET Servers. Implementation responsibilities include installing and configuring parts of the systems. Management responsibilities include administering and supporting the systems.

### LICENSURE/CERTIFICATION
MCSA candidates are required to pass three CORE exams and ONE elective exam.

### LENGTH OF CERTIFICATE
The certification program is approximately
17-20 weeks

### PREREQUISITES
A+ Certification or 12 months experience implementing and/or administering desktop operating systems and/or managing an existing network infrastructure

### MORE INFORMATION
Southeast Campus: . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7581
or Martha.Martinez@hccs.edu

For registration information:
Hector.Garza@hccs.edu

Northwest Campus: . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5763
or Mozhgan.Amini@hccs.edu

| Coursework | Hrs. | CEUs |
|---|---|---|
| **ITMT 1040 Microsoft Windows Server 2003** | | |
| **Environment, Managing** | **48** | **4.8** |
| **ITMT 1000 Microsoft Windows XP** | | |
| **Professional, Implementing** | **48** | **4.8** |
| **ITSY 2001 Security+ Certification** | **48** | **4.8** |
| **ITMT 1050 Microsoft Windows Server 2003** | | |
| **Network Implementing** | **48** | **4.8** |
| **Total** | **192** | **19.2** |

Course offerings vary by semester

# MICROSOFT CERTIFIED SYSTEM ENGINEER (MCSE)

## CERTIFICATE

### Overview
Professionals who design, create, manage, and support networks remain in demand. Achieving certification from one of the leading network providers identifies students as outstanding professionals and valuable resources. As a Microsoft Authorized Academic Training Center, Houston Community College provides quality training with Certified Microsoft Professionals using authorized materials that give exceptional value. It is a formula for success.

### LICENSURE/CERTIFICATION
The Microsoft Certified Systems Engineer (MCSE) credential is the premier certification for professionals who analyze business requirements, design, and implement the infrastructure for business solutions based on Microsoft Windows Operating System and Microsoft Server Software.

### LENGTH OF CERTIFICATE
One month – Evening or Weekend classes

### PREREQUISITES
• Computer Concepts
• Introduction to Windows Operating System
• Internet Essentials
• Evaluation by interview with Lead Instructor

### MORE INFORMATION
Southeast Campus: . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7580
or Martha.Martinez@hccs.edu

Hector.Garza@hccs.edu

Northwest Campus: . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5763
or Mozhgan.Amini@hccs.edu

| Coursework | Hrs. | CEUs |
|---|---|---|
| **Core Curriculum** | | |
| **ITMT 1040 Microsoft Windows Server** | | |
| **2003 Environment, Managing** | **48** | **4.8** |
| **ITMT 2030 Microsoft Windows Server** | | |
| **2003 Active Directory, Designing** | **48** | **4.8** |
| **ITMT 1000 Microsoft Windows XP** | | |
| **Professional, Implementing** | **48** | **4.8** |
| **ITMT 1050 Microsoft Windows Server** | | |
| **2003 Network, Implementing** | **48** | **4.8** |
| **ITMT 1055 Microsoft Windows Server** | | |
| **2003 Network, Planning** | **48** | **4.8** |
| **ITMT 2000 Microsoft Windows Server** | | |
| **2003 Active Directory Planning,** | **48** | **4.8** |
| **ITSY 2001 Security+ Certification** | **48** | **4.8** |
| **Total** | **336** | **33.6** |

Course offerings vary by semester

# NETWORK + CERTIFICATION

## CERTIFICATION

## Overview
Network + Technicians assist in the installation, setup, test, maintenance, and troubleshooting of LANs and/ or WANs. They are responsible for routine tasks such as adding new accounts, assigning passwords, and keeping a variety of logs (e.g., number of failed login attempts, or the number and size of print jobs sent to each printer on the network). They speak with LAN Managers or Network Analysts about specific problems on the network, and are involved in updating and/or fixing existing systems.

### LICENSURE/CERTIFICATION
Comp TIA Network + Certification

### LENGTH OF CERTIFICATE
The certification is approximately 6 weeks

### PREREQUISITES
A+ Certification or 18-24 months of experience in the Industry

### MORE INFORMATION
Northwest Campus: . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5763
or Mozhgan.Amini@hccs.edu
Southwest Campus: . . . . . . . . . . . . . . . . . . . . . . . . . . .281-491-9358
or swccisco@hccs.edu

| Coursework | Hrs. | CEUs |
|---|---|---|
| CPMT 1049 Network Certification | 64 | 6.4 |
| Total | 64 | 6.4 |
Course Offerings vary by semester

# PEOPLESOFT ON-CAMPUS

## CERTIFICATION

## Overview
The PeopleSoft On-Campus certificate will include functional application of Enterprise Resource Software as demonstrated by PeopleSoft. Topics range from navigation, to financials, to query, to basic human resource procedures, to the theory on how enterprise software applications work. The CEU On-Campus program currently mirrors the academic program offered through Business Technology.

### LICENSURE/CERTIFICATION
PeopleSoft On-Campus

### PROGRAM LENGTH
Classes start with the Academic Calendar. The entire certificate is 320 contact hours, usually taken over 3 semesters. Call for registration information.

### MORE INFORMATION
Southwest College: Yvonne Bohanon at . . . . . . . . . . .713-718-7719
or Yvonne.Bohanon@hccs.edu

| Coursework | Hrs. | CEUs |
|---|---|---|
| BMGT 1091 Peoplesoft Applications, Introduction to Human Resources | 80 | 8.0 |
| BMGT 1094 PeopleSoft Applications, Human Resources | 80 | 8.0 |
| BMGT 2031 PeopleSoft Applications, Total Quality Management | 80 | 8.0 |
| BMGT 1095 PeopleSoft Applications, Operations Management | 80 | 8.0 |
| Total | 320 | 32.0 |
Course Offerings vary by semester

# PHLEBOTOMY TECHNICIAN

## CERTIFICATION

## Overview
The Phlebotomy Technician certificate is designed to prepare students to take the national certification examination. Students will learn to perform a variety of blood collection methods using proper techniques and universal precautions. Coursework includes the study of vacuum collection devices, syringes, capillary skin puncture, butterfly needles, blood culture, and specimen collection on adults, children and infants. Emphasis is on infection prevention, proper patient identification, labeling specimens, quality assurance, specimen handling, processing and accessioning. Topics include professionalism, ethics, and medical terminology.

### CERTIFICATION
Upon completion of the Phlebotomy Technician certification you will be eligible to take a national certification exam.

### LENGTH OF CERTIFICATE
4 months

### PREREQUISITES
A High school diploma or GED
Hepatitis B vaccination series
Physical Examination
Assessment Testing
Attendance at an Information Session
Criminal Background Check

### MORE INFORMATION:
Southeast Campus: . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7580
or . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7624
or Sharon.Benthall@hccs.edu

| Coursework | Hrs | CEUs |
|---|---|---|
| PLAB 1023 Phlebotomy | 80 | 8.0 |
| PLAB 1060 Phlebotomy Clinical | 120 | 12.0 |
| Total | 200 | 20.0 |
Course offerings vary by semester

# PROPERTY MANAGEMENT

## CERTIFICATION

### Overview

This is a comprehensive study of property management. This includes textbook study with computer training and hands on approach to train and educate property management professionals. The course is ideal for different property managers, assistant property managers, and individuals wanting to enter the property management profession but lack college credentials.

The course is designed to provide the student with a sound knowledge and understanding of property management in multi-family situations. The course includes professional development courses, real estate specific software, legal issues, and an internship.

The course is also designed for current property managers that simply want to improve proficiency and update on changes in the property management industry.

### LICENSURE/CERTIFICATION

Marketable Skills Award

### LENGTH OF CERTIFICATE

144 Hours

### MORE INFORMATION:

Southwest Campus:

ML Young at . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7966

or ML.Young@hccs.edu

| Coursework   Hrs. | | CEUs |
|---|---|---|
| RELE 1015 Property Management | 32 | 3.2 |
| RELE 1091 Real Estate Landlord Tenant Law | 12 | 1.2 |
| RELE1091 Property Management Software | 16 | 1.6 |
| RELE 1091 Real Estate Leadership | 20 | 2.0 |
| RELE 2088 Internship | 64 | 6.4 |
| TOTAL | 144 | 14.4 |

Course offerings vary by semester.

# RESIDENTIAL WIRING, BILINGUAL

## CERTIFICATION

### Overview

Students will study the principles of operation of electrical components and appliances utilized in single and multi family dwellings. The students will learn the applications, selections and installation techniques of the most common electrical devices used in homes and apartment buildings. Students will be able to perform and troubleshoot most common installations encountered in residential applications.

### CERTIFICATION

HCC Certificate of Completion

### LENGTH OF CERTIFICATE

80 course contact hours

### PREREQUISITES

See individual course description.

### MORE INFORMATION

Southwest Campus at . . . . . . . . . . . . . . . . . . . . . . . . .281-491-3819

| Coursework | Hrs. | CEUs |
|---|---|---|
| ELPT 1029 Residential Wiring, Bilingual | 80 | 8.0 |
| Total | 80 | 80.0 |

Course offerings vary by semester.

Course offerings vary by semester

# SALES AND MARKETING SPECIALIST

## CERTIFICATION

### Overview

Sales and Marketing involves knowledge of principles and methods involved in showing, promoting, and selling products or services and applies to all types of companies in a wide variety of fields. This includes marketing strategies and tactics, product demonstration and sales techniques, and sales control systems

### LICENSURE/CERTIFICATION

Sales and Marketing Specialist

### LENGTH OF CERTIFICATE

Length is 7 weeks

### PREREQUISITES

None

### MORE INFORMATION

Classes are held every week.

Call Central Campus at . . . . . . . . . . . . . . . . . . . . . . . .713-718-5303

Southeast Campus at . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7580

### CORE COURSES – REQUIRED FOR COMPLETION OF THE CERTIFICATE:

| Coursework | Hrs. | CEU |
|---|---|---|
| MRKG 1032 Professional Selling | 8 | 0.8 |
| MRKG 1091 Writing that Sells | 7 | 0.7 |
| MRKG 1091 Writing a Marketing Plan | 7 | 0.7 |
| BMGT 1098 Prospecting, Key to Sales Sucess | 7 | 0.7 |
| BMGT 1098 Closing The sale | 7 | 0.7 |

**2 ELECTIVES FROM THE FOLLOWING ARE ALSO REQUIRED FOR COMPLETION OF THE CERTIFICATE:**

| Course | Hrs. | CEUs |
|---|---|---|
| BMGT 1095 Goals & Goal Setting | 7 | 0.7 |
| BMGT 1094 Effective Time Management | 7 | 0.7 |
| POFT 1002 Business Speaking Skills | 7 | 0.7 |
| BMGT 1094 Communication Skills: Listening | 7 | 0.7 |
| BMGT 1004 Thinking & Problem Solving | 7 | 0.7 |
| BMGT 1091 Leadership Skills | 7 | 0.7 |
| FITT 1092 Managing Stress | 7 | 0.7 |
| POFT 1004 Business Writing (Small Business) | 7 | 0.7 |
| BMGT 1091 Conflict Management & Resolution | 7 | 0.7 |
| BMGT 1091 Team Building & Communications | 7 | 0.7 |
| Total | 50 | 5.0 |

A total of 7 courses are required to successfully complete the certificate. Course offerings vary by semester.

# SECURITY + CERTIFICATION

## CERTIFICATION

### Overview

This is an introduction in basic computer and network security skills, which includes developing a comprehensive approach to information security that embraces both the human and technical dimensions. Security+ is a hands-on course designed to teach:
• Fundamental network defense and countermeasures

• Network auditing, vulnerability analyses and intrusion detection

• Incident reporting, viruses, user authentication and smart cards

• Privilege management, firewalls and remote access

• Operating system security and patch installation

• Virtual private networks, wireless network and wireless device security

• Public key infrastructure, digital certificates, and cryptography

• Biometrics, forensics, security policy and security law

**LICENSURE/CERTIFICATION**

Comp TIA Security + Certification

**LENGTH OF CERTIFICATE**

Approximately 12 weeks

**PREREQUISITES**

A+ Certification

Network + 3 years of experience in the IT Industry

**MORE INFORMATION**

Southeast Campus: . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-7581
or Martha.Martinez@hccs.edu
Northwest Campus: . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5763
or mozhgan.amini@hccs.edu
Southwest Campus: . . . . . . . . . . . . . . . . . . . . . . . . . . .281-491-9358
or swccisco@hccs.edu

| Coursework | Hrs. | CEUs |
|---|---|---|
| ITSY 2001Security + Certification | 48 | 4.8 |
| Total | 48 | 4.8 |

# WATER QUALITY AND WASTEWATER TREATMENT CERTIFICATE

## OVERVIEW

This is a comprehensive short-term Utility Training Program designed to address the requirements to apply for the Texas Commission on Environmental Quality's (TCEQ) water, wastewater and collection system operator licensure. These courses provide an overview of production, collection, and treatement of potable and the spent water of a community utilizing textbook study and a hands-on approach to train and educate professionals entering the industry as well as renewal hours for those currently licensed. The courses are ideal for current operators, operators in training and individuals wanting to enter the water and wastewater industry profession but lack technical education and training credentials.

**LICENSURE/CERTIFICATION**

Marketable Skills Award

**LENGTH OF CERTIFICATE**

8 weeks

**MORE INFORMATION:**

Central College . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .713-718-5303
bessie.williams@hccs.edu

| Coursework | Hrs. | CEUs |
|---|---|---|
| EPCT 1092 Wastewater Operations, Basic | 20 | 2.0 |
| EPCT 1092 Water Works Operations, Basic | 20 | 2.0 |
| EPCT 1092 Wastewater Collection | 20 | 2.0 |
| EPCT 1092 Pump and Motor Operation and Maintenance | 20 | 2.0 |
| EPCT 1092 Water Distribution | 20 | 2.0 |
| EPCT 1092 Water Utilities Calculations | 20 | 20 |
| EPCT 1092 Water Utilities Safety | 20 | 20 |
| TOTAL | 140 | 14.0 |

| Electives | Hrs. | CEUs |
|---|---|---|
| EPCT 1092 Water Utilities Management | 20 | 2.0 |
| EPCT 1092 Valve and Hyrant Maintenance | 20 | 2.0 |
| EPCT 1092 Water Laboratory | 20 | 2.0 |
| TOTAL | 60 | 6.0 |

# OUTREACH SERVICES

Outreach Services provides systemwide liaison activities with the 35 WorkSource (Gulf Coast Careers One-Stop Centers) for funding such as the Workforce Investment ACT (WIA). Short-term, state approved institutional certificate programs currently available include: Commercial Truck Driving, Medical Billing Clerk, Microcomputer Applications Specialist, Wastewater Treatment Specialist and Nurse Aide and many more. Outreach Services has established contacts at each of the six colleges to assist referred students with their needs. Outreach Services coordinates a career center advisory committee that provides programmatic input and customer referrals to state approved college programs. This will enable HCC to serve many of the nearly one million walk-in customers that annually visit the Houston area centers. Outreach Services is committed to forming relationships that enhance the college's role as a leading institution of higher learning in the nation.

For additional information, call 713-718-8162

# TRUCK DRIVING

The Truck Driving Course (286 Contact Hours) prepares individuals for entry-level employment in the industry. This course provides classroom instruction with emphasis on rules, regulations, and techniques. Behind-the-wheel driving range activities, public street and highway driving are also included. Opportunities are available for students to meet with recruiters from the trucking industry. Students are able to take Commercial Driver License written and driving examinations at the Department of Public Safety as a class activity. Upon successful course completion and obtaining the CDL, students will receive a certificate of completion from HCC- Northeast. This is the only Professional Truck Driving Institute (P.T.D.I.) certified Truck Driving Course in the Texas Gulf Coast area. Classes begin every other week. (SEC 9122 Commercial Truck Driving)

For more information, call 713-718-8200.

# V.A.S.T. TRAINING FOR SPECIAL POPULATIONS

## Continuing Education For Students With Disabilities

The goal of the V.A.S.T. Training is to provide educational opportunities (up to a 5th grade level) to individuals who have developmental disabilities, and/or learning disabilities.

Courses are offered in the following areas:

- Academic (Reading, Mathematics, & Language)
- Personal & Social Development
- Career Vocational
- Basic Computer Skills (Keyboarding, Windows, Word, Excel, Creative Graphics)
- Enrichment (Fitness, Creative Arts, Horticulture)
- Job Readiness Skills

## Student Requirements

- At least 18 years of age
- No longer attending High School
- Ability to function independently, that is, not needing one-on-one instruction and/or care
- At least 1st grade reading level for the VAST Program (This is NOT suitable for non-readers.)
- At least 5th grade reading level for the Office Skills Training Program

## Students receive the following support services:

- Reasonable accommodations
- Individualized instruction
- Counseling, advising
- Registration assistance

For more information call 713-718-5303.

# WORKFORCE INVESTMENT ACT (WIA APPROVED)
## CORPORATE TRAINING AND CONTINUING EDUCATION CERTIFICATES

Each certificate appears on the WIA Training Provider Certification System also known as the (Statewide Approval List) must meet specific Guidelines. The staff of Outreach Services first reviews certificates, to verify that they meet the standards for submission to the Local Workforce Board (TWC/HGAC). The information is then submitted via the Certification System to the Texas Workforce Commission. If the certificate is approved by TWC the State of Texas Review Board then reviews it for final approval.

Below you will find a listing of the Contract Training and Corporate Education certificates and services that have been approved at Houston Community College. Due to changes in curriculums, and costs it is very important to check the Texas Provider Certification System before contacting a department to ensure that the certificate is still approved. The programs are updated on a daily basis. *For more information about the WIA approved certificates listed below, see the proceeding pages.*

## A+ CERTIFICATION
## AIR CONDITIONING, BILINGUAL
## CERTIFIED MEDICATION AIDE
## CERTIFIED WIRELESS NETWORK ADMINISTRATOR
## CHILD DEVELOPMENT ASSOCIATE (CDA)
## DESKTOP SUPPORT AND NETWORKING SPECIALIST
## GENERAL OFFICE ASSISTANT
## HEALTH INFORMATION SPECIALIST
## MASSAGE THERAPY

# MICROSOFT CERTIFIED SYSTEM ADMINISTRATOR (MCSA)

# MICROSOFT CERTIFIED SYSTEM ENGINEER (MCSE)

# NETWORK+ CERTIFICATION

# PROPERTY MANAGEMENT (SW)

# RESIDENTIAL WIRING, BILINGUAL

# TRUCK DRIVING

**Instructions for viewing the statewide list of all Houston Community College WIA Approved Programs.**

You may see the program by entering this web site: http://tpcs.twc.state.tx.us:9050/TPCS, choose Statewide List, Search, under the Training Provider section select: Houston Community College, and lastly choose Search. Once the programs are shown on the screen, Sort by Program, and then by Provider. This will make the list easier to understand.

Instructions for viewing an updated list Career Centers and Services. You may see the program by entering this web site:http://www.theworksource.org, chose general information, Career Center Locations.

This will give you an updated list of all WorkSource office locations to refer students. Please try to send them to the one closest to their home.

Instructions for viewing an updated list of All Houston Community College Intensive Services Programs.

http://www.theworksource.org, chose contractors and vendors, chose Basic Skill (This section lists programs such as GED Prep, Task Prep etc) or Computer Skills (This section list programs such as Basic Word, Excel, Access)

Please direct questions, comments or concerns related to WIA to The Business Development and Outreach Services CEU Technician 713-718-8162.

# Corporate Training and Continuing Education

**COURSE DESCRIPTIONS CONTINUING EDUCATION UNIT (CEU) COURSE INVENTORY**

**FOR MORE COMPLETE COURSE DESCRIPTIONS, DATES, AND TIMES, GO WWW.HCCS.EDU/CE/ OR PICK UP A FREE CONTINUING EDUCATION CLASS SCHEDULE AT ANY CAMPUS LOCATION.**

### ABDR 1001 AUTO BODY REPAIR AND REPAINTING

**32-64 Contact Hours ( 3.2 - 6.4 CEUs )**
An introduction to the use of hand and power tools, techniques of metalworking, body preparation, plastic fillers, fiberglass and SMC repair, sanding, and application of primers with emphasis on shop safety practices.

### ABDR 1011 VEHICLE MEASUREMENT AND DAMAGE REPAIR PROCEDURES

**48-128 Contact Hours ( 4.8 - 12.8 CEUs )**
Introduction to damaged vehicle measurement and alignment systems.

### ABDR 1015 VEHICLE INTERIOR TRIM

**32-64 Contact Hours ( 3.2 - 6.4 CEUs )**
An in depth study of vehicle trim and glass service.

### ABDR 1019 BASIC METAL REPAIR

**64-144 Contact Hours ( 6.4 - 14.4 CEUs )**
In depth coverage of basic metal principles and working techniques including proper tool usage and product application.

### ABDR 1027 SUSPENSION SYSTEMS

**48-128 Contact Hours ( 4.8 - 12.8 CEUs )**
A basic study of steering components and suspension systems, related tools and equipment, and individual system components. This course also includes emphasis on diagnostic services on chassis, front suspension, and manual power steering systems.

### ABDR 1031 BASIC REFINISHING

**64-128 Contact Hours ( 6.4 - 12.8 CEUs )**
An introduction to current refinishing products, shop safety, and equipment used in the automotive refinishing industry. Emphasis on surface preparation, masking techniques, and refinishing of trim and replacement parts.

### ABDR 1055 MINOR METAL REPAIR

**64-144 Contact Hours ( 6.4 - 14.4 CEUs )**
A course in sheet metal alignment principles using mechanical and hydraulic equipment. Emphasis on attachment devices used to straighten and align exterior body panels.

### ABDR 1058 INTERMEDIATE REFINISHING

**64-144 Contact Hours ( 6.4 - 14.4 CEUs )**
Expanded training in mixing and spraying of automotive topcoats. Emphasis on formula ingredient, reducing, thinning, and special spraying techniques. Introduction to partial panel refinishing techniques and current industry paint removal techniques.

### ABDR 2041 MAJOR COLLISION REPAIR AND PANEL REPLACEMENT

**64-144 Contact Hours ( 6.4 - 14.4 CEUs )**
Instruction in preparation of vehicles for major repair processes. This course covers interpreting information from damage reports, planning repair sequences, selecting appropriate tools, and organizing removed parts for reinstallation.

### ABDR 2049 ADVANCED REFINISHING I

**80-140 Contact Hours ( 8.0 - 14.0 CEUs )**
Skill development in multi-stage refinishing including techniques. Further development in identification of problems and development of solutions in color matching and partial panel refinishing.

### ABDR 2053 COLOR ANALYSIS AND PAINT MATCHING

**48-96 Contact Hours ( 4.8 - 9.6 CEUs )**
Advanced course in color theory, color analysis, tinting, and blending techniques for acceptable paint matching.

### ABDR 2055 COLLISION REPAIR ESTIMATING

**32-48 Contact Hours ( 3.2 - 4.8 CEUs )**
An advanced course in collision estimating and development of an accurate damage report.

### ACNT 1010 COMPUTERIZED ACCOUNTING I

**7-40 Contact Hours ( .7 - 4.0 CEUs )**
Program parameters, maximum accounts, and company's user specified accounts. Department jobs, number of open months, maximum fiscal periods, program control, error handling, automatic budget updates, reversing entries, recurring entries, flexible month ends, and user specified growth rates.

### ACNT 1043 INTERMEDIATE COMPUTERIZED ACCOUNTING

**16-32 Contact Hours ( 1.6 - 3.2 CEUs )**
Accounts receivable program parameters including maximum customers open transactions, invoices per payment, and user defined fields. Password access to transaction, prevention of master deletion, backup procedures, override default values, error handling, verification, validity, redundancy, completeness, report generation, schedule of receivables, invoice listing, and sales user defined reports.

### ACNT 1091 SPECIAL TOPICS IN ACCOUNTING

**7-112 Contact Hours ( .7 - 11.2 CEUs )**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

### ACNT 1092 SPECIAL TOPICS IN ACCOUNTING TECHNICIAN

**7-112 Contact Hours ( .7 - 11.2 CEUs )**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## ARTC 1002 DIGITAL IMAGING I

**48-128 Contact Hours ( 4.8 - 12.8 CEUs )**
Digital imaging using raster image editing and/or image creation software: scanning, resolution, file formats, output devices, color systems, and image-acquisitions.

## ARTC 1013 DIGITAL PUBLISHING I

**48-96 Contact Hours ( 4.8 - 9.6 CEUs )**
The fundamentals of using digital layout as a primary publishing tool and the basic concepts and terminology associated with typography and page layout.

## ARTC 1090 SPECIAL TOPICS IN DESIGN AND VISUAL COMMUNICATIONS

**7-112 Contact Hours ( .7 - 11.2 CEUs )**
Topics address recently identified current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## ARTC 2013 DIGITAL PUBLISHING II

**48-96 Contact Hours ( 4.8 - 9.6 CEUs )**
Layout procedures from thumbnails and roughs to final comprehensive and printing; emphasis on design principles for the creation of advertising and publishing materials, and techniques for efficient planning and documenting projects.

## BMGT 1004 WORKPLACE CRITICAL THINKING AND PROBLEM SOLVING

**7-40 Contact Hours ( .7 - 4.0 CEUs )**
Interpreting data for effective problem solving and recommending corrective action. Emphasizes structured approaches to critical thinking and problem solving in the workplace.

## BMGT 1091 SPECIAL TOPICS IN BUSINESS ADMINISTRATION AND MANAGEMENT, GENERAL

**7-112 Contact Hours ( .7 - 11.2 CEUs )**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## BMGT 1092 SPECIAL TOPICS IN PURCHASING, PROCUREMENT, AND CONTRACTS MANAGEMENT

**7-112 Contact Hours ( .7 - 11.2 CEUs )**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## BMGT 1094 SPECIAL TOPICS IN OFFICE SUPERVISION AN MANAGEMENT

**7-112 Contact Hours ( .7 - 11.2 CEUs )**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## BMGT 1095 SPECIAL TOPICS IN OPERATIONS MANAGEMENT AND SUPERVISION

**7-112 Contact Hours ( .7 - 11.2 CEUs )**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## BMGT 1098 SPECIAL TOPICS IN GENERAL SELLING SKILLS AND SALES OPERATION

**7-112 Contact Hours ( .7 - 11.2 CEUs )**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## BMGT 2031 PRINCIPLES OF QUALITY MANAGEMENT

**48-96 Contact Hours ( 4.8 - 9.6 CEUs )**
Quality of productivity in organizations. Includes planning for quality throughout the organization, analysis of costs of quality, and employee empowerment.

## BNKG 1005 TELLER TRAINING

**48-48 Contact Hours ( 4.8 - 4.8 CEUs )**
Application of the functions related to negotiable instruments, cash control, handling money, and balancing. Explanation of compliance and regulation issues affecting bank tellers.

## BUSG 1091 SPECIAL TOPICS IN BUSINESS, GENERAL

**7-112 Contact Hours ( .7 - 11.2 CEUs )**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## CBFM 1003 BOILER MAINTENANCE

**80-112 Contact Hours ( 8.0 - 11.2 CEUs )**
Boiler maintenance procedures with emphasis on the various components associated with boilers.

## CDEC 1017 CHILD DEVELOPMENT ASSOCIATE TRAINING I

**48-144 Contact Hours ( 4.8 - 14.4 CEUs )**
Based on the requirements for the Child Development Associate National Credential (CDA). Topics on CDA overview, general observation skills, and child growth and development overview. The four functional areas of study are creative, cognitive, physical, and communication.

## CDEC 2022 CHILD DEVELOPMENT ASSOCIATE TRAINING II

**48-144 Contact Hours ( 4.8 - 14.4 CEUs )**
A continuation of the study of the requirements for the Child Development Associate National Credential (CDA). The six functional areas of study include safe, healthy, learning environment, self, social, and guidance.

### CDEC 2024 CHILD DEVELOPMENT ASSOCIATE TRAINING III

**48-144 Contact Hours ( 4.8 - 14.4 CEUs )**
Continuation of the requirements for the Child Development Associate National Credential (CDA). Three of the 13 functional areas of study include family, program management and professionalism.

### CHLT 1040 COMMUNITY HEALTH ADVOCACY

**48-96 Contact Hours ( 4.8 - 9.6 CEUs )**
Study of local, regional, and national health care resources. Identification of health organizations, support groups, and health care delivery systems to be used for client referral. Activities include visits to various local agencies and attendance/participation in related activities.

### CHLT 1042 COMMUNITY HEALTH FIELD METHODS

**32-96 Contact Hours ( 3.2 - 9.6 CEUs )**
Preparation for field work with individuals, families, and groups emphasizing teaching and capacity-building skills. Topics include outreach methods, area canvassing, home visiting, group work, community events, and community organizing.

### CHLT 2000 PROFESSIONAL DEVELOPMENT: COMMUNITY HEALTH SERVICES/LIAISON/ COUNSELING

**7-24 Contact Hours ( .7 - 2.4 CEUs )**
Community Health Services/Liaison/Counseling

### CNBT 1091 SPECIAL TOPICS IN CONSTRUCTION/ BUILDING TECHNOLOGY/TECHNICIAN

**7-112 Contact Hours ( .7 - 11.2 CEUs )**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

### COMG 1000 COMMUNICATIONS IMPROVEMENT I

**48-96 Contact Hours ( 4.8 - 9.6 CEUs )**
Designed for students whose primary language is other than English. Presentation of industry-related basic reading, writing, speaking, and listening skills. Emphasis on high-frequency vocabulary (basic sight words) and phonics; refining oral and written production and listening skills for enhanced job productivity; and increasing control of the English sound system to minimize on-the-job miscommunication or misperception due to foreign accent.

### COMG 1001 COMMUNICATIONS IMPROVEMENT II

**48-96 Contact Hours ( 4.8 - 9.6 CEUs )**
Provides on-the-job dynamic communicative practice for students whose primary language is other than English, exposing students to the uses of language in a variety of relevant job-related contexts.

### COMG 1004 COMMUNICATIONS IMPROVEMENT III

**48-96 Contact Hours ( 4.8 - 9.6 CEUs )**
Improvement in reading vocabulary/comprehension skills, as well as speaking, writing, and listening skills for job success. Focus on recognition and comprehension of idioms, analogies, antonyms, and synonyms, and context clues. Interpretation of factual material and inferences associated with job-related communication.

### COMG 1005 COMMUNICATIONS IMPROVEMENT IV

**48-96 Contact Hours ( 4.8 - 9.6 CEUs )**
Designed for students whose primary language is other than English. Focus on comprehending challenging industrial and job-related materials. Emphasis on industry-related vocabulary development and skills acquisition, including determining meaning from context, identifying word forms and variation in meaning, synonyms and antonyms, context clues, connotation and denotation, and fact and opinion.

### COMG 1091 SPECIAL TOPICS IN COMMUNICATIONS, GENERAL

**7-112 Contact Hours ( .7 - 11.2 CEUs )**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

### CPMT 1049 COMPUTER NETWORKING TECHNOLOGY

**64-112 Contact Hours ( 6.4 - 11.2 CEUs )**
Networking fundamentals, terminology, hardware, software, and network architecture. Includes local and wide area networking concepts and networking installations and operations.

### CPMT 2002 HOME TECHNOLOGY INTEGRATION

**64-128 Contact Hours ( 6.4 - 12.8 CEUs )**
Integration and maintenance of various home technology subsystems. Includes home automation, security and surveillance, home networks, video and audio networks, and structured wiring.

### CPMT 2045 COMPUTER SYSTEM TROUBLESHOOTING

**64-128 Contact Hours ( 6.4 - 12.8 CEUs )**
Principles and practices involved in computer system troubleshooting techniques and repair procedures including advanced diagnostic test programs and the use of specialized test equipment.

### CRFT 1091 SPECIAL TOPICS IN CRAFTS, FOLK ART AND ARTISANRY

**7-112 Contact Hours ( .7 - 11.2 CEUs )**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

### CSIR 1055 INDUSTRY CERTIFICATIONS

**48-128 Contact Hours ( 4.8 - 12.8 CEUs )**
Preparation for the certifications required by industry.

## CSME 1090 SPECIAL TOPICS IN COSMETIC SERVICES, GENERAL

**7-112 Contact Hours ( .7 - 11.2 CEUs )**
Topics address recently identified current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## CSME 1091 SPECIAL TOPICS IN COSMETOLOGY/ COSMETOLOGIST, GENERAL

**7-112 Contact Hours ( .7 - 11.2 CEUs )**
Topics address recently identified current events, skills, knowedges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## CSME 1092 SPECIAL TOPICS IN CURRICULUM AND INSTRUCTION

**7-112 Contact Hours ( .7 - 11.2 CEUs )**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## CSME 2000 PROFESSIONAL DEVELOPMENT: COSMETOLOGY/COSMETOLOGIST, GENERAL

**7-24 Contact Hours ( .7 - 2.4 CEUs )**
Intensive training in an identified area(s) to meet continuing education and/or review/update requirements associated with professional licensure or certification. This course was designed to be repeated multiple times to improve student proficiency.

## CSME 2003 PROFESSIONAL DEVELOPMENT: COSMETOLOGY/COSMETOLOGIST, GENERAL

**7-24 Contact Hours ( .7 - 2.4 CEUs )**
Intensive training in an identified area(s) to meet continuing education and/or review/update requirements associated with professional licensure or certification. This course was designed to be repeated multiple times to improve student proficiency.

## CVTT 1060 CLINICAL - CARDIOVASCULAR TECHNOLOGY/TECHNOLOGIST

**48-576 Contact Hours ( 4.8 - 57.6 CEUs )**
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## DFTG 1022 BASIC BLUEPRINT READING

**32-48 Contact Hours ( 3.2 - 4.8 CEUs )**
Emphasis on accurate/efficient interpretation of symbols/graphic language required to produce working drawings.

## DFTG 1091 SPECIAL TOPICS IN DRAFTING

**7-112 Contact Hours ( .7 - 11.2 CEUs )**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## ECRD 1011 ELECTROCARDIOGRAPHY

**16-64 Contact Hours ( 1.6 - 6.4 CEUs )**
Fundamentals of the anatomy and physiology of the circulatory system, basic electrocardiology procedures, interpretation of basic dysrhymias, and appropriate treatment modalities.

## ECRD 1091 SPECIAL TOPICS IN ELECTROCARDIOGRAPH TECHNOLOGY/ TECHNICIAN

**7-112 Contact Hours ( .7 - 11.2 CEUs )**
Topics address recently identified current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## EDTC 1002 SUBSTITUTE TEACHER

**7-32 Contact Hours ( .7 - 3.2 CEUs )**
An exploration of the role of the substitute, identification of student needs, behavior modification and classroom management, teaching methodologies, school personnel relationships, mandated state standards, and growth and development of students.

## EECT 1007 CONVERGENT TECHNOLOGIES

**48-112 Contact Hours ( 4.8 - 11.2 CEUs )**
A study of telecommunications convergent technologies including telephone, LAN, WAN, wireless, voice, video, and internet protocol.

## ELPT 1029 RESIDENTIAL WIRING

**64-160 Contact Hours ( 6.4 - 16.0 CEUs )**
Wiring methods for single family and multi-family dwellings. Includes load calculations, service entrance sizing, proper grounding techniques, and associated safety procedures.

## ELPT 2000 PROFESSIONAL DEVELOPMENT: ELECTRICAL LICENSING REGULATIONS AND NATIONAL ELECTRICAL CODE REVIEW

**4-4 Contact Hours ( .4 - .4 CEUs )**
Electrical licensing requirements and state laws and rules that regulate the conduct of licensed electricians. Includes review of the latest edition of the National Electrical Code including notable Code revisions. This four-hour course is required to be completed every year prior to license renewal and may be repeated multiple times to improve student proficiency.

## EMSP 1016 INTRODUCTION TO 12-LEAD ECG INTERPRETATION

**8-24 Contact Hours ( .8 - 2.4 CEUs )**
A course in instruction and practice in the interpretation of 12-lead electrocardiograms (ECG) to identify dysrythmias; axis deviation; and myocardial ischemia, injury, and infarction. Clinical significance of abnormalities is discussed.

## EMSP 1019 CPR BASIC LIFE SUPPORT

**8-32 Contact Hours ( .8 - 3.2 CEUs )**
Instruction in lifesaving skills of respiratory (choking and near-drowning) and cardiac emergencies involving adults, children, and infants. Must meet requirements of certifying agency.

## EPCT 1092 SPECIAL TOPICS IN WATER QUALITY AND WASTEWATER TREATMENT TECHNOLOGY/TECHNICIAN

**7-112 Contact Hours ( .7 - 11.2 CEUs )**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## ETWR 1000 GRANT WRITING

**7-40 Contact Hours ( .7 - 4.0 CEUs )**

Details the components of a typical grant proposal. Includes foundation research, how to effectively write a cover letter, the importance of needs assessments, and evaluations. Emphasizes presenting an organization's problem statement in a clear concise manner.

## ETWR 1091 SPECIAL TOPICS IN ENGLISH TECHNICAL AND BUSINESS WRITING

**7-112 Contact Hours ( .7 - 11.2 CEUs )**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## FITT 1092 SPECIAL TOPICS IN HEALTH AND PHYSICAL EDUCATION, GENERAL

**7-112 Contact Hours ( .7 - 11.2 CEUs )**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## FITT 1094 SPECIAL TOPICS IN EXERCISE SCIENCES/PHYSIOLOGY AND MOVEMENT STUDIES

**7-112 Contact Hours ( .7 - 11.2 CEUs )**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## FITT 2001 LIFESTYLE CHANGE FOR WELLNESS

**48-96 Contact Hours ( 4.8 - 9.6 CEUs )**

Components of weight control, healthy nutrition, smoking cessation, stress management, and other current trends. Includes techniques in behavior modification, motivation, teaching, and counseling.

## FITT 2031 GROUP EXERCISE INSTRUCTION

**32-80 Contact Hours ( 3.2 - 8.0 CEUs )**

A study of guided and sequential experiences for developing aerobic based group exercise leadership skills. Opportunities provided for students to practice these skills under a professional mentor in a group setting.

## FMKT 1091 SPECIAL TOPICS IN FLORISTRY MARKETING OPERATIONS

**7-112 Contact Hours ( .7 - 11.2 CEUs )**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## FRNL 1001 OCCUPATIONAL SPECIFIC FOREIGN LANGUAGE

**16-48 Contact Hours ( 1.6 - 4.8 CEUs )**

Instruction in selected vocabulary, pronunciations, and basic structures used by those employed.

## FRNL 1091 SPECIAL TOPICS IN FOREIGN LANGUAGES AND LITERATURES, GENERAL

**7-112 Contact Hours ( .7 - 11.2 CEUs )**

Topics address recently identified current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## GERS 1092 SPECIAL TOPICS IN GERONTOLOGY

**7-112 Contact Hours ( .7 - 11.2 CEUs )**

Topics address recently identified current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## GRPH 1002 INTRODUCTION TO DESKTOP PUBLISHING

**7-32 Contact Hours ( .7 - 3.2 CEUs )**

Survey of definitions, terminology, advantages, interactive and batch mode, type faces, text entry, editing, text formatting, hyphenation, justification, long document features, on-screen page layout, graphic capabilities, spelling checker, printing, and file handling.

## HALT 1008 BASIC COMMERICAL LANDSCAPING

**16-48 Contact Hours ( 1.6 - 4.8 CEUs )**

A study of the principles and elements of landscape design. Topics include client interview, site analysis, plan view, scale, plant selection, cost estimates, basic drawing and drafting skills, plan preparation, and bid development.

## HALT 1045 GOLF/SPORTS FIELD/PARK MANAGEMENT

**32-144 Contact Hours ( 3.2 - 14.4 CEUs )**

Instruction in the management of golf courses, sports fields, and municipal parks departments. Topics include record keeping, budgeting, labor management, maintenance programs, financial reports, personnel management, and business functions.

## HALT 1095 SPECIAL TOPICS IN LANDSCAPING OPERATIONS AND MANAGEMENT

**7-112 Contact Hours ( .7 - 11.2 CEUs )**

Topics address recently identified current events, skills, knowledge's, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## HALT 2006 NURSERY PLANT PRODUCTION

**16-48 Contact Hours ( 1.6 - 4.8 CEUs )**
A study of container and field-grown plants generally used in nursery operations. Topics include seasonal bedding plants such as annuals, perennials, and vegetables.

## HART 1001 BASIC ELECTRICITY FOR HVAC

**48-160 Contact Hours ( 4.8 - 16.0 CEUs )**
Principles of electricity as required by HVAC, including proper use of test equipment, electrical circuits, and component theory and operation.

## HART 1003 AIR CONDITIONING CONTROL PRINCIPLES

**48-160 Contact Hours ( 4.8 - 16.0 CEUs )**
A basic study of HVAC and refrigeration controls; troubleshooting of control components; emphasis on use of wiring diagrams to analyze high and low voltage circuits; a review of Ohm's law as applied to air conditioning controls and circuits.

## HART 1007 REFRIGERATION PRINCIPLES

**48-160 Contact Hours ( 4.8 - 16.0 CEUs )**
An introduction to the refrigeration cycle, heat transfer theory, temperature/pressure relationship, refrigerant handling, refrigeration components, and safety.

## HART 1041 RESIDENTIAL AIR CONDITIONING

**48-160 Contact Hours ( 4.8 - 16.0 CEUs )**
A study of components, applications, and installation of mechanical air conditioning systems including operating conditions, troubleshooting, repair, and charging of air conditioning systems.

## HART 1056 EPA RECOVERY CERTIFICATION PREPARATION

**32-96 Contact Hours ( 3.2 - 9.6 CEUs )**
Certification training for HVAC refrigerant recovery and recycling. Instruction will provide a review of EPA guidelines for refrigerant recovery and recycling during the installation, service, and repair of all HVAC and refrigeration systems.

## HART 2001 AIR CONDITIONING AND REFRIGERATION CODES

**48-128 Contact Hours ( 4.8 - 12.8 CEUs )**
HVAC standards and concepts with emphasis on the understanding, and documentation of the codes and regulations required for the state mechanical contractors license and local codes.

## HART 2038 AIR CONDITIONING INSTALLATION AND STARTUP

**48-160 Contact Hours ( 4.8 - 16.0 CEUs )**
A study of air conditioning system installation, refrigerant piping, condensate disposal, and air cleaning equipment with emphasis on startup and performance testing.

## HART 2042 COMMERCIAL REFRIGERATION

**48-160 Contact Hours ( 4.8 - 16.0 CEUs )**
Theory and practical application in the maintenance of commercial refrigeration; medium, and low temperature applications and ice machines.

## HITT 1003 MEDICAL TERMINOLOGY II

**32-96 Contact Hours ( 3.2 - 9.6 CEUs )**
A continuation of word origin and structure. Includes prefixes, suffixes, root words, plurals, abbreviations and symbols, surgical procedures, medical specialties, and diagnostic procedures.

## HITT 1005 MEDICAL TERMINOLOGY

**32-96 Contact Hours ( 3.2 - 9.6 CEUs )**
Study of word origin and structure through the introduction of prefixes, suffixes, root words, plurals, abbreviations and symbols, surgical procedures, medical specialties, and diagnostic procedures.

## HITT 1009 INTRODUCTION TO HEALTH INFORMATION TECHNOLOGY

**16-48 Contact Hours ( 1.6 - 4.8 CEUs )**
Basic skill development in health information processing. Topics include medical terminology, record classification, indexing, and applicable legal aspects.

## HITT 1011 COMPUTERS IN HEALTH CARE

**32-96 Contact Hours ( 3.2 - 9.6 CEUs )**
Introduction to the concepts of computer technology related to health care and the tools and techniques for collecting, storing, and retrieving health care data.

## HITT 1013 INSURANCE CODING

**16-48 Contact Hours ( 1.6 - 4.8 CEUs )**
Provides skills and knowledge in the health information field for ICD-9 and CPT coding of insurance forms for reimbursement of medical services.

## HITT 1091 SPECIAL TOPICS IN HEALTH INFORMATION TECHNOLOGY/TECHNICIAN

**7-112 Contact Hours ( .7 - 11.2 CEUs )**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## HITT 2000 PROFESSIONAL DEVELOPMENT: MEDICAL RECORDS TECHNOLOGY/ TECHNOLOGY

**7-24 Contact Hours ( .7 - 2.4 CEUs )**
Intensive training in an identified area(s) to meet continuing education and/or review/update requirements associated with professional licensure or certification. This course was designed to be repeated multiple times to improve student proficiency.

## HITT 2031 MEDICAL TERMINOLOGY - ADVANCED

**32-96 Contact Hours ( 3.2 - 9.6 CEUs )**
Study of advanced terminology in various medical and surgical specialties.

## HITT 2045 CODING CERTIFICATION EXAM REVIEW

**16-80 Contact Hours ( 1.6 - 8.0 CEUs )**
Coding competencies and skills pertinent to the technology and relevant to the professional development of the student in preparation for a coding certification exam.

## HITT 2046 ADVANCED MEDICAL CODING

**32-96 Contact Hours ( 3.2 - 9.6 CEUs )**

In depth coverage of ICD and CPT coding rubrics, conventions, principles, and updates as they apply to accurate coding of complex medical/surgical cases, with emphasis on case studies. Government regulations and changes in health care reporting will be addressed.

## HOMH 1005 HOME HEALTH AIDE

**16-64 Contact Hours ( 1.6 - 6.4 CEUs )**

Basic client care skills utilized in the home setting. Includes infection control, safety, basic nutrition and home management. Emphasis on meeting client's basic physical and psychosocial needs as related to developmental stage. Development of skills related to promotion of communication and activities of daily living.

## HOMH 1091 SPECIAL TOPICS IN HOME HEALTH AIDE

**7-112 Contact Hours ( .7 - 11.2 CEUs )**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## IBUS 1001 PRINCIPLES OF EXPORTS

**48-48 Contact Hours ( 4.8 - 4.8 CEUs )**

Export management processes and procedures. Includes governmental controls and compliance, licensing of products, documentation, commercial invoices, and traffic procedures. Emphasizes human and public relations, management of personnel, finance, and accounting procedures.

## IBUS 1002 PRINCIPLES OF EXPORTS

**48-48 Contact Hours ( 4.8 - 4.8 CEUs )**

Export management processes and procedures. Includes governmental controls and compliance, licensing of products, documentation, commercial invoices, and traffic procedures. Emphasizes human and public relations, management of personnel, finance, and accounting procedures.

## IBUS 1054 INTERNATIONAL MARKETING MANAGEMENT

**48-48 Contact Hours ( 4.8 - 4.8 CEUs )**

Analysis of international marketing strategies using market trends, costs, forecasting, pricing, sourcing, and distribution factors. Development of an international export/import marketing plan.

## IBUS 2045 IMPORT CUSTOMS REGULATIONS

**48-64 Contact Hours ( 4.8 - 6.4 CEUs )**

Duties and responsibilites of the licensed customs broker. Includes processes for customs clearance including appraisement, bonded warehouse entry, examination of goods, harmonized tariffs, fees, bonding, penalties, quotas, immediate delivery, consumption, and liquidation, computerized systems, laws, and regulations.

## INDS 1005 BEGINNING INTERIOR DESIGN

**16-64 Contact Hours ( 1.6 - 6.4 CEUs )**

Creative basics of interior design for today's living. Analysis and design through the use of color, texture, styles of furniture, arrangements, and coordination of all design elements.

## ITCC 1002 CCNA 1: NETWORKING BASICS

**80-112 Contact Hours ( 8.0 - 11.2 CEUs )**

A course introducing the basics of networking including network terminology, local area networks (LAN) and wide area networks (WAN). Topics include network protocols such as TCP/IP, Open System Interconnection (OSI) models, cabling and routers.

## ITCC 1006 CCNA 2: ROUTER AND ROUTING BASICS

**80-112 Contact Hours ( 8.0 - 11.2 CEUs )**

An introduction to basic Cisco router configuration. Topics include initial router configuration for TCP/IP, management of Cisco IOS and router configuration files, routing protocols, and access control lists.

## ITCC 1042 CCNA 3: SWITCHING BASIC AND INTERMEDIATE ROUTING

**80-112 Contact Hours ( 8.0 - 11.2 CEUs )**

A course focusing on advanced topics including IP addressing techniques, intermediate routing protocols, CLI configuration of swtiches, Ethernet swtiching, VLANs, Spanning Tree Protocol, and VLAN Trunking Protocol.

## ITCC 1046 CCNA 4: WAN TECHNOLOGIES

**80-112 Contact Hours ( 8.0 - 11.2 CEUs )**

This course focuses on advanced IP addressing techniques (Network Address Translation [NAT], Port Address Translation [PAT], and DHCP), WAN technology and terminology, PPP, ISDN, DDR, Frame Relay, network management, and introduction to optical networking. In addition, the student will prepare for the CCNA exam.

## ITCC 2032 CCNP 5: ADVANCED ROUTING

**96-112 Contact Hours ( 9.6 - 11.2 CEUs )**

A study of advanced network deployment issues and methods used to configure Cisco routers for effective LAN and WAN traffic management. Topics include designing scalable internetworks, managing traffic, configuring OSPF in single and multiple areas, configuring EIGRP, and configuring and using interior and border gateway routing protocols.

## ITCC 2036 CCNP 6: REMOTE ACCESS

**96-112 Contact Hours ( 9.6 - 11.2 CEUs )**

Designing and building remote access networks with Cisco products. Topics include assembling and cabling WAN components, configuring network connections via asynchronous modem, ISDN, X.25, and frame relay architectures and associated protocols.

## ITCC 2040 CCNP 7: MULTILAYER SWITCHING

**64-96 Contact Hours ( 6.4 - 9.6 CEUs )**

An introduction to Cisco switches and how to use Cisco switches effectively in networks. Topics include switching concepts, virtual LANs, switch architecture (hardware and software), switch configuration, management and troubleshooting.

## ITCC 2044 INTERWORK TROUBLESHOOTING: CISCO 8

**96-112 Contact Hours ( 9.6 - 11.2 CEUs )**

A study of troubleshooting methods for internetworks. Topics include Cisco Troubleshooting Tools, diagnosing and correcting problems within TCP/IP, Novell, and AppleTalk networks, and with Frame Relay and ISDN network connections.

## ITMT 1000 IMPLEMENTING AND SUPPORTING MICROSOFT WINDOWS XP PROFESSIONAL

**48-112 Contact Hours ( 4.8 - 11.2 CEUs )**
Addresses the implementation and desktop support needs of customers that are planning to deploy and support Microsoft Windows XP Professional in a variety of stand-alone and network operating system environments. In-depth, hands-on training for Information Technology (IT) professionals responsible for the planning, implementation, management, and support of Windows XP Professional.

## ITMT 1040 MANAGING AND MAINTAINING A MICROSOFT WINDOWS SERVER 2003 ENVIRONMENT

**48-112 Contact Hours ( 4.8 - 11.2 CEUs )**
Managing accounts and resources, maintaining server resources, monitoring server performance, and safeguarding data in a Microsoft Windows Server 2003 environment. This is the first course in the Systems Administrator and Systems Engineer tracks for Windows Server 2003 and serves as the entry point for other courses in the Windows Server curriculum.

## ITMT 1050 IMPLEMENTING, MANAGING, AND MAINTAINING A MICROSOFT WINDOWS SERVER 2003 NETWORK INFRASTRUCTURE: NETW

**48-112 Contact Hours ( 4.8 - 11.2 CEUs )**
Implementing routing; implementing, managing, and maintaining Dynamic Host Configuration Protocol (DHCP), Domain Name System (DNS), and Windows Internet Name Service (WINS); securing Internet Protocol (IP) traffic with Internet Protocol security (IPSec) and certificates; implementing a network access infrastructure by configuring the connections for remote access clients; and managing and monitoring network access. This is the fourth course in the Systems Administrator and Systems Engineer track for Windows Server 2003, and it is the final course in the Systems Administrator track.

## ITMT 1055 MCSE IV, 70-293, PLANNING, IMPLEMENTING, AND MAINTAINING A MICROSOFT SERVER 2003 NETWORK INFRASTRUCTURE

**48-112 Contact Hours ( 4.8 - 11.2 CEUs )**
Planning and maintaining a Windows Server 2003 network infrastructure. This is the fifth course in the Windows Server 2003 Engineer curriculum.

## ITMT 2000 MCSE V, 70-294, PLANNING, IMPLEMENTING, AND MAINTAINING A MICROSOFT WINDOWS SERVER 2003 ACTIVE DIRECTORY PLANNING

**48-112 Contact Hours ( 4.8 - 11.2 CEUs )**
Windows Server 2003 directory service environment. Includes forest and domain structure; Domain Name System (DNS); site topology and replication; organizational unit structure and delegation of adminsitration; Group Policy; and user, group, and computer account strategies. This is the sixth course in the Windows Server 2003 Systems Engineer curriculum.

## ITNW 1007 INTERNET, BASIC

**7-32 Contact Hours ( .7 - 3.2 CEUs )**
Introduction to the Internet including E-mail, home page, and how to perform basic research to address company/business needs.

## ITNW 1091 SPECIAL TOPICS IN INFORMATION SCIENCES AND SYSTEMS

**7-112 Contact Hours ( .7 - 11.2 CEUs )**
Topics address recently identified current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## ITSC 1006 INTRODUCTION TO COMPUTER OPERATING SYSTEMS

**7-40 Contact Hours ( .7 - 4.0 CEUs )**
A study of microprocessor architecture, file creation/deletion, data entry and manipulation, automatic file execution, configuration, and directory commands.

## ITSC 1012 BEGINNING COMPUTERS

**7-40 Contact Hours ( .7 - 4.0 CEUs )**
Computer systems and their uses in today's business communities.

## ITSC 1091 SPECIAL TOPICS IN COMPUTER AND INFORMATION SCIENCES, GENERAL

**7-112 Contact Hours ( .7 - 11.2 CEUs )**
Topics address recently identified current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## ITSC 1092 SPECIAL TOPICS IN BUSINESS COMPUTER FACILITIES OPERATOR

**7-112 Contact Hours ( .7 - 11.2 CEUs )**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## ITSC 2040 HARDWARE AND/OR SOFTWARE SELECTION AND APPLICATION

**32-96 Contact Hours ( 3.2 - 9.6 CEUs )**
Emphasis on microcomputers and required software components. Topics include site preparation; installation procedures; components; power supplies; modems; printers; switches; operating, help, and security systems; packaged programs; utilities; languages; and operating procedures.

## ITSE 1091 SPECIAL TOPICS IN COMPUTER PROGRAMMING

**7-112 Contact Hours ( 0.7 - 11.2 CEUs )**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency. Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## ITSW 1002 ELECTRONIC SCHEDULER/E-MAIL ORGANIZER

**7-48 Contact Hours ( .7 - 4.8 CEUs )**
An introduction to utilization of scheduling and organizing software packages and/or devices.

## ITSW 1022 INTRODUCTION TO ELECTRONIC SPREADSHEETS

**7-40 Contact Hours ( .7 - 4.0 CEUs )**
Instruction in terminology, machine use, program parameters, display characteristics, formatting features, mathematical functions, and printing.

## ITSW 1037 INTRODUCTION TO PRESENTATION SOFTWARE

**7-40 Contact Hours ( .7 - 4.0 CEUs )**
Introduction to computerized presentation graphics that leads the participant through planning, design, and production of business graphics and charts. Presentation files are produced utilizing multimedia software.

## ITSW 1046 INTERMEDIATE ELECTRONIC SPREADSHEETS

**7-40 Contact Hours ( .7 - 4.0 CEUs )**
Instruction in moving and copying, cell contents; sorting mathematical, statistical, and financial functions; date and time arithmetic; report generation; and built-in graphics support.

## ITSW 1053 INTRODUCTION TO DATABASE/FILE MANAGEMENT

**7-32 Contact Hours ( .7 - 3.2 CEUs )**
Instruction in program parameters, data dictionary, optional field characteristics, calculation, constant default values, designing data entry forms, database organization, and report generation.

## ITSW 1055 INTERMEDIATE DATABASE/FILE MANAGEMENT

**7-32 Contact Hours ( .7 - 3.2 CEUs )**
Instruction in data validation, data manipulation, browsing through records, records selection and query, indexing, and sorting.

## ITSW 1091 SPECIAL TOPICS IN DATA PROCESSING TECHNOLOGY/TECHNICIAN

**7-112 Contact Hours ( .7 - 11.2 CEUs )**
Topics address current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## ITSY 2001 FIREWALLS AND NETWORK SECURITY

**48-112 Contact Hours ( 4.8 - 11.2 CEUs )**
Identify elements of firewall design, types of security threats and responses to security attacks. Use best practices to design, implement, and monitor a network security plan. Examine security incident postmortem reporting and ongoing network security activities.

## ITSY 2041 SECURITY MANAGEMENT PRACTICES

**48-12 Contact Hours ( 4.8 - 1.2 CEUs )**
In-depth coverage of security management practices, including asset evaluation and risk management; cyber law and ethics issues; policies and procedures; business recovery and business continuity planning; network security design; and developing and maintaining a security plan.

## MAIR 1041 DOMESTIC COOKING EQUIPMENT

**48-128 Contact Hours ( 4.8 - 12.8 CEUs )**
Theory, sequence of operation, components and repair, electrical schematics, and troubleshooting electric components in gas and electronic ranges and microwave ovens. Emphasis on safety for the gas systems in ranges and high voltage circuity in microwave ovens.

## MAIR 1051 APPLIANCE REPAIR

**16-48 Contact Hours ( 1.6 - 4.8 CEUs )**
Troubleshooting; defining and measuring voltage; current and resistance; circuits and circuit operation; shorts and shunts; motors; relays; and protective devices and controls for washers, dryers, microwaves, and refrigerators.

## MAIR 2000 PROFESSIONAL UPDATE: MAJOR APPLIANCE INSTALLER AND REPAIRER

**7-24 Contact Hours ( .7 - 2.4 CEUs )**
Intensive training in an identified area(s) to meet continuing education and/or review/update requirements associated with professional licensure or certification.

## MRKG 1001 CUSTOMER RELATIONS

**7-32 Contact Hours ( .7 - 3.2 CEUs )**
General principles of customer service including skills, knowledge, attitudes,and behaviors.

## MRKG 1032 PROFESSIONAL SELLING

**8-48 Contact Hours ( .8 - 4.8 CEUs )**
Steps of the selling process to include one or more of the following: prospecting, approach, presentation, motivation, handling objections, closing, and follow-up.

## MRKG 1091 SPECIAL TOPICS IN BUSINESS MARKETING AND MARKETING MANAGEMENT

**7-112 Contact Hours ( .7 - 11.2 CEUs )**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## MSSG 1001 ANATOMY

**50-50 Contact Hours ( 5.0 - 5.0 CEUs )**
The study of the structure of the human body. Specifically, bones, joints, and muscles, including contractibility and kinesiology of muscle tissue.

## MSSG 1003 PHYSIOLOGY

**25-25 Contact Hours ( 2.5 - 2.5 CEUs )**
The study of the physiological association of all body systems and their relationship to the practice of massage.

## MSSG 1005 HYDROTHERAPY

**15-15 Contact Hours ( 1.5 - 1.5 CEUs )**
The use of accepted modalities of external application of temperature for its reflexive effect. Also includes holistic healthcare therapies.

## MSSG 1007 BUSINESS PRACTICES AND PROFESSIONAL STANDARDS

**15-15 Contact Hours ( 1.5 - 1.5 CEUs )**
The study of recordkeeping and accounting practices, office practices and advertising, and the ethical practice for massage therapists established by law or regulatory agency.

## MSSG 1009 HEALTH AND HYGIENE

**20-20 Contact Hours ( 2.0 - 2.0 CEUs )**
The study of safety and sanitation practices including universal precautions. The importance of proper body mechanics, maintaining a healthy lifestyle, maintaining the massage environment, and the advantage of therapeutic relationships is also included.

## MSSG 1011 INTRODUCTION TO MASSAGE THERAPY

**125-125 Contact Hours ( 12.5 - 12.5 CEUs )**
Introduction to the theory and the application of skills necessary to perform massage to meet the regulatory requirements for certification as a Massage Therapist.

## MSSG 1091 SPECIAL TOPICS IN MASSAGE THERAPY/THERAPEUTIC MASSAGE

**7-112 Contact Hours ( .7 - 11.2 CEUs )**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## MSSG 2001 CHAIR MASSAGE

**16-48 Contact Hours ( 1.6 - 4.8 CEUs )**
Therapy and practice of chair massage using proper techniques for a variety of settings.

## MSSG 2002 STONE MASSAGE

**16-48 Contact Hours ( 1.6 - 4.8 CEUs )**
Concepts of stone massage. Emphasizes specialized techniques and assessment of client needs.

## MSSG 2086 INTERNSHIP - MASSAGE THERAPY/ THERAPEUTIC MASSAGE

**7-176 Contact Hours ( .7 - 17.6 CEUs )**
Enables students to synthesize knowledge, apply skills in a clinical setting, and develop experience managing workflow. Direct supervision is provided by a registered massage therapy instructor.

## NUPC 1091 SPECIAL TOPICS IN PATIENT CARE TECHNOLOGY

**7-112 Contact Hours ( .7 - 11.2 CEUs )**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## NURA 1001 NURSE AIDE FOR HEALTH CARE ORGANIZATIONS I

**51-144 Contact Hours ( 5.1 - 14.4 CEUs )**
Preparation for entry level nursing assistants to achieve a level of knowledge, skills, and abilities essential to provide basic care to residents of long-term care facilities. Topics include resident's rights, communication, safety, observation, reporting and assisting residents in maintaining basic comfort and safety. Emphasis on effective interaction with members of the health care team.

## NURA 1013 MEDICATION ADMINISTRATION FOR THE NURSE AIDE/HOME HEALTH AIDE

**128-176 Contact Hours ( 12.8 - 17.6 CEUs )**
Instruction in preparation and administration of designated medications by non-licensed nursing personnel employed in licensed health care agencies including the responsibilities associated with such administration.

## NURA 1041 PROFESSIONAL DEVELOPMENT: MEDICATION AIDE

**7-24 Contact Hours ( .7 - 2.4 CEUs )**
Intensive training in an identified area(s) to meet continuing education and/or review/update requirements associated with professional licensure or certification. This course was designed to be repeated multiple times to improve student proficiency.

## NURA 1045 NURSE AIDE SKILLS

**7-32 Contact Hours ( .7 - 3.2 CEUs )**
Up-grading of current skills and instruction in recently developed techniques needed for effective patient care.

## NURA 1060 CLINICAL - NURSE/NURSING ASSISTANT/AIDE AND PATIENT CARE ASSISTANT

**24-176 Contact Hours ( 2.4 - 17.6 CEUs )**
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## OSHT 1091 SPECIAL TOPICS IN OCCUPATIONAL SAFETY AND HEALTH TECHNOLOGY/ TECHNICIAN

**7-112 Contact Hours ( .7 - 11.2 CEUs )**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## PBHL 1091 SPECIAL TOPICS IN PUBLIC HEALTH, GENERAL

**7-112 Contact Hours ( .7 - 11.2 CEUs )**
Topics address recently identified current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## PHTC 1011 FUNDAMENTALS OF PHOTOGRAPHY

**48-160 Contact Hours ( 4.8 - 16.0 CEUs )**

An introduction to camera operation and image production, composition, flash usage, and use of exposure meters and filters.

## PHTC 1013 HISTORY OF PHOTOGRAPHY

**48-144 Contact Hours ( 4.8 - 14.4 CEUs )**

A historical survey of the technical and aesthetic development of photography. Topics include the beginnings of the medium, inventors, development of photographic equipment, styles of the creative masters, aesthetic themes, and the social impact of photography.

## PLAB 1023 PHLEBOTOMY

**16-80 Contact Hours ( 1.6 - 8.0 CEUs )**

Skill development in the performance of a variety of blood collection methods using proper techniques and universal precautions. Includes vacuum collection devices, syringes, capillary skin puncture, butterfly needles and blood culture, and specimen collection on adults, children, and infants. Emphasis on infection prevention, proper patient identification, labeling of specimens and quality assurance, specimen handling, processing, and accessioning. Topics include professionalism, ethics, and medical terminology.

## PLAB 1060 CLINICAL - PHLEBOTOMY/PHLEBOTOMIST

**48-576 Contact Hours ( 4.8 - 57.6 CEUs )**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## PLAB 1064 PRACTICUM (OR FIELD EXPERIENCE) - PHLEBOTOMY/PHLEBOTOMIST

**112-640 Contact Hours ( 11.2 - 64.0 CEUs )**

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## PLAB 1091 SPECIAL TOPICS IN PHLEBOTOMIST

**7-112 Contact Hours ( .7 - 11.2 CEUs )**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## PLAB 2000 PROFESSIONAL DEVELOPMENT: PHLEBOTOMY/PHLEBOTOMIST

**7-24 Contact Hours ( .7 - 2.4 CEUs )**

Practical or theoretical training in an identified area(s) to meet continuing education and/or review/update requirements associated with professional licensure or certification. This course was designed to be repeated multiple times to improve student proficiency.

## POFI 1001 COMPUTER APPLICATIONS I

**64-128 Contact Hours ( 6.4 - 12.8 CEUs )**

Overview of computer office applications including current terminology and technology. Introduction to computer hardware, software applications, and procedures.

## POFI 1003 WORD PROCESSING FUNDAMENTALS

**7-40 Contact Hours ( .7 - 4.0 CEUs )**

Introduction to word processing terminology and basic word processing concepts.

## POFI 1024 WORD PROCESSING APPLICATIONS I

**7-40 Contact Hours ( .7 - 4.0 CEUs )**

Word processing terminology, editing functions, formatting, and special text options.

## POFI 1042 WORD PROCESSING APPLICATIONS II

**7-40 Contact Hours ( .7 - 4.0 CEUs )**

Word processing production techniques. Includes search and replace functions, headers and footers, mail merge, file functions, and printer setup.

## POFM 1009 MEDICAL OFFICE PROCEDURES

**48-96 Contact Hours ( 4.8 - 9.6 CEUs )**

Introduction to basic medical office skills including telephone techniques, filing and indexing, mail handling, appointment scheduling, travel arrangements, correspondence, and business transactions. Emphasis on human relations and customer service skills.

## POFM 1091 SPECIAL TOPICS IN MEDICAL ADMINISTRATIVE ASSISTANT/SECRETARY

**7-112 Contact Hours ( .7 - 11.2 CEUs )**

Topics address recently identified current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## POFT 1002 BUSINESS SPEAKING SKILLS

**7-40 Contact Hours ( .7 - 4.0 CEUs )**

Effective tecniques to improve presentation and public speaking skills. Includes content, voice, body language, and use of visual aids.

## POFT 1004 BUSINESS WRITING

**7-40 Contact Hours ( .7 - 4.0 CEUs )**

A study of the basic elements of composition. Skill development in comparing paragraphs, expressing clear and correct sentences, and using the rules of grammar.

## POFT 1010 BASIC KEYBOARDING

**16-48 Contact Hours ( 1.6 - 4.8 CEUs )**

Skill development in keyboarding. Emphasizes alphabet, number, and symbol keys by touch.

## POFT 1022 INTRODUCTION TO GENERAL OFFICE SKILLS

**16-48 Contact Hours ( 1.6 - 4.8 CEUs )**

Instruction in basic office skills including filing, communications and human relations.

## POFT 1029 BEGINNING KEYBOARDING

**48-96 Contact Hours ( 4.8 - 9.6 CEUs )**

Skill development in the operation of the keyboard by touch applying proper keyboarding techniques. Emphasis on development of acceptable speed and accuracy levels and formatting basic documents.

## POFT 1092 SPECIAL TOPICS IN ADMINISTRATIVE ASSISTANT/SECRETARIAL SCIENCE, GENERAL

**7-112 Contact Hours ( .7 - 11.2 CEUs )**
Topics address recently identified current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## POFT 1093 SPECIAL TOPICS GENERAL OFFICE/ CLERICAL AND TYPING SERVICES

**7-112 Contact Hours ( .7 - 11.2 CEUs )**
Topics address recently identified current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## POFT 2046 CERTIFIED PROFESSIONAL SECRETARY (CPS) REVIEW FOR MANAGEMENT

**16-48 Contact Hours ( 1.6 - 4.8 CEUs )**
Preparation for Part III of the CPS exam. Topics include behavioral science in business; resource management; decision making; and production and marketing management.

## POFT 2047 CERTIFIED PROFESSIONAL SECRETARY (CPS) REVIEW FOR OFFICE SYSTEMS AND ADMINISTRATION

**16-48 Contact Hours ( 1.6 - 4.8 CEUs )**
Preparation for Part II of the CPS exam. Topics include technology systems, hardware and software, ergonomics in the office environment, office administration practices, communication processes, and the preparation of correspondence.

## RELE 1001 PRINCIPLES OF REAL ESTATE

**32-48 Contact Hours ( 3.2 - 4.8 CEUs )**
An overview of licensing as a real estate broker and salesperson, ethics of practice, titles to and conveyance of real estate, legal descriptions, law of agency, deeds, encumbrances and liens, distinctions between personal and real property, contracts, appraisal, finance and regulations, closing procedures, and real estate mathematics. Also includes federal, state, and local laws relating to housing discrimination, housing credit discrimination, and community reinvestment.

## RELE 1003 REAL ESTATE APPRAISAL

**32-48 Contact Hours ( 3.2 - 4.8 CEUs )**
A study of the central purposes and functions of an appraisal, social and economic determinant of value, appraisal case studies, cost, market data and income approaches to value estimates, final correlations, and reporting.

## RELE 1007 REAL ESTATE INVESTMENTS

**32-48 Contact Hours ( 3.2 - 4.8 CEUs )**
Characteristics of real estate investments. Includes techniques of investment analysis, time-valued money, discounted and non-discounted investment criteria, leverage, tax shelters, depreciation, and applications to property tax.

## RELE 1012 LAW OF CONTRACTS (TEXAS SPECIFIC)

**30-48 Contact Hours ( 3.0 - 4.8 CEUs )**
Elements of a contract, offer and acceptance, statute of frauds, specific performance and remedies for breach, unauthorized practice of law, commission rules relating to use of adopted forms, and owner disclosure requirements.

## RELE 1015 REAL ESTATE PROPERY MANAGEMENT

**32-48 Contact Hours ( 3.2 - 4.8 CEUs )**
A study of the role of the property manager, landlord policies, operational guidelines, leases, lease negotiations, tenant relations, maintenance, reports, habitability laws, and the Fair Housing Act.

## RELE 1020 REAL ESTATE FINANCE (TEXAS SPECIFIC)

**30-48 Contact Hours ( 3.0 - 4.8 CEUs )**
An overview of the U.S. monetary system, primary and secondary money markets, sources of mortgage loans, federal government programs, loan applications, processes and procedures, closing costs, alternative instruments, laws affecting mortgage lending, and the State Housing Agency.

## RELE 1023 REAL ESTATE COMPUTER APPLICATION

**32-96 Contact Hours ( 3.2 - 9.6 CEUs )**
A study of the availability of technology, especially software, and its ability to help a real estate agent become more productive. Includes database mapping interest and software application.

## RELE 1024 LOAN ORIGINATION AND QUALITY CONTROL

**32-48 Contact Hours ( 3.2 - 4.8 CEUs )**
An introduction to the mortgage loan application process. Topics include regulatory compliance and documentation; real estate contracts; the mortgage application process, interview techniques; credit, income and property qualification, quality controls and procedures.

## RELE 1025 REAL ESTATE MATHEMATICS

**32-48 Contact Hours ( 3.2 - 4.8 CEUs )**
Basic arithmetic skills. Includes mathematical logic, percentages, interest, time value of money, depreciation, amortization, proration, and estimation of closing statements.

## RELE 1029 FUNDAMENTALS OF ENVIRONMENTAL ISSUES

**32-48 Contact Hours ( 3.2 - 4.8 CEUs )**
A study of environmental issues affecting the real estate industry including hazardous substances, underground storage tanks, and wetlands.

## RELE 1035 REAL ESTATE CONSTRUCTION

**32-48 Contact Hours ( 3.2 - 4.8 CEUs )**
A study of the basic principles of design and construction of real estate properties.

## RELE 1036 REAL ESTATE CONSTRUCTION (TEXAS SPECIFIC)

**30-48 Contact Hours ( 3.0 - 4.8 CEUs )**
A study of the basic principles of design and construction of real estate properties.

### RELE 1038 PRINCIPLES OF REAL ESTATE II

**32-48 Contact Hours ( 3.2 - 4.8 CEUs )**
Overview of licensing as a broker or salesperson. Includes ethics of practice as a license holder, titles to and conveyance of real estate, legal descriptions, deeds, encumbrances and liens, distinctions between personal and real property, appraisal, finance and regulations, closing procedures, and real estate mathematics. Covers at least three hours of classroom instruction on federal, state, and local laws relating to housing, discrimination, housing credit discrimination, and community reinvestment. Fulfills at least 30 of 60 hours of required instruction for salesperson license.

### RELE 1058 REAL ESTATE REVIEW

**7-40 Contact Hours ( .7 - 4.0 CEUs )**
This course covers updated information for the real estate examination and is intended for previously licensed practitioners returning to the field after a prolonged period of time.

### RELE 1091 SPECIAL TOPICS IN REAL ESTATE

**7-112 Contact Hours ( .7 - 11.2 CEUs )**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

### RELE 2002 LAW OF AGENCY (TEXAS SPECIFIC)

**30-48 Contact Hours ( 3.0 - 4.8 CEUs )**
A study of law of agency including principal-agent and master-servant relationships, the authority of an agent, the termination of an agent's authority, the fiduciary and other duties of an agent, employment law, deceptive trade practices, listing or buying procedures, and the disclosure of an agency.

### RELE 2003 REAL ESTATE MANDATORY CONTINUING EDUCATION

**16-16 Contact Hours ( 1.6 - 1.6 CEUs )**
Provides mandatory continuing education as required by the Texas Real Estate Commission. Includes updates on the profession and legal topics.

### RELE 2005 REAL ESTATE INSPECTIONS

**32-96 Contact Hours ( 3.2 - 9.6 CEUs )**
A study of the different types of building systems and materials used in the design and construction of real property. Covers residential construction and commercial building systems and materials. Includes different structural building systems with emphasis on wood-related products, concrete and concrete masonry, brick, stone, and steel units. The Texas Real Estate Commission Promulgated Property Condition Addendum will be addressed along with inspector and client agreements, tools and procedures, and electro-mechanical systems.

### RELE 2006 REAL ESTATE INSPECTIONS (TEXAS SPECIFIC)

**30-96 Contact Hours ( 3.0 - 9.6 CEUs )**
A study of the different types of building systems and materials used in the design and construction of real property. Covers residential construction and commercial building systems and materials. Includes different structural building systems with emphasis on wood-related products, concrete and concrete masonry, brick, stone, and steel units. The Texas Real Estate Commission Promulgated Property Condition Addendum will be addressed along with inspector and client agreements, tools and procedures, and electro-mechanical systems.

### RELE 2031 REAL ESTATE BROKERAGE

**32-48 Contact Hours ( 3.2 - 4.8 CEUs )**
A study of law of agency, planning and organization, operational policies and procedures, recruiting, selection and training of personnel, records and control, and real estate firm analysis and expansion criteria.

### RELE 2088 INTERNSHIP - REAL ESTATE

**48-176 Contact Hours ( 4.8 - 17.6 CEUs )**
A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and an employer.

### SEST 1041 BOILERS-OPERATIONS; INSTALLATION & MAINTENANCE

**64-128 Contact Hours ( 6.4 - 12.8 CEUs )**
Safe installation, operation, and maintenance procedures for boilers including total boiler analysis for maximum performance and efficiency of each system.

### SEST 1091 SPECIAL TOPICS IN ELECTRICAL AND POWER TRANSMISSION INSTALLATION/ INSTALLER, GENERAL

**7-112 Contact Hours ( .7 - 11.2 CEUs )**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

### VTHT 1000 ANIMAL BEHAVIOR

**16-48 Contact Hours ( 1.6 - 4.8 CEUs )**
Survey of normal/abnormal animal behavior, factors associated with those behaviors, and management techniques.

### VTHT 1091 SPECIAL TOPICS IN VETERINARIAN ASSISTANT/ANIMAL HEALTH TECHNICIAN

**7-112 Contact Hours ( .7 - 11.2 CEUs )**
Topics address recently identified current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## ACADEMIC COURSES
**Will transfer to baccalaureate programs**

| *Course* | *AA-Academic Course Area Title* |
|---|---|
| ACCT | Accounting |
| AGRI | Agriculture |
| ANTH | Anthropology |
| ARAB | Arabic |
| ARTS | Studio Art/Art History |
| ASTR | Astronomy |
| BCIS | Business Computer Applications |
| BIOL | Biology |
| CHEM | Chemistry |
| CHIN | Chinese |
| COMM | Communications |
| COSC | Computer Science |
| CRIJ | Criminal Justice |
| DANC | Dance |
| DRAM | Drama |
| ECON | Economics |
| EDUC | Teacher Education |
| ENGL | English |
| ENVR | Environmental Science |
| ESOL | Intensive English |
| ENGR | Engineering |
| FORE | Forestry |
| FREN | French |
| GEOG | Geography |
| GEOL | Geology |
| GERM | German |
| GOVT | Government |
| GUST | Guided Studies |
| HECO | Nutrition |
| HIST | History |
| JAPN | Japanese |
| KORN | Korean |
| PHED | Physical Education |
| MATH | Mathematics |
| MUAP | Music Applied Performance |
| MUSI | Music |
| PHED | Physical Education |
| PHIL | Philosophy |
| PHYS | Physics |
| PSYC | Psychology |
| READ | Reading (Developmental) |
| RUSS | Russian |
| SGNL | Sign Language |
| SOCI | Sociology |
| SPAN | Spanish |
| SPCH | Speech |
| TECA | Teacher Education |
| VIET | Vietnamese |

## WORKFORCE COURSES
**May or may not transfer to baccalaureate programs.
Check with HCC Counselors**

| *Course* | *Workforce Program Titles* |
|---|---|
| ACNT | Accounting |
| HART | Air Conditioning/Refrigeration |
| MUSC | Audio Recording |
| RTVB | Audio Recording |
| ABDR | Autobody/Collision Repair Technician |
| AUMT | Automotive Technician |
| PSTR | Baker/Pastry Chef |
| BIOM | Biomedical Technology |
| BITC | Biotechnology |
| RTVB | Broadcast Technology |
| CBFM | Building Science Technology |
| WDWK | Building Science Technology |
| PFPB | Building Science Technology |
| ELTN | Building Science Technology |
| BUSG | Business Administration |
| BUSG | Business, General |
| BMGT | Business Management |
| BMGT | Business Administration and Management |
| MRKG | Business Marketing and Marketing Management |
| BMGT | Business Technology - PeopleSoft |
| POFI | Business Technology - Microsoft Office Technology |
| POFL | Business Technology - Legal |
| POFM | Business Technology |
| POFT | Business Technology |
| CVTT | Cardiovascular Technology |
| ECRD | Cardiovascular Technology |
| CRPT | Carpentry |
| CTEC | Chemical Laboratory Technology |
| SCIT | Chemical Laboratory Technology |
| CDEC | Child Development |
| MLAB | Clinical Laboratory Technician |
| MUSC | Commercial Music |
| CSIR | Communication System Installer/Repairer |
| SPCR | Communications for the Trades (Continuing Education) |
| INEW | Computer Science Technology |
| ITMT | Computer Science Technology |
| ITNW | Computer Science Technology |
| ITSC | Computer Science Technology |
| ITSE | Computer Science Technology |
| ITSW | Computer Science Technology |
| ITSY | Computer Science Technology |
| CNBT | Construction Technology |
| CSME | Cosmetology |
| CRTR | Court Reporter |
| CJLE | Criminal Justice - Law Enforcement |
| CJSA | Criminal Justice - Law Enforcement Administration |
| CJCR | Criminal Justice - Corrections |
| CHEF | Culinary Arts |
| PSTR | Culinary Arts |
| ITSW | Data Processing Technology |
| DNTA | Dental Assisting |

# WORKFORCE COURSES

**COURSE DESCRIPTIONS**

## ABDR 1207 AUTO BODY WELDING
**Credit: 2 (4 lab)**
A study of industry and standard welding and cutting procedures.

## ABDR 1215 VEHICLE TRIM AND HARDWARE
**Credit: 2 (2 lecture)**
An in depth study of vehicle trim and glass service.

## ABDR 1280 COOPERATIVE EDUCATION - AUTOBODY/ COLLISION AND REPAIR TECHNOLOGY/TECHNICIAN
**Credit: 2 (1 lecture, 10 lab)**
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## ABDR 1291 SPECIAL TOPICS IN AUTO/AUTOMOTIVE BODY REPAIRER
**Credit: 2 (1 lecture, 2 lab)**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## ABDR 1431 BASIC REFINISHING
**Credit: 4 (2 lecture, 4 lab)**
An introduction to current refinishing products, shop safety, and equipment used in the automotive refinishing industry. Emphasis on surface preparation, masking techniques, and refinishing of trim and replacement parts.

## ABDR 1441 STRUCTURAL ANALYSIS AND DAMAGE REPAIR I
**Credit: 4 (2 lecture, 4 lab)**
Expanded training in the roughing and shaping procedures on automotive sheet metal necessary to make satisfactory body repairs. Emphasis on the alignment of component parts such as doors, hood, front-end assemblies, and deck lids.

## ABDR 1442 STRUCTURAL ANALYSIS AND DAMAGE REPAIR II
**Credit: 4 (2 lecture, 4 lab)**
Continuation of general repair and replacement procedures for damaged structural parts and collision damage.

## ABDR 1458 INTERMEDIATE REFINISHING
**Credit: 4 (2 lecture, 4 lab)**
Expanded training in mixing and spraying of automotive topcoats. Emphasis on formula ingredient, reducing, thinning, and special spraying techniques. Introduction to partial panel refinishing techniques and current industry paint removal techniques.

## ABDR 2431 STRUCTURAL ANALYSIS AND DAMAGE REPAIR III
**Credit: 4 (2 lecture, 4 lab)**
Advanced concepts in the application of theories of auto body repair and replacement of major body units.

## ABDR 2441 MAJOR COLLISION REPAIR AND PANEL REPLACEMENT
**Credit: 4 (2 lecture, 4 lab)**
Instruction in preparation of vehicles for major repair processes. This course covers interpreting information from damage reports, planning repair sequences, selecting appropriate tools, and organizing removed parts for reinstallation.

## ABDR 2449 ADVANCED REFINISHING
**Credit: 4 (2 lecture, 4 lab)**
Skill development in multi-stage refinishing techniques. Further development in identification of problems and solutions in color matching and partial panel refinishing.

## ACCT 2301 PRINCIPLES OF ACCOUNTING I
**Prerequisite: ACNT 1303/or Department Approval**
**Credit: 3 (3 lecture)**
This course covers the fundamentals of financial accounting, including double-entry accounting and the accounting cycle. Other topics include cash, receivables, inventories, plant assets, liabilities, partnerships, corporation, investments, statement of cash flows and interpretation of financial statements.

## ACCT 2302 PRINCIPLES OF ACCOUNTING II
**Prerequisite: ACCT 2301**
**Credit: 3 (3 lecture)**
This course covers the fundamentals of managerial accounting including manufacturing operations and planning and control. Other topics include budgets, introduction to cost accounting, cost control techniques, methods of measuring performance and financial statement analysis.

## ACNT 1303 INTRODUCTION TO ACCOUNTING I
**Credit: 3 (3 lecture)**
A study of analyzing, classifying, and recording business transactions in a manual and computerized environment. Emphasis on understanding the complete accounting cycle and preparing financial statements, bank reconciliations, and payroll. Coverage also includes the fundamental principles of double-entry bookkeeping, financial statements, trial balances, worksheets, special journals, adjusting entries and closing entries.

## ACNT 1304 INTRODUCTION TO ACCOUNTING II
**Credit: 3 (3 lecture)**
A study of accounting for merchandising, notes payable, notes receivable, valuation of receivables and equipment, and valuation of inventories in a manual and computerized environment.

## ACNT 1313 COMPUTERIZED ACCOUNTING APPLICATIONS
**Prerequisite: ACNT 1303 and ITSC 1309**
**Credit: 3 (2 lecture, 2 lab)**
A study of utilizing the computer to develop and maintain accounting record- keeping systems, make management decisions, record daily business transactions, and generate financial statements using Peachtree or QuickBooks.

## ACNT 1329 PAYROLL AND BUSINESS TAX ACCOUNTING
**Prerequisite: ACNT 1303**
**Credit: 3 (3 lecture)**
A study of payroll procedures, taxing entities, and reporting requirements of local, state, and federal taxing authorities in a manual and computerized environment.

## ACNT 1331 FEDERAL INCOME TAX: INDIVIDUAL
**Prerequisite: ACCT 2302**
**Credit: 3 (3 lecture)**
A study of the laws currently implemented by the IRS, providing a working knowledge of preparing taxes for the individual.

## ACNT 1347 FEDERAL INCOME TAX FOR PARTNERSHIPS AND CORPORATIONS
**Prerequisite: ACCT 2302**
**Credit: 3 (3 lecture)**
Introduction to the tax laws as currently implemented by the Internal Revenue Service providing a working knowledge of preparing taxes for a partnership, sub chapter S, and corporation.

## ACNT 1382 COOPERATIVE EDUCATION– ACCOUNTING TECHNICIAN
**Prerequisite: 12 Semester Hours/Program Approval**
**Credit: 3 (1 lecture/seminar and 20-hours a week employment)**
Career related activities encountered in the student's area of specialization are offered through a cooperative agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines classroom learning with work experience. Directly related to a technical discipline, specific learning objectives guide the student through the paid work experience. Blend of academic and work-related activities in student's major.

## ACNT 1391 ETHICS FOR ACCOUNTANTS
**Prerequisite: ACNT 2331**
**Credit: 3 (3 lecture)**
This course will prepare the accounting student for a variety of ethical situations they will face in the workplace. Students will develop their understanding of and identifying ethical situations and resolving ethical conflict by researching, writing and roll playing actual cases. This course will also help them develop analytical skills and good communication. They will be encouraged to give reasons and explanations for potential resolutions; in doing this, they will gain a foundation for making ethical judgments in their professional conduct.

## ACNT 1391 FRAUD EXAMINATIONS
**Prerequisite: ACNT 2331**
**Credit: 3 (3 lecture)**
This course is intended to help students understand organizational fraud, causes and how to prevent fraud. The course will provide students with the knowledge of accounting procedures encompassed in fraud examinations. Topics will also cover the professional responsibilities of the accountant in light of recent litigations and revised fraud standards.

**ACNT 1391 OIL AND GAS ACCOUNTING**
Prerequisite: ACCT 2302
Credit: 3 (3 lecture)
An introduction to particularities of recording and reporting cost and revenues incident to creation and realization of mineral interests.

**ACNT 1392 SMALL BUSINESS ACCOUNTING**
Prerequisite: ACCT 2302
Credit: 3 (3 lecture)
A course on how to start and operate a small business. Topics include essential management skills and how to prepare a business plan, and marketing strategies. Practical guidance is provided for selecting and maintaining a cost-effective accounting system, records retention, budgets and cash flow projections.

**ACNT 2303 INTERMEDIATE ACCOUNTING I**
Prerequisite: ACCT 2302
Credit: 3 (3 lecture)
Critical analysis of general accepted accounting principles, concepts, and theory underlying the preparation of financial statements. Emphasis on current theory and practice. Covers the theoretical and practical basis for financial statements, present value applications, and the theory and practice of accounting for cash, receivables, inventories, liabilities, long-term investments, depreciable and depletable property, and intangible assets.

**ACNT 2304 INTERMEDIATE ACCOUNTING II**
Prerequisite: ACNT 2303
Credit: 3 (3 lecture)
Continued in-depth analysis of generally accepted accounting principles underlying the preparation of financial statements including comparative analysis and statement of cash flows. Topics also included are bonds, leases, pension plans, corporate paid-in-capital, special purpose securities, retained earnings, tax allocation, inflation accounting, funds statement, and financial statement analysis.

**ACNT 2309 COST ACCOUNTING**
Prerequisite: ACCT 2302
Credit: 3 (3 lecture)
A study of budgeting and cost control systems including a detailed study of manufacturing cost accounts and reports, job order costing, and process costing. Includes introduction to alternative costing methods such as activity-based and just-in-time costing. Coverage also includes historical cost systems, work-in-process inventories, material and labor control, multiple products, budgeting, applying overhead, standard costs, direct costing, evaluating profit performance, and distribution costs.

**ACNT 2330 GOVERNMENT AND NON-PROFIT ACCOUNTING**
Prerequisite: ACCT 2302
Credit: 3 (3 lecture)
Basic concepts and techniques of fund accounting, financial reporting for governmental and not-for-profit entities. Accounting cycle for funds and account groups and related financial statements

**ACNT 2331 INTERNAL CONTROL AND AUDITING**
Prerequisite: ACCT 2302
Credit: 3 (3 lecture)
A study of internal control and auditing standards and processing used by internal auditors, managers, and independent public accountants. Covers also auditing principles and procedures, auditing standards, ethics, working papers and audit reports.

**ACNT 2332 ACCOUNTING INFORMATION SYSTEMS**
Prerequisite: ACCT 2302
Credit: 3 (3 lecture)
A study of the role of accounting information systems and related subsystems, including data collection, retrieval, manipulation, filtering and sorting of data.

**ACNT 2333 ADVANCED ACCOUNTING**
Prerequisite: ACNT 2304
Credit: 3 (3 lecture)
Methods of measuring and communicating economic information, including consolidated statements, partnerships, real estate, foreign operations, and fund units.

**ACNT 2382 COOPERATIVE EDUCATION– ACCOUNTING TECHNICIAN**
Prerequisite: ACNT 1382
Credit: 3(1 lecture/seminar and 20-hours a week employment)
Continuation of ACNT 1382. Career related activities encountered in the student's area of specialization are offered through a cooperative agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines classroom learning with work experience. Directly related to a technical discipline, specific learning objectives guide the student through the paid work experience. Blend of academic and work-related activities in student's major.

**AGRI 1131 THE AGRICULTURAL INDUSTRY**
Credit: 1 (1 lecture)
An overview of world agriculture, nature of the industry and resource conservation, insight regarding career opportunities in agriculture and natural resources.

**AGRI 1307 AGRONOMY**
Credit: 3 (2 lecture, 2 lab)
Principles and practices in development, production, and management of field crops, plant breeding, plant diseases, soils, insect control, and weed control.

**AGRI 1309 COMPUTERS IN AGRICULTURE**
Credit: 3 (2 lecture, 2 lab)
Use of computers in agricultural applications. Introduction to programming languages, word processing, electronic spreadsheets and agricultural software.

**AGRI 1311 DAIRYING**
Credit: 3 (2 lecture, 2 lab)
Survey of dairy industries: dairy breeds, standards for selecting and culling, herd replacements, feeding, management, physiology, and health maintenance. Food value of milk, tests for composition and quality, use and processing of market milk and dairy products.

**AGRI 1319 GENERAL ANIMAL SCIENCE**
Credit: 3 (2 lecture, 2 lab)
Scientific methods of animal selection, reproduction, nutrition, management, and marketing of beef cattle, swine, sheep, goats, and horses. Evaluation and processing of meat, wool, and mohair. Importance of livestock and meat industries.

**AGRI 1325 MARKETING OF AGRICULTURAL PRODUCTS**
Credit: 3 (3 lecture)
Introductory course covering the operations involved in the movement of agricultural commodities from producer to consumer. Essential marketing functions of buying, selling, transporting, storing, financing, standardizing, pricing and risk bearing.

**AGRI 1327 POULTRY SCIENCE**
Credit: 3 (2 lecture, 2 lab)
Introduction to the poultry industry. Practices and principles in production and marketing of turkeys, layers, broilers, and specialized fowl. Management, automated equipment, product technology, incubation, and production economics are included.

**AGRI 1329 PRINCIPLES OF FOOD SCIENCE**
Credit: 3 (3 lecture)
Technological and scientific aspects of modern industrial food supply systems. Food classification, nutritional considerations, modern processing, and quality control.

**AGRI 2301 AGRICULTURAL POWER UNITS**
Credit: 3 (2 lecture, 2 lab)
Fundamentals of internal combustion engines: gasoline, diesel, and liquefied petroleum. Maintenance and adjustments of the electrical, ignition, fuel, lubricating, and cooling systems.

**AGRI 2303 AGRICULTURAL CONSTRUCTION**
Credit: 3 (2 lecture, 2 lab)
Selection, use, and maintenance of hand and power tools, arc and oxyacetylene welding, construction materials and principles.

**AGRI 2313 ENTOMOLOGY**
Credit: 3 (2 lecture, 2 lab)
Principal orders of insects, relation of anatomy and physiology of insects to control methods: development habits and economic importance of more common insects with control methods for injurious species.

**AGRI 2317 INTRODUCTION TO AGRICULTURAL ECONOMICS**
Credit: 3 (3 lecture)
Characteristics of our economic system and basic economic concepts. Survey of the farm and ranch, its organizational and management structure, and operation within the marketing system. Functional and institutional aspects of agricultural finance and government farm programs.

**AGRI 2321 LIVESTOCK EVALUATION**
Credit: 3 (2 lecture, 2 lab)
Instruction in selecting, evaluating, and judging of beef cattle, sheep, swine, and horses. The course will include the judging of both breeding and marketing animals with decisions being supported by oral reasons.

## AGRI 2330 WILDLIFE CONSERVATION AND MANAGEMENT

**Credit: 3 (3 lecture)**
Principles and practices used in the production and improvement of wildlife resources for aesthetic, ecological, and recreational uses of public and private lands.

## AGRI 2335 DENDROLOGY - (SEE FORE 1314)

## AGRI 2336 ARBORICULTURE - (SEE FORE 2309)

## ANTH 2301 INTRODUCTION TO PHYSICAL ANTHROPOLOGY

**Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit: 3 (3 lecture)**
Introduction to Physical Anthropology explores the relationship between culture and biology through the methods, theory and research of biological anthropology. Students learn about basic mechanisms of genetic change in populations and the relationships between humans and the other primates. The appearance of humans and their bipedal ancestors approximately four million years ago and their culture history through the Paleolithic age are examined in detail. Students learn about biological variation and adaptation in human populations, responses to the environment, race, and other issues and their applications. Core Curriculum Course.

## ANTH 2302 INTRODUCTION TO ARCHAEOLOGY

**Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit: 3 (3 lecture)**
Introduction to Archaeology provides a survey of the basic methods, theory and research of scientific archaeology. Human cultures and behaviors are identified and interpreted from material remains of over 2.5 million years of the human past. Students learn how anthropologists build cultural history from artifacts and material evidence of human activity, reconstruct past life ways, and explain similarities and differences of human cultures. Core Curriculum Course.

## ANTH 2346 GENERAL ANTHROPOLOGY

**Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit: 3 (3 lecture)**
This introductory survey of the four subfields of anthropology focuses on the cultural and biological diversity of humans including hominid prehistory, the emergence of Paleolithic cultures, and the agricultural and urban revolutions from an anthropological perspective. Past and present human adaptations and culture are surveyed and analyzed using the comparative and holistic approach of biological anthropology, archaeology, linguistics and ethnology. Core Curriculum Course.

## ANTH 2351 CULTURAL ANTHROPOLOGY

**Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit: 3 (3 lecture)**
This course focuses on culture, the ways people live and give meaning, form and organization to their lives as they adapt to various environments and conditions both in and beyond the borders of the U.S. Study of the descriptions and analysis of cultural diversity provide the basis for evaluating cultural components of everyday life including recognition of ethnocentrism, intercultural communication and understanding local and 'global' culture in a multicultural and transforming world. Core Curriculum Course.

## ANTH 2389 ACADEMIC COOPERATIVE IN ANTHROPOLOGY

**Prerequisites: Must be placed into college-level reading and college-level writing.**
**Credit: 3 (1 lecture, 16 lab)**
An instructional program designed to integrate on-campus study with practical hands-on experience in anthropology. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of human culture and social behavior and/or institutions and processes.

## ARAB 1411  BEGINNING ARABIC I

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 4 (3 lecture, 2 lab)**
Fundamentals skills in listening comprehension, speaking, reading, and writing.  Includes basic vocabulary, grammatical structures, and culture. Core Curriculum Course.

## ARAB 1412 BEGINNING ARABIC II

**Prerequisites: ARAB 1411 or departmental approval. Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing. Credit: 4 (3 lecture, 2 lab)**
Continuation of ARAB 1411. Further development of listening comprehension, speaking, reading, and writing skills, and cultural awareness. More advanced grammar. Transfers as foreign language credit. Core Curriculum Course.

## ARAB 2311 INTERMEDIATE ARABIC I

**Prerequisites: ARAB 1412 or departmental approval. Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 4 (3 lecture, 2 lab)**
Further development of listening, speaking, reading and writing skills and cultural awareness acquired in Beginning Arabic. Introduction of more complex language structures. Oral and written practice based on selected readings. Class conducted mainly in Arabic. Core Curriculum Course.

## ARAB 2312 INTERMEDIATE ARABIC II

**Prerequisites: ARAB 2311 or departmental approval. Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 4 (3 lecture, 2 lab)**
Continuation of ARAB 2311, but with special emphasis on written communication. Readings, discussions and compositions. Class conducted mainly in Arabic. Core Curriculum Course

## ARCE 1352 STRUCTURAL DRAFTING

**Credit: 3 (2 lecture, 4 lab)**
A study of structural systems including concrete foundations and frames, wood framing and trusses, and structural steel framing systems. Includes detailing of concrete, wood, and steel to meet industry standards including the American Institute of Steel Construction and The American Concrete Institute.

## ARCE 2344 STATICS AND STRENGTH OF MATERIALS

**Prerequisite: DFTG 1305**
**Credit: 3 (2 lecture, 4 lab)**
Internal effects of forces acting upon elastic bodies and the resulting changes in form and dimensions. Includes stress, shear, bending moments, and simple beam design.

## ARCE 2352 MECHANICAL AND ELECTRICAL SYSTEMS

**Credit: 3 (2 lecture, 4 lab)**
The properties of building materials (assemblies), specifications, codes, vendor references, and uses of mechanical, plumbing, conveying, and electrical systems as they relate to architecture for residential and commercial construction.

## ARTC 1302 DIGITAL IMAGING I (PHOTOSHOP)

**Corequisites: ARTC 1325 and ARTC 1305 or Department Approval**
**Credit: 3 (2 lecture, 4 lab)**
Digital imaging using raster image editing and/or image creation software: scanning, resolution, file formats, output devices, color systems, and image-acquisitions.

## ARTC 1305 BASIC GRAPHIC DESIGN

**Credit: 3 (2 lecture, 4 lab)**
Graphic design with emphasis on the visual communication process. Topics include basic terminology and graphic design principles.

## ARTC 1309 BASIC ILLUSTRATION

**Credit: 3 (2 lecture, 4 lab)**
Introduction to drawing techniques, skills, and concepts with various black and white media. Emphasis placed on perspective and principles of shading.

## ARTC 1313 DIGITAL PUBLISHING I

**Credit: 3 (2 lecture, 4 lab)**
The fundamentals of using digital layout as a primary publishing tool and the basic concepts and terminology associated with typography and page layout.

## ARTC 1317 DESIGN COMMUNICATION I

**Prerequisites  ARTC 1325 and ARTC 1305 or Department Approval**
**Credit: 3 (2 lecture, 4 lab)**Study of design velopment relating to graphic design terminology, tools and media, and layout and design concepts. Topics include integration of type, images and other design elements, and developing computer skills in industry standard computer programs.

## ARTC 1321 ILLUSTRATION TECHNIQUES

**Prerequisite: ARTC 1309 or Department Approval**
**Credit: 3 (2 lecture, 4 lab)**
Study of illustration techniques in various media with an emphasis on creative interpretation and draftsmanship for visual aides.

## ARTC 1325 INTRODUCTION TO COMPUTER GRAPHICS

**Credit: 3 (2 lecture, 4 lab)**
A survey of computer design concepts, terminology, processes, and procedures.

## ARTC 1353 COMPUTER ILLUSTRATION (ILLUSTRATOR)

**Prerequisite: ARTC 1325 or Department Approval**
**Credit: 3 (2 lecture, 4 lab)**
Exploration of computer programs with applications to illustration and photo manipulation and file management for reproduction. Emphasis on concept development in print and digital delivery.

## ARTC 1391 SPECIAL TOPICS IN GRAPHIC DESIGN, COMMERCIAL ART AND ILLUSTRATION

**Prerequisite: Two semesters toward the degree plan or Department Approval**
**Credit: 3 (2 lecture, 4 lab)**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. Learning outcomes objectives are determined by local occupational need and business and industry trends. Each special topics course may include focus on a topic such as advanced drawing, color design or portfolio evaluation.

## ARTC 2311 HISTORY OF COMMUNICATION GRAPHICS

**Credit: 3 (3 lecture)**
Survey of the evolution of graphic arts as it relates to the history of art. Topics include formal, stylistic, social, political, economic, and historical aspects. Emphasis on the art movement, schools of thought, individuals, and technology as they interrelate with graphic arts.

## ARTC 2313 DIGITAL PUBLISHING II (INDESIGN)

**Prerequisites: ARTC 1305, ARTC 1325 and ETWR 1371, or Department Approval**
**Credit: 3 (2 lecture, 4 lab)**
Layout procedures from thumbnails and roughs to final comprehensive and printing; emphasis on design principles for the creation of advertising and publishing materials, and techniques for efficient planning and documenting projects.

## ARTC 2317 TYPOGRAPHIC DESIGN

**Prerequisites: ARTC 1302, 1305, 1353, or Department Approval**
**Corequisites: ARTC 2313 or Department Approval**
**Credit: 3 (2 lecture, 4 lab)**
Exploration of problems in typographic design including computer generated letterforms as elements of design. Topics include theory and techniques of traditional, contemporary, and experimental typography for advertising and editorial usage.

## ARTC 2335 PORTFOLIO DEVELOPMENT FOR GRAPHIC DESIGN

**Prerequisite: Department Approval**
**Credit: 3 (2 lecture, 4 lab)**
Preparation of a portfolio comprised of completed graphic design class projects. Evaluation and demonstration of portfolio presentation methods based on the student's specific area of study.

## ARTC 2340 COMPUTER ILLUSTRATION II (ADVANCED PHOTOSHOP)

**Prerequisite: ARTC 1302, 1305, 1317, 1325, 1353**
**Credit: 3 (2 lecture, 4 lab)**
Advanced use of software capabilities with emphasis on various output procedures, the resolution of complex design issues, and concept development.

## ARTC 2347 DESIGN COMMUNICATION II

**Prerequisite: Department Approval**
**Credit: 3 (2 lecture, 4 lab)**
An advanced study of design, development, and art direction. Emphasis on form and content through the selection, creation, and integration of typographic, photographic, illustrative, and design elements.

## ARTC 2348 DIGITAL PUBLISHING III

**Prerequisites: Department Approval**
**Credit: 3 (2 lecture, 4 lab)**
A project-based page layout course from concept to completion addressing design problems, preflight of files, color separations, and trapping techniques.

## ARTS 1301 ART APPRECIATION

**Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**
**Credit: 3 (3 lecture)**
This introduction to the visual arts is designed for the general student. The course explores what is art, who makes it, and why it is made. Core Curriculum Course.

## ARTS 1303 ART HISTORY I

**Prerequisites: Must be placed into college-level reading and college-level writing.**
**Credit: 3 (3 lecture)**
This course examines painting, sculpture, architecture and related arts covering the Paleolithic through Gothic periods. Also covered is the art of non-western cultures. This course satisfies the fine arts or cross-cultural component of the HCC core.

## ARTS 1304 ART HISTORY II

**Prerequisites: Must be placed into college-level reading and college-level writing.**
**Credit: 3 (3 lecture)**
This course examines painting, sculpture, architecture and related arts from the Early Renaissance through the Twentieth Century. Also covered is the art of non-westeren cultures. ARTS 1303 is not a prerequisite. This course satisfies the fine arts or cross-cultural component of the HCC core.

## ARTS 1311 FOUNDATION DESIGN I (2-D DESIGN)

**Prerequisite: None**
**Credit: 3 (2 lecture, 4 lab)**
This beginning studio course explores the fundamentals of two-dimensional design: line, shape, texture, value, color and composition. A variety of media will be used. Recommended but not required as a first studio course. This course satisfies the fine arts component of the HCC core.

## ARTS 1312 FOUNDATION DESIGN II (3-D DESIGN)

**Prerequisite: None**
**Credit: 3 (2 lecture, 4 lab)**
A beginning studio course that explores the fundamentals of three-dimensional design: line, plane, mass, surface, light and color in space. A variety of media will be used. Recommended but not required to be taken before Sculpture, Ceramics or Jewelry. This course satisfies the fine arts component of the HCC core.

## ARTS 1316 FOUNDATION DRAWING I

**Prerequisite: None**
**Credit: 3 (2 lecture, 4 lab)**
This beginning drawing course develops student's observation skills through experimentation with various approaches, styles, techniques, and media. Recommended but not required to be taken before Life Drawing, Painting or Printmaking. Foundation Drawing I is a pre-requisite for Foundation Drawing II. This course satisfies the fine arts component of the HCC core.

## ARTS 1317 FOUNDATION DRAWING II

**Prerequisite: ARTS 1316**
**Credit: 3 (2 lecture, 4 lab)**
This studio course builds upon the skills learned in Drawing I. Emphasis will be upon further media experimentation and development of a personal style. Foundation Drawing I is a prerequisite. This course satisfies the fine arts component of the HCC core.

## ARTS 2316 PAINTING I

**Prerequisite: None**
**Credit: 3 (2 lecture, 4 lab)**
A studio course which explores painting media with an emphasis on color, composition, subject matter and technique. Painting I is a prerequisite for Painting II. This course satisfies the fine arts component of the HCC core.

## ARTS 2317 PAINTING II
**Prerequisite: ARTS 2316**
**Credit: 3 (2 lecture, 4 lab)**
This studio course builds upon skills developed in Painting I with an emphasis on the development of personal style, subject matter, and individual expression. Painting I is a prerequisite for Painting II. This course satisfies the fine arts component of the HCC core.

## ARTS 2323 LIFE DRAWING I
**Prerequisite: None**
**Credit: 3 (2 lecture, 4 lab)**
A drawing course focusing on the human form. Various media and techniques will be explored while drawing from a live model. Life Drawing I is a prerequisite for Life Drawing II. This course satisfies the fine arts component of the HCC Core.

## ARTS 2324 LIFE DRAWING II
**Prerequisite: ARTS 2323**
**Credit: 3 (2 lecture, 4 lab)**
This studio course builds upon skills developed in Life Drawing I, emphasizing personal style and individual expression. Further experimentation with various media and techniques will be explored while drawing from a live model. Life Drawing I is a prerequisite for Life Drawing II. This course satisfies the fine arts component of the HCC core.

## ARTS 2326 SCULPTURE I
**Prerequisite: None**
**Credit: 3 (2 lecture, 4 lab)**
This studio course will introduce the student to various materials, processes and elements of design. Media may include plaster, wood, clay, and found materials. Sculpture I is a prerequisite for Sculpture II. This course satisfies the fine arts component of the HCC core.

## ARTS 2327 SCULPTURE II
**Prerequisite: ARTS 2326**
**Credit: 3 (2 lecture, 4 lab)**
A studio course which builds upon fundamentals learned in Sculpture I with an emphasis on materials and site selection, scale, and individual expression. Sculpture I is a prerequisite for Sculpture II. This course satisfies the fine arts component of the HCC core.

## ARTS 2333 PRINTMAKING I
**Prerequisite: None**
**Credit: 3 (2 lecture, 4 lab)**
An introduction to and exploration of various relief printing, monoprinting, and intaglio processes. Printmaking I is a prerequisite for Printmaking II. This course satisfies the fine arts component of the HCC core.

## ARTS 2334 PRINTMAKING II
**Prerequisite: ARTS 2333**
**Credit: 3 (2 lecture, 4 lab)**
This course builds upon Printmaking I fundamentals and introduces additional print processes and combinations of those processes to allow individual expression. Printmaking I is a prerequisite for Printmaking II. This course satisfies the fine arts component of the HCC core.

## ARTS 2341 ART METALS I
**Prerequisite: None**
**Credit: 3 (2 lecture, 4 lab)**
Fundamentals of jewelry construction including design, fabrication, surface treatment, and stone setting. Art Metals I is a prerequisite for Art Metals II. This course satisfies the fine arts component of the HCC core.

## ARTS 2342 ART METALS II
**Prerequisite: ARTS 2341**
**Credit: 3 (2 lecture, 4 lab)**
A continuation of ARTS 2341 with emphasis on individual expression, design and further material exploration. Art Metals I is a prerequisite for Art Metals II. This course satisfies the fine arts component of the HCC core.

## ARTS 2346 CERAMICS I
**Prerequisite: None**
**Credit: 3 (2 lecture, 4 lab)**
This studio course is an introduction to arts, using the clay medium. Sculptural approaches to clay (slab, pinch, coil wheel) as well as surface treatment will be investigated. Glaze making and kiln technology will be introduced. Ceramics I is a prerequisite for Ceramics II. This course satisfies the fine arts component of the HCC core.

## ARTS 2347 CERAMICS II
**Prerequisite: ARTS 2346**
**Credit: 3 (2 lecture, 4 lab)**
This studio course builds on knowledge acquired in Ceramics I. Emphasis will be on form and surface experimentation, as well as development of personal expression. Traditional and nontraditional uses of clay will be explored. Ceramics I is a prerequisite for Ceramics II. This course satisfies the fine arts component of the HCC core.

## ARTS 2348 DIGITAL ARTS I
**Prerequisite: None**
**Credit: 3 (2 lecture, 4 lab)**
This studio course is an introduction to art using the computer. Digital approaches to imagery will be investigated using various tools (possibilities include cameras, scanners, printers, etc.) and software. Emphasis will be placed on creating original images as well as manipulating existing images. This course satisfies the fine arts component of the HCC core.

## ARTS 2349 DIGITAL ARTS II
**Prerequisite: ARTS 2348 or ARTS 2344**
**Credit: 3 (2 lecture, 4 lab)**
This studio art course builds upon the skills learned in Digital Art I. Emphasis will be upon further media experimentation and development of a personal style. Digital Art I is a prerequisite for Digital Arts II. This course satisfies the fine arts component of the HCC core.

## ARTS 2356 PHOTOGRAPHY I
**Prerequisite: None**
**Credit: 3 (2 lecture, 4 lab)**
An introduction to basic photographic processes including black and white film processing and printing. The student will examine various aesthetic approaches to photographing as well as some history of photography. This course will emphasize aesthetic aspects of photography such as design and composition, as well as content. Photography I is a prerequisite for Photography II. This course satisfies the fine arts component of the HCC core.

## ARTS 2357 PHOTOGRAPHY II
**Prerequisite: ARTS 2356**
**Credit: 3 (2 lecture, 4 lab)**
This course will build on previously acquired skills of black and white film exposure, processing and printing and guide students in developing personal outlooks toward specific applications of the photographic process. Photography I is a prerequisite for Photography II. This course satisfies the fine arts component of the HCC core.

## ARTS 2366 WATERCOLOR I
**Prerequisite: None**
**Credit: 3 (2 lecture, 4 lab)**
A studio course that explores watercolor media with an emphasis on color, composition, self-expression, and technique. This course satisfies the fine arts component of the HCC core.

## ARTS 2367 WATERCOLOR II
**Prerequisite: ARTS 2366**
**Credit: 3 (2 lecture, 4 lab)**
This studio course builds upon skills developed in Watercolor I with an emphasis on the development of personal style, subject matter, and individual expression. Watercolor I is a prerequisite for Watercolor II. This course satisfies the fine arts component of the HCC core.

## ARTV 1341 3-D ANIMATION I
**Prerequisite: ARTV 1345**
**Credit: 3 (2 lecture, 4 lab)**
Three-dimensional (3-D) modeling and rendering techniques including lighting, staging, camera, and special effects. Emphasizes 3-D modeling building blocks using primitives to create simple and complex objects.

## ARTV 1343 DIGITAL SOUND
**Prerequisites: GAME 1212 and GAME 1306**
**Credit: 3 (2 lecture, 4 lab)**
Digitizing sound and incorporating it into multimedia or web titles for various delivery systems. Emphasizes compression issues, sampling, synchronizing, and resource management.

## ARTV 1345 3-D MODELING AND RENDERING I
**Prerequisite: ARTC 1302 or Department Approval**
**Credit: 3 (2 lecture, 4 lab)**
Techniques of three-dimensional (3-D) modeling utilizing appropriate software. Includes the creation and modification of 3-D geometric shapes, use of a variety of rendering techniques, camera light sources, texture, and surface mapping.

## ARTV 1351 DIGITAL VIDEO
**Prerequisite: IMED 1301**
**Credit: 3 (2 lecture, 4 lab)**
Producing and editing video and sound for multimedia or web productions. Emphasizes capture, editing, and outputting of video using a desktop digital video workstation.

### ARTV 2301 2-D ANIMATION I (FLASH)

**Prerequisites: IMED 1316, IMED 1341, ITSE 2313, or Department Approval**
**Credit: 3 (2 lecture, 4 lab)**
Skill development in the use of software to develop storyboards and two-dimensional animation including creating, importing, and sequencing media elements to create multimedia presentation. Emphasis on conceptualization, creativity, and visual aesthetics.

### ARTV 2330 2-D ANIMATION II

**Prerequisite: ARTV 2301**
**Credit: 3 (2 lecture, 4 lab)**
Technical aspects of traditional animation. Emphasizes aesthetic design and completion of an advanced animation project. Includes application of advanced skills and knowledge.

### ARTV 2341 ADVANCED DIGITAL VIDEO

**Prerequisite: ARTV 1351**
**Credit: 3 (2 lecture, 4 lab)**
Advanced digital video techniques for post-production. Emphasizes generation and integration of special effects, 2-D animation and 3-D animation for film, video, CD-ROM, and the Internet. Exploration of new and emerging compression and video streaming technologies.

### ARTV 2351 3-D ANIMATION II

**Prerequisite: ARTV 1341,1345**
**Credit: 3 (2 lecture, 4 lab)**
Skill development in three-dimensional modeling and rendering techniques using lighting, staging, and special effects for digital output. Emphasis on the production of three-dimensional (3-D) animation as final digital outputting using modeling, rendering and animation software.

### ASTR 1303 STARS AND GALAXIES

**Prerequisites: Must be placed into GUST 0341 (or higher) in reading and placed into Math 0312 (or take Math 0308 as a co-requisite).**
**Credit: 3 (3 lecture)**
An introduction to the present cosmological theories about the structure and evolution of the universe. A comparison with previous models since antiquity. A study of the celestial sphere and the constellations, the motions in the sky. A study of gravity, light, radiation, optics, telescopes and spacecraft. A survey of the stars, clusters, galaxies, superclusters, their properties, structure and evolution. Core curriculum course.

### ASTR 1304 SOLAR SYSTEM ASTRONOMY

**Prerequisites: Must be placed into GUST 0341 (or higher) in reading and placed into Math 0312 (or take Math 0308 as a co-requisite).**
**Credit: 3 (3 lecture)**
An introduction to present theories about the structure and evolution of the solar system, compared to other models and theories since antiquity. A survey of the Sun, planets, moons, rings, asteroids, comets and debris in our solar system. The possibility of life in the Universe. Core curriculum course.

### ASTR 1403 STARS AND GALAXIES

**Prerequisites: Must be placed into GUST 0341 (or higher) in reading and placed into Math 0312 (or take Math 0308 as a co-requisite).**
**Credit: 4 (3 lecture, 3 lab)**
An introduction to the present cosmological theories about the structure and evolution of the universe. A comparison with previous models since antiquity. A study of the celestial sphere and the constellations, the motions in the sky. A study of gravity, light, radiation, optics, telescopes and spacecraft. A survey of the stars, clusters, galaxies, superclusters, their properties, structure and evolution. Laboratory includes an introduction to observational techniques using telescopes, in-class projects/exercises on spectroscopy, stellar positions, solar heating, planetary motions, solar and astrophotography, star clusters, galaxies, and cosmology. Core curriculum course.

### ASTR 1404 SOLAR SYSTEM ASTRONOMY

**Prerequisites: Must be placed into GUST 0341 (or higher) in reading and placed into Math 0312 (or take Math 0308 as a co-requisite).**
**Credit: 4 (3 lecture, 3 lab)**
An introduction to present theories about the structure and evolution of the solar system, compared to other models and theories since antiquity. A survey of the Sun, planets, moons, rings, asteroids, comets and debris in our solar system. The possibility of life in the Universe. Laboratory topics include planetary, lunar and solar observations with telescopes and/or the naked eye; measurements of the gravitational constant, gravitational acceleration and the speed of light; analysis of spectra and spacecraft images; and impact cratering simulations. Core curriculum course.

### AUMT 1305 INTRODUCTION TO AUTOMOTIVE TECHNOLOGY

**Credit: 3 (2 lecture, 4 lab)**
An introduction to the automotive industry including automotive history, safety practices, shop equipment and tools, vehicle subsystems, service publications, fasteners, professional responsibilities, and automotive maintenance. May be taught manufacturer specific.

### AUMT 1306 AUTOMOTIVE ENGINE REMOVAL AND INSTALLATION

**Credit: 3 (2 lecture, 4 lab)**
Fundamentals of engine inspection, removal and installation procedures. May be taught manufacturer specific.

### AUMT 1307 AUTOMOTIVE ELECTRICAL SYSTEMS

**Credit: 3 (2 lecture, 4 lab)**
An overview of automotive electrical systems including topics in operational theory, testing, diagnosis, and repair of batteries, charging and starting systems, and electrical accessories. Emphasis on electrical schematic diagrams and service manuals. May be taught manufacturer specific.

### AUMT 1310 AUTOMOTIVE BRAKE SYSTEMS

**Credit: 3 (2 lecture, 4 lab)**
Operation and repair of drum/disc type brake systems. Emphasis on safe use of modern equipment. Topics include brake theory, diagnosis, and repair of power, manual, anti-lock brake systems, and parking brakes. May be taught with manufacturer specific instructions.

### AUMT 1316 AUTOMOTIVE SUSPENSION AND STEERING SYSTEMS

**Credit: 3 (2 lecture, 4 lab)**
A study of automotive suspension and steering systems including tire and wheel problem diagnosis, component repair, and alignment procedures. May be taught manufacturer specific.

### AUMT 1319 AUTOMOTIVE ENGINE REPAIR

**Credit: 3 (2 lecture, 4 llab)**
Fundamentals of engine operation, diagnosis and repair including lubrication systems and cooling systems. Emphasis on overhaul of selected engines, identification and inspection, measurements, and disassembly, repair, and reassembly of the engine. May be taught manufacturer specific.

### AUMT 1345 AUTOMOTIVE HEATING AND AIR CONDITIONING

**Credit: 3 (2 lecture, 4 lab)**
Theory of automotive air conditioning and heating systems. Emphasis on the basic refrigeration cycle and diagnosis and repair of system malfunctions. Covers EPA guidelines for refrigerant handling and new refrigerant replacements. May be taught manufacturer specific.

### AUMT 1380 COOPERATIVE EDUCATION-AUTOMOBILE/ AUTOMOTIVE MECHANICS TECHNOLOGY/TECHNICIAN

**Prerequisite: Department Approval**
**Credit: 3 (1 lecture, 20 lab)**
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

### AUMT 2209 AUTOMOTIVE DRIVE TRAIN AND AXLE THEORY

**Credit: 2 (2 lecture, 1 lab)**
A study of automotive clutches, clutch operation devices, manual transmissions/transaxles, and differentials. Emphasis on theory and diagnosis of transmission/transaxle and drive line components.

### AUMT 2223 THEORY OF AUTOMATIC TRANSMISSION AND TRANSAXLE

**Credit: 2 (2 lecture, 1 lab)**
Theory of operation, hydraulic principles, and related circuits of modern automatic transmissions and transaxles. Discussion of diagnosing and repair techniques.

## AUMT 2313 AUTOMOTIVE DRIVE TRAIN AND AXLES

**Credit: 3 (2 lecture, 4 lab)**

A study of automotive clutches, clutch operation devices, manual transmissions/ transaxles, and differentials with emphasis on the diagnosis and repair of transmissions/transaxles and drive lines. May be taught with manufacturer specific instructions.

## AUMT 2317 ENGINE PERFORMANCE ANALYSIS I

**Credit: 3 (2 lecture, 4 lab)**

Theory, operation, diagnosis, and repair of basic engine dynamics, ignition systems, and fuel delivery systems. Use of basic engine performance diagnostic equipment. May be taught manufacturer specific.

## AUMT 2321 AUTOMOTIVE ELECTRICAL LIGHTING AND ACCESSORIES

**Credit: 3 (2 lecture, 4 lab)**

Repair of automotive electrical subsystems, lighting, instrumentation, and accessories. Emphasis on accurate diagnosis and proper repair methods using various troubleshooting skills and techniques. May be taught manufacturer specific.

## AUMT 2325 AUTOMATIC TRANSMISSION AND TRANSAXLE

**Credit: 3 (2 lecture, 4 lab)**

A study of the operation, hydraulic principles, and related circuits of modern automatic transmissions and automatic transaxles. Diagnosis, disassembly, and assembly procedures with emphasis on the use of special tools and proper repair techniques. May be taught manufacturer specific.

## AUMT 2328 AUTOMOTIVE SERVICE

**Credit: 3 (2 lecture, 4 lab)**

Mastery of automotive vehicle service and component systems repair. Emphasis on mastering current automotive competencies covered in related courses. May be taught manufacturer specific.

## AUMT 2334 ENGINE PERFORMANCE ANALYSIS II

**Credit: 3 (2 lecture, 4 lab)**

Diagnosis and repair of emission systems, computerized engine performance systems, and advanced ignition and fuel systems; and proper use of advanced engine performance diagnostic equipment. May be taught manufacturer specific.

## AUMT 2437 AUTOMOTIVE ELECTRONICS

**Credit: 4 (2 lecture, 4 lab)**

Topics address electrical principles, semiconductor and integrated circuits, digital fundamentals, microcomputer systems, and electrical test equipment as applied to automotive technology. May be taught manufacturer specific.

## AUMT 2455 AUTOMOTIVE ENGINE MACHINING

**Credit: 4 (2 lecture, 4 lab)**

In-depth coverage of precision engine rebuilding, cylinder reconditioning, and crack repair. Instruction in machines and equipment necessary to complete an engine repair. May be taught with manufacturer specific instructions.

## BCIS 1405 BUSINESS COMPUTER APPLICATION

**Prerequisite: Must be at college-level skills in reading, writing, and mathematics (i.e. no remediation needed) and have had high school computer literacy or equivalent.**

**Credit: 4 (3 lecture, 3 lab)**

Computer terminology, hardware, software, operating systems, and information systems relating to the business environment. The main focus of this course is on business applications of software, including word processing, spreadsheets, databases, presentation graphics, and business-oriented utilization of the Internet.

## BIOL 1108 INTRODUCTORY BIOLOGY LABORATORY I

**Prerequisite/Corequisite: BIOL 1308**

**Credit: 1 (3 lab)**

Selected laboratory experiments related to topics in BIOL 1308 (Introductory Biology I) for non-majors.

## BIOL 1109 INTRODUCTORY BIOLOGY LABORATORY II

**Prerequisite/Corequisite: BIOL 1309**

**Credit: 1 (3 lab)**

Selected laboratory experiments related to topics in BIOL 1309 (Introductory Biology I) for non-majors.

## BIOL 1308 INTRODUCTORY BIOLOGY I

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 3 (3 lecture)**

Topics include basic chemistry, cell morphology and physiology, photosynthesis and respiration, cell division, and classical and molecular genetics. Core Curriculum Course. Note: Only one of BIOL 1308 or BIOL 1406 can be used toward associate degree natural science requirements. Only one of the two will count as Natural Science core; the other may count as an elective in the degree plan.

## BIOL 1309 INTRODUCTORY BIOLOGY II

**Prerequisite: BIOL 1308, Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 3 (3 lecture)**

Topics include evolution, classification and ecological relationships, and organ systems of animals and plants. Core Curriculum Course. Note: Only one of BIOL 1309 or BIOL 1407 can be used toward associate degree natural science requirements. Only one of the two will count as Natural Science core; the other may count as an elective in the degree plan.

## BIOL 1322 BASIC NUTRITION

**Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit: 3 (3 lecture)**

A course designed to teach the fundamentals of nutrition based on basic nutrition principles. Scientific standard recommendations of levels of nutrient intake for a healthy population are discussed. Sources and functions of carbohydrates, proteins, fats, vitamins and minerals are also studied. (cross listed with HECO 1322). Core curriculum course

## BIOL 1406 GENERAL BIOLOGY I

**Prerequisite: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit: 4 (3 lecture, 3 lab)**

Discussions focus on biological chemistry, biological processes, cellular morphology, metabolism, genetics and molecular biology. Note: Only one of BIOL 1308 or BIOL 1406 can be used toward associate degree natural science requirements. Only one of the two will count as Natural Science core; the other may count as an elective in the degree plan.

## BIOL 1407 GENERAL BIOLOGY II

**Prerequisite: BIOL 1406, Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit: 4 (3 lecture, 3 lab)**

Topics include evolution, classification and ecological relationships, and organ systems of animals and plants. Core Curriculum Course. Note: Only one of BIOL 1309 or BIOL 1407 can be used toward associate degree natural science requirements. Only one of the two will count as Natural Science core; the other may count as an elective in the degree plan.

## BIOL 1411 GENERAL BOTANY

**Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit: 4 (3 lecture, 3 lab)**

Plant science including survey of the plant kingdom, photosynthesis, respiration, anatomy, reproduction, ecology, and vascular plant taxonomy. Core Curriculum Course.

## BIOL 1413 GENERAL ZOOLOGY

**Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit: 4 (3 lecture, 3 lab)**

A general overview of the animal kingdom including principles, life histories, and classification. Emphasis is placed on the vertebrates. Core Curriculum Course.

## BIOL 2401 ANATOMY AND PHYSIOLOGY I

**Prerequisites: While BIOL 1406 is not a required prerequisite for 2401, 1406 is highly recommended for success in 2401. Also, must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).Credit: 4 (3 lecture, 3 lab)**

Study of the structure and function of human cells, tissues, and organ systems including integumentary skeletal, muscular, and nervous systems. Core Curriculum Course.

## BIOL 2402 ANATOMY AND PHYSIOLOGY II

**Prerequisite: BIOL 2401**
**Credit: 4 (3 lecture, 3 lab)**

Continuation of BIOL 2401 including the circulatory, respiratory, digestive, excretory, reproductive and endocrine systems. Core Curriculum Course.

## BIOL 2406 ENVIRONMENTAL BIOLOGY

**Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**
**Credit: 4 (3 lecture, 3 lab)**

Human interaction with and effect upon plant and animal communities. Conservation, pollution, energy, and other contemporary ecological problems. Core Curriculum Course.

## BIOL 2416 GENETICS

**Prerequisite: BIOL 1406; Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**
**Credit: 4 (3 lecture, 3 lab)**

Study of the principles of molecular and classical genetics and the function and transmission of hereditary material. May include population genetics and genetic engineering. Core curriculum course.

## BIOL 2420 MICROBIOLOGY

**Prerequisite: BIOL 1406; Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**
**Credit: 4 (3 lecture, 3 lab)**

Study of microorganisms including morphology, metabolism, taxonomy, culture techniques, microbial genetics, immunology, bacteriology, virology, mycology, parasitology, and diseases. Core Curriculum Course.

## BIOL 2428 COMPARATIVE ANATOMY

**Prerequisite: BIOL 1407; Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**
**Credit: 4 (3 lecture, 3 lab)**

Comparative studies of the evolution of the vertebrate body including morphology, physiology, embryology, taxonomy, and paleontology. Core Curriculum Course.

## BIOM 1309 APPLIED BIOMEDICAL EQUIPMENT TECHNOLOGY

**Prerequisite: CETT 1429, CETT 1425**
**Credit: 3 (2 lecture, 3 lab)**

Introduction to biomedical instrumentation as related to anatomy and physiology. Detailed coverage of anatomical systems that use medical equipment for monitoring, diagnosis, and treatment.

## BIOM 2331 BIOMEDICAL CLINICAL INSTRUMENTATION

**Prerequisites: CETT 1429, CETT 1425, BIOM 1309**
**Credit: 3 (2 lecture, 3 lab)**

A study of theory, application, and principles of operation of instruments commonly used in a medical laboratory.

## BIOM 2489 INTERNSHIP-BIOMEDICAL TECHNOLOGY/TECHNICIAN

**Prerequisite: 30 credit hours of CETT courses and Department Approval**
**Credit: 4 (1 lecture, 19 lab)**

A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

## BITC 1311 INTRODUCTION TO BIOTECHNOLOGY

**Credit: 3 (3 lecture)**

An introduction to biotechnology including career exploration, history and applications of DNA/RNA technology, molecular biology, bioethics, and laboratory safety practices.

## BITC 1370 INTRODUCTION TO BIOCHEMISTRY

**Credit: 3 (3 lecture)**

The study of the knowledge of the structure, function, and cellular metabolism of various biomolecules. The course will deal with the intra- and intermolecular conversion of biomolecules. Knowledge in this area is directly applicable to the fields of analysis and processing of biomolecules and their pertenence to biotechnology as it relates to biopharmaceuticals, biodianostics, fermentation, and bio-manufactureing.

## BITC 1402 BIOTECHNOLOGY LABORATORY METHODS AND TECHNIQUES

**Prerequisite/Corequisite: BITC 1311**
**Credit: 4 (3 lecture, 3 lab)**

A study of laboratory operations, management, equipment, instrumentation, quality control techniques, and safety procedures. Laboratory practice using pH meters, mixing buffers, performing measurements, preparing solutions, and performing separatory techniques.

## BITC 1445 MEDICAL BIOTECHNOLOGY

**Prerequisite: BTC 1401 and BITC 1402**
**Credit: 4 (2 lecture, 4 lab)**

This is an advanced course designed to impart biotechnology education in the area of molecular medicine. The course will emphasize molecular mechanisms underlying diseases like diabetes, cancer, inflammation, heart disease, AIDS, etc., and the applications of biotechnological tools in their diagnosis and therapeutic intervention. Students will study molecular actions of drugs on various cell functions, drug-discovery assay methodologies, and molecular toxicology.

## BITC 1491 SPECIAL TOPICS IN BIOLOGICAL TECHNOLOGY/TECHNICIAN

**Prerequisite: BITC 1402 or Department Approval**
**Credit: 4 (3 lecture, 3 lab)**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

## BITC 2386 INTERNSHIP - BIOLOGY TECHNICIAN/BIOTECHNOLOGY LABORATORY TECHNICIAN

**Prerequisite: BITC 1402 and Department Approval**
**Credit: 3 (1 lecture, 20 lab)**

A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

## BITC 2411 BIOTECHNOLOGY LABORATORY INSTRUMENTATION

**Prerequisite: BITC 1402**
**Credit: 4 (3 lecture, 3 lab)**

Presentation of theory, applications, and operation of various analytical instruments. Practice of separation and identification techniques including electrophoresis, spectrophotometry, chromatography, and centrifugation.

## BITC 2431 CELL CULTURE TECHNIQUES

**Prerequisite: BITC 1402**
**Credit: 4 (3 lecture, 3 lab)**

A study of cell techniques. Laboratory emphasis on the principles and practices of initiation, cultivation, maintenance, preservation of cell lines and applications.

## BITC 2441 MOLECULAR BIOLOGY TECHNIQUES

**Prerequisite: BITC 2411, or Department Approval**
**Credit: 4 (3 lecture, 3 lab)**

In depth coverage of the theory and laboratory techniques in molecular biology with an emphasis on gene expression and regulation, recombinant DNA, and nucleic acids.

## BITC 2472 IMMUNOLOGICAL METHODS AND TECHNIQUES

**Prerequisite: BITC 1402**
**Credit: 4 (3 lecture, 3 lab)**

Study of the principles and practices of modern immunology including the interactions among the various cellular and chemical components of immune response. Emphasis on the techniques used in the biotechnology industry involved in manufacturing of immunotherapeutic agents and biopharmaceuticals. Knowledge in this area is directly applicable to the fields of biopharmaceuticals, bio-diagnostics, fermentation and bio manufacturing.

## BMGT 1301 SUPERVISION
**Credit: 3 (3 lecture)**
A study of the role of the supervisor. Managerial functions as applied to leadership, counseling, motivation, and human skills are examined.

## BMGT 1303 PRINCIPLES OF MANAGEMENT
**Credit: 3 (3 lecture)**
Concepts, terminology, principles, theories, and issues in the field of management.

## BMGT 1313 PRINCIPLES OF PURCHASING
**Credit: 3 (3 lecture)**
The purchasing process as it relates to such topics as inventory control, price determination, vendor selection, negotiation techniques, and ethical issues.

## BMGT 1323 PURCHASING
**Credit: 3 (3 lecture)**
A study of the purchasing process and the basis of sound purchasing decisions; materials management; selection and evaluation of suppliers/vendors; price, quality, and value determinants; and issues that require legal or ethical consideration.

## BMGT 1325 OFFICE MANAGEMENT
**Credit: 3 (3 lecture)**
Systems, procedures, and practices related to organizing and planning office work, controlling employees' performance, and exercising leadership skills.

## BMGT 1331 PRODUCTION AND OPERATIONS MANAGEMENT
**Credit: 3 (3 lecture)**
Fundamentals of the various techniques used in the practice of production management to include location, design, and resource allocation.

## BMGT 1391 INTRODUCTION TO HUMAN RESOURCES/PEOPLESOFT APPLICATIONS
**Prerequisites: POFI 1301 and POFT 1329**
**Credit: 3 (2 lecture, 3 lab)**
**(Computer Lab required)**
A hands-on overview of the major areas of human resources/PeopleSoft as illustrated by PeopleSoft software applications. Some topics will cover accessing PeopleSoft, navigating the PeopleSoft interface, understanding PeopleSoft panels, using PeopleSoft panels, and creating queries.

## BMGT 1394 INTERMEDIATE HUMAN RESOURCES/PEOPLESOFT APPLICATIONS
**Prerequisite: BMGT 1391**
**Credit: 3 (2 lecture, 3 lab)**
**(Computer Lab required)**
A continuation of Introduction to Human Resources/ PeopleSoft with intermediate PeopleSoft software applications. Additional topics will include: understanding PeopleSoft Processes, PeopleSoft HRMS (Human Resource Management Systems), PeopleSoft HRMS modules, and advanced query topics.

## BMGT 2305 ADVANCED COMMUNICATION IN MANAGEMENT/PEOPLESOFT APPLICATIONS (TEAM WORK AND CASE STUDIES)
**Prerequisite: BMGT 1394**
**Credit: 3 (2 lecture, 2 lab)**
**(Computer Lab required)**
Putting it all together/PeopleSoft: group projects, team applications, and implementation of results.

## BMGT 2310 FINANCIAL MANAGEMENT/PEOPLESOFT APPLICATIONS
**Prerequisite: BMGT 1394**
**Credit: 3 (2 lecture, 3 lab)**
**(Computer Lab required)**
Integration of Financial Management PeopleSoft into Human Resource functions, such as payroll, budgets, and benefits and administration.

## BMGT 2331 TOTAL QUALITY MANAGEMENT/PEOPLESOFT APPLICATIONS
**Prerequisite: BMGT 2310**
**Credit: 3 (2 lecture, 3 lab)**
**(Computer Lab required)**
Quality of productivity in organizations using PeopleSoft Applications. Includes planning for quality PeopleSoft reports, implementation of reports, development of reports for business decision-making. Additional topics will include accessing and setting up queries, aggregating totals, using SQR with PeopleSoft, and reporting tables.

## BNKG 1303 PRINCIPLES OF BANK OPERATION
**Credit: 3 (3 lecture)**
Overview of the fundamental banking functions and the role of regulation in the banking industry. Explanation of financial products and services to various markets.

## BNKG 1305 TELLER TRAINING
**Credit: 3 (3 lecture)**
Application of the functions related to negotiable instruments, cash control, handling money, and balancing. Explanation of compliance and regulation issues affecting bank tellers.

## BNKG 1340 MONEY AND BANKING
**Credit: 3 (3 lecture)**
Monetary policy and its related effects on financial intermediaries. Includes financial markets, regulatory functions, and structures. Addresses investment and funds management.

## BNKG 1345 CONSUMER LENDING
**Credit: 3 (3 lecture)**
A study of the different types of consumer loans. Identify the federal regulations and state laws pertaining to collection and serving of a consumer loan and relate consumer credit to the lending process.

## BNKG 1349 COMMERCIAL LENDING
**Credit: 3 (3 lecture)**
Overview of the commercial lending market and process with an emphasis on credit analysis, evaluation, federal regulation, and state laws related to business and industrial lending.

## BNKG 1351 SELLING BANK PRODUCTS AND SERVICES
**Credit: 3 (3 lecture)**
Characteristics and benefits of bank products and services. Emphasis on the personal selling process and quality customer service. Application of personal selling, cross-selling, and related product benefits to individual customer needs.

## BNKG 1353 MORTGAGE LENDING
**Credit: 3 (3 lecture)**
Overview of the mortgage lending market and process with an emphasis on documentation, credit evaluation, federal regulation, and state laws related to mortgage loans.

## BNKG 1356 ANALYZING FINANCIAL STATEMENTS I
**Prerequisite: ACCT 2301**
**Credit: 3 (3 lecture)**
A study of the process of evaluating financial statements, cash flow, and ratio analysis of individuals and businesses with an emphasis on the relationship of comparative analysis and industry standards.

## BNKG 1357 INVESTOR ACCOUNTING
**Prerequisite: ACCT 2301**
**Credit: 3 (3 lecture)**
An introduction to accounting and investor reporting functions that relate to the financial aspects of servicing mortgages that are in the first or second position. Topics include custodial and remittance accounting methods, reporting procedures, and rules for establishment of a custodial account.

## BNKG 1373 TELLER TRAINING LAB
**Prerequisite: BNKG 1305**
**Credit: 3 (3 lecture)**
An alternate continuation of BNKG 1305 Teller Training, this course affords the student practical, hands-on experience in paying and receiving teller operations. Students develop skills such as cash handling, cash drawer setup, maintenance, security and daily balancing, processing of basic paying and receiving customer transactions, quoting funds availability, implementing security precautions, operating ten-key terminal, and using automated teller machines via daily practice in a lab setting.

## BNKG 2374 FINANCIAL BUSINESS ADMINISTRATION
**Prerequisite: BNKG 1340**
**Credit: 3 (3 lecture)**
Course emphasizes the managerial responsibility of coordinating the many facets of a financial institution. The course covers administration in a regulatory environment, portfolio mix, and the various changes that are happening in this fast paced industry. Special attention is placed on investment areas in which customers are allowed to participate, which banks must have a working knowledge of but are not allowed to invest in.

## BNKG 2380 COOPERATIVE EDUCATION - BANKING AND FINANCIAL SUPPORT SERVICES

**Prerequisite: Department Approval**
**Credit: 3 (1 lecture, 20 lab)**
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## BNKG 2381 COOPERATIVE EDUCATION - BANKING AND FINANCIAL SUPPORT SERVICES

**Prerequisite: Department Approval**
**Credit: 3 (1 lecture, 20 lab)**
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## BUSG 1301 INTRODUCTION TO BUSINESS

**Credit: 3 (3 lecture)**
Fundamental business principles including structure, functions, resources, and operational processes.

## BUSG 1303 PRINCIPLES OF FINANCE

**Credit: 3 (3 lecture)**
Financial dynamics of a business. Includes monetary and credit theory, cash inventory, capital management, and consumer and government finance. Emphasizes the time value of money.

## BUSG 1370 PERSONAL FINANCIAL PLANNING

**Credit: 3 (3 lecture)**
An exploration of financial planning that emphasizes topics of personal interest but also have application to business financial planning topics. Topics include budgeting, bank accounts and account reconciliation, individual retirement accounts, loans, investments, debt management, real estate, insurance, wills, trusts, and taxes.

## BUSG 1371 PRINCIPLES OF SECURITIES OPERATIONS

**Credit: 3 (3 lecture)**
An overview of the fundamental functions and the role of regulation in the securities industry. Explanation of securities products and services to a variety of markets.

## BUSG 1372 COMMUNICATIONS FOR SECURITIES PROFESSIONALS

**Credit: 3 (3 lecture)**
An overview of the fundamental functions and the role of regulation in the securities industry. Explanation of securities products and services to a variety of markets.

## BUSG 1391 SPECIAL TOPICS IN BUSINESS, GENERAL

**Credit: 3 (3 lecture)**
Topic addresses recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

## BUSG 2305 BUSINESS LAW/CONTRACTS

**Credit: 3 (3 lecture)**
Principles of law which form the legal framework for business activity including applicable statutes, contracts, and agency.

## BUSG 2309 SMALL BUSINESS MANAGEMENT

**Credit: 3 (3 lecture)**
A course on how to start and operate a small business. Topics include facts about a small business, essential management skills, how to prepare a business plan, financial needs, marketing strategies, and legal issues.

## BUSG 2317 BUSINESS LAW/COMMERCIAL

**Credit: 3 (3 lecture)**
The relationship of law and business as they relate to commercial transactions.

## BUSG 2380 COOPERATIVE EDUCATION - BUSINESS/COMMERCE, GENERAL

**Prerequisite: Department Approval**
**Credit: 3 (1 lecture, 20 lab)**
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## BUSG 2381 COOPERATIVE EDUCATION - BUSINESS/COMMERCE, GENERAL

**Prerequisite: Department Approval**
**Credit: 3 (1 lecture, 20 lab)**
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## CDEC 1195 SPECIAL TOPICS IN CHILD CARE PROVIDER/ASSISTANT

**Credit: 1 (1 lecture)**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## CDEC 1303 - SEE TECA 1303
## CDEC 1311 - SEE TECA 1311

## CDEC 1313 CURRICULUM RESOURCES FOR EARLY CHILDHOOD PROGRAMS

**Credit: 3 (2 lecture, 3 lab)**
A study of the fundamentals of curriculum design and implementation in developmentally appropriate programs for children.

## CDEC 1317 CHILD DEVELOPMENT ASSOCIATE TRAINING I

**Credit: 3 (2 lecture, 2 lab)**
Based on the requirements for the Child Development Associate National Credential (CDA). Topics on CDA overview, general observational skills, and child growth and development overview. The four functional areas of study are creative, cognition, physical and communication.

## CDEC 1318 - SEE TECA 1318
## CDEC 1319 CHILD GUIDANCE

**Credit: 3 (2 lecture, 2 lab)**
An exploration of guidance strategies for promoting prosocial behaviors with individual and groups of children. Emphasis on positive guidance principles and techniques, family involvement, and cultural influences. Practical application through direct participation with children.

## CDEC 1321 THE INFANT AND TODDLER

**Credit: 3 (2 lecture, 3 lab)**
A study of appropriate infant and toddler (birth to 3), including an overview of development, quality care giving routines, appropriate environments, materials and activities, and teaching/guidance techniques.

## CDEC 1323 OBSERVATION AND ASSESSMENT

**Credit: 3 (3 lecture)**
A study of observation skills, assessment techniques, and documentation of children's development.

## CDEC 1354 - SEE TECA 1354

## CDEC 1356 EMERGENT LITERACY FOR EARLY CHILDHOOD

**Credit: 3 (2 lecture, 3 lab)**
An exploration of principles, methods, and materials for teaching young children language and literacy through a play-based, integrated curriculum.

## CDEC 1358 CREATIVE ARTS FOR EARLY CHILDHOOD

**Credit: 3 (2 lecture, 3 lab)**
An exploration of principles, methods, and materials for teaching young children music, movement, visual arts and dramatic play through process-oriented experiences to support divergent thinking.

## CDEC 1359 CHILDREN WITH SPECIAL NEEDS

**Credit: 3 (2 lecture, 2 lab)**
A survey of information regarding children with special needs including possible causes and characteristics of exceptionality, educational intervention, available resources, referral processes, the advocacy role and legislative issues.

## CDEC 1391 SPECIAL TOPICS IN FAMILY LIFE AND RELATIONS STUDIES

**Credit: 3 (3 lecture)**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## CDEC 1393 SPECIAL TOPICS IN FAMILY LIVING AND PARENTHOOD

**Credit: 3 (3 lecture)**

Topics address recently identified current events, skills, knowledge and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

## CDEC 1394 SPECIAL TOPICS IN CHILD CARE PROVIDER/ASSISTANT

**Credit: 3 (3 lecture)**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## CDEC 2186 INTERNSHIP - CHILD CARE PROVIDER/ASSISTANT

**Prerequisite: Department Approval**
**Credit: 1 (6 lab)**

A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

## CDEC 2280 COOPERATIVE EDUCATION - EARLY CHILDHOOD PROVIDER/ASSISTANT

**Prerequisite: Department Approval**
**Credit: 2 (1 lecture, 10 lab)**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## CDEC 2307 MATH AND SCIENCE FOR EARLY CHILDHOOD

**Credit: 3 (2 lecture, 3 lab)**

An exploration of principles, methods, and materials for teaching children math and science concepts and process skills through discovery and play.

## CDEC 2322 CHILD DEVELOPMENT ASSOCIATE TRAINING

**Credit: 3 (2 lecture, 2 lab)**

A continuation of the study of the requirements for the Child Development Associate National Credential (CDA). The six functional areas of study include safe, healthy, learning environment, self, social, and guidance.

## CDEC 2324 CHILD DEVELOPMENT ASSOCIATE TRAINING III

**Credit: 3 (2 lecture, 2 lab)**

A continuation of the requirements for the Child Development Associate National Credential (CDA). Three of the 13 functional areas of study include family, program management, and professionalism.

## CDEC 2326 ADMINISTRATION OF PROGRAMS FOR CHILDREN I

**Credit: 3 (3 lecture)**

Application of management procedures for early child care education programs. Includes planning, operating, supervising, and evaluating programs. Topics cover philosophy, types of programs, policies, fiscal management, regulations, staffing, evaluation, and communication.

## CDEC 2328 ADMINISTRATION OF PROGRAMS FOR CHILDREN II

**Prerequisite: CDEC 2326**
**Credit: 3 (3 lecture)**

An in-depth study of the skills and techniques in managing early care and education programs, including legal and ethical issues, personal management, team building, leadership, conflict resolution, stress management advocacy, professionalism, fiscal analysis and planning parent education/partnerships, and technical applications in programs.

## CDEC 2341 THE SCHOOL AGE CHILD

**Credit: 3 (2 lecture, 3 lab)**

A study of appropriate programs for the school age child (5 to 13 years), including an overview of development, appropriate environments, materials, and activities and teaching/guidance techniques.

## CDEC 2380 COOPERATIVE EDUCATION - EARLY CHILDHOOD PROVIDER/ASSISTANT

**Prerequisite: Department Approval**
**Credit: 3 (1 lecture, 15 lab)**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## CETT 1321 ELECTRONIC FABRICATION

**Credit: 3 (2 Lecture, 4 Lab)**

A study of electronic circuit fabrication techniques including printed circuit boards, wire wrapping, bread boarding, and various soldering techniques.

## CETT 1331 TECHNICAL PROGRAMMING

**Prerequisite: MATH 0312 or Department Approval**
**Credit: 3 (2 lecture, 4 lab)**

Introduction to a high level programming language such as VISUAL BASIC, PASCAL, or "C." Topics include structured programming and problem solving for technical applications. The student will demonstrate knowledge of programming methods by developing and executing programs that solve technical problems.

## CETT 1403 DC CIRCUITS

**Prerequisite: MATH 0312 or equivalent test score**
**Credit: 4 (3 lecture, 3 lab)**

A study of the fundamentals of direct current including Ohm's law, Kirchoff's laws and circuit analysis techniques. Emphasis on circuit analysis of resistive networks and DC measurements. The student will analyze DC circuits from the simple to the complex; construct and make measurements of DC circuits from the simple to the complex; memorize the resistor color code; and identify a resistor by its electronic symbol.

## CETT 1405 AC CIRCUITS

**Prerequisite: CETT 1403**
**Corequisite: MATH 1316**
**Credit: 4 (3 lecture, 3 lab)**

A study of the fundamentals of alternating current including series and parallel AC circuits, phasors, capacitive and inductive networks, transformers, and resonance; introduction to filters.

## CETT 1409 DC-AC CIRCUITS

**Credit: 4 (2 lecture, 4 lab)**

Fundamentals of DC circuits and AC circuits operation including Ohm's law, Kirchoff's laws, networks, transformers, resonance, phasors, capacitive and inductive and circuit analysis techniques.

## CETT 1415 DIGITAL APPLICATIONS

**Credit: 4 (3 lecture, 2 lab)**

An investigation of combinational and sequential logic elements and circuits with emphasis on design and troubleshooting of combinational and sequential circuits.

## CETT 1425 DIGITAL FUNDAMENTALS

**Corequisite: CETT 1403 or Department Approval**
**Credit: 4 (3 lecture, 3 lab)**

An entry level course in digital electronics covering number systems, binary mathematics, digital codes, logic gates, Boolean algebra, Karnaugh maps, and combinational logic. Emphasis on circuit logic analysis and troubleshooting digital circuits including counters, registers, code converters, and multiplexers.

## CETT 1429 SOLID STATE DEVICES

**Prerequisite/Corequisite: CETT 1405**
**Credit: 4 (3 lecture, 3 lab)**

A study of diodes and bipolar semiconductor devices, including analysis of static and dynamic characteristics, biasing-techniques, and thermal considerations of solid state devices.

## CETT 1441 SOLID STATE CIRCUITS

**Prerequisite: CETT 1429 or Department Approval**
**Credit: 4 (3 lecture, 2 lab)**

Study of various semiconductor devices incorporated in circuits and their applications. Emphasizes circuit construction, measurements and analysis.

## CETT 1445 MICROPROCESSOR

**Prerequisite: CETT 1425 or Department Approval**
**Credit: 4 (3 lecture, 3 lab)**

An introductory course in microprocessor software and hardware, its architecture, timing sequence, operation, and programming, and discussion of appropriate software diagnostic language and tools.

## CETT 1449 DIGITAL SYSTEMS

**Prerequisite: Department Approval**
**Credit: 4 (3 lecture, 2 lab)**

A course in electronics covering digital systems. Emphasis on application and troubleshooting digital systems using counters, registers, code converters, multiplexers, analog-to-digital to-analog circuits, and large-scale integrated circuits.

**CETT 1457 LINEAR INTEGRATED CIRCUITS**
**Prerequisite: CETT 1429 or Department Approval**
**Credit: 4 (3 lecture, 3 lab)**
A study of the characteristics, operations, stabilization, testing, and feedback techniques of linear integrated circuits. Application in computation, measurements, instrumentation, and active filtering.

**CETT 1491 SPECIAL TOPICS IN COMPUTER ENGINEERING TECHNOLOGY/TECHNICIAN**
**Prerequisite: Department Approval**
**Credit: 4 (3 lecture, 2 lab)**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of

**CETT 2433 DIGITAL COMPUTER CIRCUITS**
**Prerequisite: Department Approval**
**Credit: 4 (3 lecture, 2 lab)**
A study of the three major component systems of a digital computer including arithmetic logic operations, RAM and ROM memory, and control. Student will explain operation of systems; construct and troubleshoot computer circuits utilizing systems; describe function of the BIOS (Basic Input Output System) and how computer knows what to address when first cold booted.

**CETT 2435 ADVANCED MICROPROCESSOR**
**Prerequisite: CETT 1425 or Department Approval**
**Credit: 4 (3 lecture, 3 lab)**
An advanced course utilizing the microprocessor in control systems and interfacing. Emphasis on microprocessor hardware and implementation of peripheral interfacing.

**CETT 2439 AMPLIFIER ANALYSIS**
**Prerequisite: Department Approval**
**Credit: 4 (3 lecture, 2 lab)**
Advanced study of electronic amplifier applications including op-amps, audio amps, video amps, and high frequency amplifiers.

**CETT 2449 RESEARCH AND PROJECT DESIGN**
**Prerequisite/Corequisite: CETT 1429 or Department Approval**
**Credit: 4 (3 lecture, 2 lab)**
Principles of electrical/electronic design encompassing schematics wiring diagrams, materials lists, operating characteristics, completion schedules, and cost estimates. The student will build a project using the principles of the electric/electronic design process, write an operations procedure, and demonstrate the operation of the project's function.

**CHEF 1191 SPECIAL TOPICS IN CULINARY ARTS/CHEF TRAINING**
**Credit: 1 (1 lecture)**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

**CHEF 1291 SPECIAL TOPICS IN CULINARY ARTS/CHEF TRAINING**
**Credit: 2 (2 lecture)**
Topics address recently identified current events, skills, knowledge's, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

**CHEF 1301 BASIC FOOD PREPARATION**
**Credit: 3 (2 lecture, 4 lab)**
A study of the fundamental principles of food preparation and cookery to include Brigade System, cooking techniques, materials handling, heat transfer, sanitation, safety, nutrition, and professionalism.

**CHEF 1302 PRINCIPLES OF HEALTHY CUISINE**
**Credit: 3 (2 lecture, 4 lab)**
Introduction to the principles of planning, preparation, and presentation of nutritionally balanced meals. Adaptation of basic cooking techniques to lower the fat and caloric content. Alternative methods and ingredients will be used to achieve a healthier cooking style.

**CHEF 1305 SANITATION AND SAFETY**
**Credit: 3 (3 lecture)**
A study of personal cleanliness; sanitary practices in food preparation; causes, investigation, control of illness caused by food contamination (Hazard Analysis Critical Control Points); and work place safety standards.

**CHEF 1310 GARDE MANGER**
**Credit: 3 (2 lecture, 4 lab)**
A study of specialty foods and garnishes. Emphasis on design, techniques, and display of fine foods.

**CHEF 1313 FOOD SERVICE OPERATION SYSTEMS I**
**Credit: 3 (3 lecture)**
An overview of the information needs of food and lodging properties. Emphasis on both front, back, and material management utilizing computer systems.

**CHEF 1314 A´ LA CARTE COOKING**
**Credit: 3 (2 lecture, 4 lab)**
A course in a la carte or "cooking to order" concepts. Topics include menu and recipe interpretation and conversion, organization of work station, employment of appropriate cooking methods, plating, and saucing principles.

**CHEF 1341 AMERICAN REGIONAL CUISINE**
**Credit: 3 (2 lecture, 4 lab)**
A study of the development of regional cuisines in the United States with emphasis on the similarities in production and service systems. Application of skills to develop, organize, and build a portfolio of recipe strategies and production systems.

**CHEF 1345 INTERNATIONAL CUISINE**
**Credit: 3 (2 lecture, 4 lab)**
The study of classical cooking skills associated with the preparation and service of international and ethnic cuisines. Topics include similarities between food production systems used in the United States and other regions of the world.

**CHEF 1364 PRACTICUM (OR FIELD EXPERIENCE) - CULINARY ARTS/ CHEF TRAINING**
**Prerequisite: Department Approval**
**Credit: 3 (21 Lab)**
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

**CHEF 1381 COOPERATIVE EDUCATION - CULINARY ARTS/ CHEF TRAINING**
**Prerequisite: Department Approval**
**Credit: 3 (1 lecture, 20 Lab)**
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

**CHEF 1391 SPECIAL TOPICS IN CULINARY ARTS/CHEF TRAINING**
**Prerequisite: Department Approval**
**Credit: 3 (2 lecture, 4 lab)**
Topics address recently identified current events, skills, knowledge's, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

**CHEF 2201 INTERMEDIATE FOOD PREPARATION**
**Credit: 2 (1 lecture, 4 lab)**
Continuation of previous food preparation course. Topics include the concept of precooked food items, as well as scratch preparation. Covers full range of food preparation techniques.

**CHEF 2231 ADVANCED FOOD PREPARATION**
**Credit: 2 (1 lecture, 4 lab)**
Topics include the concept of pre-cooked food items and the preparation of canapes, hors d'oeuvres, and breakfast items.

**CHEF 2302 SAUCIER**
**Credit: 3 (2 lecture, 4 lab)**
Instruction in the preparation of stocks, soups, classical sauces, contemporary sauces, accompaniments, and the pairing of sauces with a variety of foods.

**CHEF 2332 BUFFET THEORY AND PRODUCTION**
**Credit: 3 (2 lecture, 4 lab)**
Advanced concepts in the construction of inedible display items. Emphasis on buffet production, presentation, and service.

## CHEF 2336 CHARCUTERIE
**Credit: 3 (2 lecture, 4 lab)**
Advanced concepts in the construction of sausages, pates, and related forced meat preparations.

## CHEM 1305 INTRODUCTORY CHEMISTRY I
**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (3 lecture)**
General introduction to fundamental principles of chemistry includes atomic structure, chemical formulas, molecules, reactions, and elementary thermodynamics. This course is intended to be preparatory to CHEM 1411 for science majors who have no prior knowledge of chemistry. Core Curriculum Course. Note: Only one of CHEM 1305, CHEM 1405, and/or CHEM 1411 can be used toward associate degree natural science requirements. Only one of the three will count as Natural Science core; the others may count as electives in the degree plan.

## CHEM 1307 INTRODUCTORY CHEMISTRY II
**Prerequisite: CHEM 1305, Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (3 lecture)**
Continuation of CHEM 1305. The organic chemistry of aliphatic and aromatic hydrocarbons, oxygen and nitrogen-containing organic compounds, and biochemistry is introduced. Core Curriculum Course. Note: Only one of CHEM 1307, CHEM 1407, and/or CHEM 1412 can be used toward associate degree natural science requirements. Only one of the three will count as Natural Science core; the others may count as electives in the degree plan.

## CHEM 1405 INTRODUCTORY CHEMISTRY I
**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 4 (3 lecture, 3 lab)**
A general introduction to the properties of matter. Topics include atomic structure, energy, chemical bonding, reactions, gas laws and elementary thermodynamics. This is a preparatory course to CHEM 1411 for science majors who have no prior knowledge of chemistry. Core Curriculum Course. Note: Only one of CHEM 1305, CHEM 1405, and/or CHEM 1411 can be used toward associate degree natural science requirements. Only one of the three will count as Natural Science core; the others may count as electives in the degree plan.

## CHEM 1407 INTRODUCTORY CHEMISTRY II
**Prerequisite: CHEM 1405; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 4 (3 lecture, 1 lab)**
Continuation of CHEM 1405. The chemistry of carbon compounds. Topics include aliphatic and aromatic hydrocarbons, alcohols, ethers, aldehydes, ketones, carbolic acids, acid derivatives, amines and biochemistry is introduced. Core Curriculum Course. Note: Only one of CHEM 1307, CHEM 1407, and/or CHEM 1412 can be used toward associate degree natural science requirements. Only one of the three will count as Natural Science core; the others may count as electives in the degree plan.

## CHEM 1411 GENERAL CHEMISTRY I
**Prerequisites: One year of high school Chemistry; Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into MATH 0312 (or higher) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**
**Credit: 4 (3 lecture, 3 lab)**
Science and engineering majors study atomic structure, chemical reactions, thermodynamics, electronic configuration, chemical bonding, molecular structure, gases, states of matter, and properties of solutions. Core Curriculum Course. Note: Only one of CHEM 1305, CHEM 1405, and/or CHEM 1411 can be used toward associate degree natural science requirements. Only one of the three will count as Natural Science core; the others may count as electives in the degree plan.

## CHEM 1412 GENERAL CHEMISTRY II
**Prerequisite: CHEM 1411; ; Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into MATH 0312 (or higher) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**
**Credit: 4 (3 lecture, 3 lab)**
Continuation of CHEM 1411. Topics include solutions, chemical kinetics, equilibrium and equilibrium phenomena in aqueous solution, acids and bases, pH, thermodynamics, electrochemistry, nuclear chemistry, organic chemistry, and biochemistry. Core Curriculum Course. Note: Only one of CHEM 1307, CHEM 1407, and/or CHEM 1412 can be used toward associate degree natural science requirements. Only one of the three will count as Natural Science core; the others may count as electives in the degree plan.

## CHEM 1413 COLLEGE CHEMISTRY I
**Prerequisite: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into MATH 0312 (or higher) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**
**Credit: 4 (3 lecture, 3 lab)**
Nursing and allied health science majors study atomic structure, electron configuration, periodic law, radioactivity and its effects on living organisms, chemical bonding, molecules, gases, solutions, solution concentration, acids and bases, and buffers. Core Curriculum Course.

## CHEM 1414 COLLEGE CHEMISTRY II
**Prerequisite: CHEM 1413, Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into MATH 0312 (or higher) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**
**Credit: 4 (3 lecture, 3 lab)**
Continuation of CHEM 1413. Topics include the organic chemistry of hydrocarbons, alcohols, ethers, aldehydes, ketones, carboxylic acids, esters, amines, and amides; biochemistry topics include amino acids and proteins, enzymes, carbohydrates, and lipids. Core Curriculum Course.

## CHEM 2423 ORGANIC CHEMISTRY I
**Prerequisite: CHEM 1412, Must be placed into college-level reading and be placed into MATH 1314 (or higher) and be placed into college-level writing.**
**Credit: 4 (3 lecture, 3 lab)**
Study of compounds of carbon. Topics include alkanes, alkenes, alkynes, alcohols, alkyl halides, stereochemistry, nucleophilic substitution, reaction mechanisms and synthesis. Core Curriculum Course. Study of the properties and behavior of hydrocarbon compounds and their derivatives. Designed for students in science or pre-professional programs.

## CHEM 2425 ORGANIC CHEMISTRY II
**Prerequisite: CHEM 2423, Must be placed into college-level reading and be placed into MATH 1314 (or higher) and be placed into college-level writing.**
**Credit: 4 (3 lecture, 3 lab)**
Continuation of CHEM 2423. Topics include aromaticity, benzene and EAS reactions, aldehydes, ketones, carboxyliacids and their derivatives, condensation reactions, amines, phenols, and infrared and NMR spectroscopy. Core Curriculum Course.

## CHEM 2427 PHYSIOLOGICAL CHEMISTRY
**Prerequisite: CHEM 1412, or CHEM 1414, Must be placed into college-level reading and be placed into MATH 1314 (or higher) and be placed into college-level writing.**
**Credit: 4 (3 lecture, 3 lab)**
Topics include polysaccharides, lipids, nucleic acids, proteins, catalysis reactions in living cells, intermediate metabolism, energy pathways in cells, DNA replication, and protein synthesis. Core Curriculum Course.

## CHHS 1311 COMMERCIAL HOUSEKEEPING/MAINTENANCE
**Credit: 3 (3 lecture)**
An introduction to commercial housekeeping and related maintenance and preventative maintenance planning and procedures. Emphasis on work rules, safety rules, and proper care of equipment. An overview of the chemistry of cleaning and proper handling of hazardous chemicals. An introduction to Occupational Safety and Health Administration (OSHA) requirements and designing a communications program. Choosing the proper floor care system and procedures for resilient tile are included.

## CHIN 1411 BEGINNING CHINESE I
**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 4 (3 lecture, 2 lab)**
Introduction to Chinese language and culture. Development of basic skills in listening comprehension, speaking, reading, writing, and cultural awareness. Course includes vocabulary building, conversation and grammar. Transfers as foreign language credit. Core Curriculum Course.

## CHIN 1412 BEGINNING CHINESE II

**Prerequisite: Chinese 1411 or satisfactory score on advanced placement examination or at least 2 years of high school Chinese within the last two years. Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 4 (3 lecture, 2 lab)**
Continuation of Chinese 1411. Further development of listening comprehension, speaking, reading, and writing skills, and cultural awareness. More advanced grammar. Transfers as foreign language credit. Core Curriculum Course.

## CJCR 1304 LE - PROBATION AND PAROLE

**Credit: 3 (3 lecture)**
A survey of the structure, organization, and operation of probation and parole services. Emphasis on applicable state statutes and administrative guidelines.

## CJLE 1506 BASIC PEACE OFFICER I

**Credit: 5 (3 lecture, 6 lab)**
Introduction to fitness and wellness, history of policing, professionalism and ethics, United States Constitution and Bill of Rights, criminal justice system, Texas Penal Code, Texas Code of Criminal Procedure, civil process, and stress management. This course taken in conjunction with Basic Peace Officer II, III, and IV will satisfy the TCLEOSE-approved Basic Peace Officer Training Academy.

## CJLE 1512 BASIC PEACE OFFICER II

**Credit: 5 (3 lecture, 6 lab)**
Basic preparation for a new peace officer. Covers field note taking, report writing, 'use of force' law and concepts, problem solving, multiculturalism, professional policing approaches, patrol procedures, victims of crime, family violence, MHMR, crowd management, HAZMAT, and criminal investigation. This course taken in conjunction with Basic Peace Officer I, III, and IV will satisfy the TCLEOSE-approved Basic Peace Officer Academy.

## CJLE 1518 BASIC PEACE OFFICER III

**Prerequisite: Department Approval**
**Credit: 5 (3 lecture, 6 lab)**
Basic preparation for a new peace officer. Covers laws pertaining to controlled substances, crowd management, personal property, and crime scene investigation. This course taken in conjunction with Basic Peace Officer I, II, and IV will satisfy the TCLEOSE-approved Basic Peace Officer Academy.

## CJLE 1524 BASIC PEACE OFFICER IV

**Credit: 5 (3 lecture, 6 lab)**
Basic preparation for a new peace officer. Should be taken in conjunction with Basic Peace Officer I, II, and III to satisfy the Texas Commission on Law Enforcement (TCLEOSE) approved Basic Peace Officer Training Academy. ***THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS LICENSED AS A POLICE ACADEMY BY TCLEOSE***

## CJLE 2380 CRIMINAL JUSTICE COOPERATIVE EDUCATION

**Prerequisite: 12 semester hours and Department Approval**
**Credit: 3 (1 lecture and maximum of 20 hours/week of career-related work experience)**
This is a nontraditional course designed to give the student positive work experience combined with an academic study of criminal justice. Students must have a job in the field of criminal justice and be supervised by the co-op coordinator.

## CJLE 2384 COOPERATIVE EDUCATION - CRIMINAL JUSTICE/POLICE SCIENCE

**Prerequisite: Department Approval**
**Credit: 3 (l lecture, 20 lab)**
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## CJLE 2420 TEXAS PEACE OFFICER PROCEDURES

**Credit: 4 (3 lecture, 4 lab)**
Study of the techniques and procedures used by police officers on patrol. Includes controlled substance identification, handling abnormal persons, traffic collision investigation, note taking and report writing, vehicle operation, traffic direction, crowd control, and jail operations. The student will demonstrate relevant law enforcement techniques and procedures required of Texas peace officers as mandated by the Texas Commission on Law Enforcement Officer Standards and education; identify and explain required forms and documents; and explain the applicable procedures to various situations as they relate to the enforcement of law.

## CJLE 2421 TEXAS PEACE OFFICER LAW

**Credit: 4 (3 lecture, 4 lab)**
Study of laws directly related to police field work. Topics include Texas Transportation Code, intoxicated driver, Texas Penal Code, elements of crimes, Texas Family Code, Texas Alcoholic Beverage Code, and civil liability. The student will identify relevant sections of Texas law as mandated for this course by the Texas Commission on Law Enforcement Officer Standards and Education, discuss the Texas Penal Code, identify violations of the Texas Family Code and the Texas Alcoholic Beverage Code, define and illustrate civil liability, and discuss the transportation code, intoxicated drivers and elements of crimes.

## CJLE 2522 TEXAS PEACE OFFICER SKILLS

**Credit: 5 (3 lecture, 4 lab)**
Requires the demonstration and practice of the skills of a police officer including patrol, driving, traffic stop skills, use of force, mechanics of arrest, firearm safety, and emergency medical care. The student will evaluate and explain an appropriate response for a situational scenario, demonstrate the proper and effective application of physical skill while using police equipment, and demonstrate other skills expected of Texas peace officer as mandated for this course by the Texas Commission on Law Enforcement Officer Standards and Education.

## CJSA 1308 CRIMINALISTICS I

**Prerequisite: Must be placed in college level reading and writing or higher.**
**Credit: 3 (3 lecture)**
Introduction to the field of criminalistics. Topics include the application of scientific and technical methods in the investigation of crime including location, identification, and handling of evidence for scientific analysis.

## CJSA 1393 SPECIAL TOPICS IN CRIMINAL JUSTICE STUDIES

**Prerequisite: Department Approval; Must also be placed in college level reading and writing or higher.**
**Credit: 3 (3 lecture)**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## CJSA 2323 CRIMINALISTICS II

**Prerequisite: CJSA 1308; Must also be placed in college level reading and writing or higher. Credit: 3 (2 lecture, 4 lab)**
Theory and practice of crime scene investigation. Topics include report writing, blood and other body fluids, document examination, etchings, casts and molds, glass fractures, use of microscope, and firearms identification

## CJSA 2332 CRIMINALISTICS III

**Prerequisite: CJSA 2323; Must also be placed in college level reading and writing or higher. Credit: 3 (2 lecture, 4 lab)**
A study of the practical aspects of criminalistics procedures. Topics include crime scene investigation, collecting and preserving evidence, and testifying in court.

## CJSA 2364 PRACTICUM-CRIMINAL JUSTICE STUDIES

**Prerequisite: Department Approval; Must also be placed in college level reading and writing or higher.**
**Credit: 3 (21 lab)**
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student. The college with the employer develops and documents an individualized plan for the student. The plan relates the workplace training and experiences to the student's general and technical course of study. The guided external experiences may be paid or unpaid. This course may be repeated if topics and learning outcomes vary. As outlined in the learning plan, the student will master the theory, concepts, and skills involving the tools, materials, equipment, procedures, regulations, laws, and interactions within and among political, economic, environmental, and legal systems associated with the workplace; demonstrate ethical behavior, safety practices, interpersonal and teamwork skills, appropriate verbal and written communications in the workplace.

## CMSW 1266, 1267, 2266 PRACTICUM (OR FIELD EXPERIENCE) - CLINICAL AND MEDICAL SOCIAL WORK

**Credit: 2 (14 lab)**
Practical general training and experiences in the workplace. The college with the employer develops and documents an individualized plan for the student. The plan relates the workplace training and experiences to the student's general and technical course of study. The guided external experiences may be paid or unpaid. This course may be repeated if topics and learning outcomes vary.

## CMSW 1301 INTRODUCTION TO SOCIAL SERVICES

**Credit: 3 (3 lecture)**
Introduction to concepts of social welfare and social policy. Topics include emphasis on the relationship between social policy and the delivery of social services. Descriptions of present day social welfare programs in terms of the philosophy, legal base, program policy and impact on both the target service group and the larger community of present day social welfare programs.

## CMSW 1313 ASSESSMENT AND SERVICE DELIVERY

**Credit: 3 ( 3 lecture)**
A study of interviewing and assessment instruments and approaches for working with multicultural population. Emphasis on service delivery systems.

## CMSW 1353 FAMILY INTERVENTION STRATEGIES

**Credit: 3 (3 lecture)**
Study of professionally recognized family intervention techniques. Major theories in family intervention are discussed.

## CNBT 1191 SPECIAL TOPICS IN CONSTRUCTION/BUILDING TECHNOLOGY/TECHNICIAN

**Credit: 1 (4 lab)**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## CNBT 1201 INTRODUCTION TO THE CONSTRUCTION INDUSTRY

**Credit: 2 (1 lecture, 2 lab)**
Overview of the construction industry. Includes organizational structures and systems, safety regulations and agencies, construction documents, office and field organizations, and the various construction crafts and trades.

## CNBT 1302 MECHANICAL, PLUMBING, AND ELECTRICAL SYSTEMS IN CONSTRUCTION

**Prerequisite/Corequisite: CNBT 1201**
**Credit: 3 (3 lecture)**
A presentation of the basic mechanical, plumbing, and electrical components in construction and their relationship to the overall building.

## CNBT 1311 CONSTRUCTION METHODS AND MATERIALS I

**Prerequisite/Corequisite: CNBT 1201**
**Credit: 3 (3 lecture)**
Introduction to construction materials and methods and their applications.

## CNBT 1316 CONSTRUCTION TECHNOLOGY I

**Prerequisite/Corequisite: CNBT 1201**
**Credit: 3 (2 lecture, 2 lab)**
Site preparation, foundation, form work, and framing. Includes safety; tools and equipment; basic site preparation; basic foundations and form work; and basic floor, wall, and framing methods and systems.

## CNBT 1342 BUILDING CODES AND INSPECTIONS

**Credit: 3 (3 lecture)**
Building codes and standards applicable to building construction and inspection processes.

## CNBT 1346 CONSTRUCTION ESTIMATING I

**Prerequisite: ITSC 1309, or Department Approval**
**Credit: 3 (2 lecture, 2 lab)**
Fundamentals of estimating materials and labor costs in construction.

## CNBT 1350 CONSTRUCTION TECHNOLOGY II

**Prerequisite: CNBT 1316**
**Credit: 3 (2 lecture, 2 lab)**
Site preparation, foundation, form work, and framing in residential and light construction. Includes safety; tools and equipment; site preparation and layout; concrete; foundations and related form work; and floor, wall, ceiling, and roof framing methods and systems.

## CNBT 2335 COMPUTER AIDED CONSTRUCTION SCHEDULING

**Prerequisite: Department Approval**
**Credit: 3 (2 lecture, 2 lab)**
Advanced construction scheduling utilizing computer scheduling software to perform various scheduling procedures.

## CNBT 2337 CONSTRUCTION ESTIMATING II

**Prerequisite: CNBT 1346**
**Credit: 3 (2 lecture, 2 lab)**
Advanced estimating concepts using computer software programs for construction and crafts.

## CNBT 2342 CONSTRUCTION MANAGEMENT I

**Credit: 3 (3 lecture)**
Human relations management skills in motivation on the job site. Topics include written and oral communications, leadership and motivation, problem solving, and decision making.

## CNBT 2344 CONSTRUCTION MANAGEMENT II

**Prerequisite: CNBT 2342**
**Credit: 3 (3 lecture)**
A management course in contract documents, safety, planning, scheduling, production control, and law and labor. Topics include contracts, planning, cost and production peripheral documents, and cost and work analysis.

## CNBT 2380 COOPERATIVE EDUCATION - CONSTRUCTION ENGINEERING TECHNOLOGY/ TECHNICIAN

**Prerequisite: Department Approval**
**Credit: 3 (1 lecture, 20 lab)**
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## COMM 1307 INTRODUCTION TO MASS COMMUNICATION IN THE ELECTRONIC ENVIRONMENT

**Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**
**Credit: 3 (3 lecture)**
Analyzes communication theory and mass media in 21st century society. Surveys history, operation, and structure of the American communication system. Identifies major legal, ethical, and sociocultural issues, studies basic communication theory, and the interrelations between media and the individual, media and society, and media and the future. Examines career potential and job prospects in today's and tomorrow's electronic culture. Core curriculum course.

## COMM 1335 INTRODUCTION TO RADIO, TELEVISION AND ELECTRONIC MEDIA

**Credit: 3 (3 lecture)**
A survey and analysis of history and principles of radio and television broadcasting and production, including programming for varied audience segments and sponsorship. Studies history, technology, regulation, audience, and economics of radio, television, and related electronic media. Studies basic skills and theories of image and sound, equips student to communicate through audio/visual media. Includes public cable, closed-circuit television, production workshops, and individualized instructional modules. Field trip and community media guest lectures included.

## COMM 1336 TELEVISION PRODUCTION AND DIRECTING I

**Prerequisite: COMM 1335**
**Credit: 3 (2 lecture, 2 lab)**
A concentrated course in the theory and application of principles, procedures, and techniques of television production. Uses lecture and laboratory setting with supervision by faculty.

## COMM 1337 TELEVISION PRODUCTION AND DIRECTING II

**Prerequisite: COMM 1335**
**Credit: 3 (2 lecture, 2 lab)**
The preparation and directing of television programs with emphasis on the creative application of broadcast principles and informational techniques. Uses lecture and laboratory setting with supervision by faculty.

## COMM 2129 COMMUNICATION INTERNSHIP I

**Prerequisites: Department Approval. 15 hours/week applied work in a position related to career goal and degree plan in Communication**

**Credit: 1 (1 lecture, 1 lab)**

Evaluation of skills/competency provided by both sponsoring company/organization and supervising faculty. Students may repeat course for maximum of four credit hours. Students may register for two sections per semester.

## COMM 2302 PRINCIPLES OF JOURNALISM I

**Prerequisites: Must be placed at college level reading and writing skills.**

**Credit: 3 (3 lecture)**

Exploration of ethical and legal boundaries as well as issues and problems facing today's journalist.

## COMM 2305 PRODUCTION EDITING AND LAYOUT

**Credit: 3 (3 lecture)**

Trains students in basic copy editing for publication and in handling production copy from manuscript to finished publication, including photography choice, sizing, cropping and/or handling of various types of graphic illustrations. Covers publication layout (rough, finished), type choice, color, and black/white rendering.

## COMM 2309 EDITORIAL AND FEATURE WRITING I

**Credit: 3 (2 lecture, 2 lab)**

Trains students in writing newspaper and magazine feature articles and editorials. Examines topic selection and location of background source material, plus market and reader analysis. Discusses free-lance market and adapting style to different audiences and publications. (formerly COMM 2310).

## COMM 2311 NEWSGATHERING AND EDITING I

**Prerequisite: ENGL 1301**

**Credit: 3 (2 lecture, 2 lab)**

Provides training in news gathering, news writing, and editing. Develops skills in headline writing, layout, and newspaper production with experience on student newspaper or area print publications. Field trips and careers are explored.

## COMM 2315 NEWSGATHERING AND EDITING II

**Prerequisite: ENGL 1301, COMM 2311**

**Credit: 3 (2 lecture, 2 lab)**

**Continuation of COMM 2311.**

**COMM 2327 Advertising**

**Credit: 3 (3 lecture)**

Enables student to conceive ideas, tailor and lay out advertisements geared for TV commercials, radio, magazines, and newspapers. Assignments are based on goals, objectives, product/service fact sheets, and marketing considerations. Course integrates vital ingredients that enhance or impede advertising outcomes: product research, consumer behavior, semantics, social science knowledge, copy research and copywriting, visualization, media strategy, advertising agency knowledge, handling of client relations, and preparation of a portfolio. Field trip.

## COMM 2330 PUBLIC RELATIONS

**Credit: 3 (3 lecture)**

Studies principles and practices of public relations. Provides hands-on techniques to influence positive public opinion within and outside of companies. Requires creation of feature and news articles, press releases, press kit, brochure, and brief work plan utilizing the four-step planning process for resolving PR problems. Trains students to write good copy, construct PR goals and objectives, conduct practical research to determine public attitudes and opinion, arrange and conduct press conferences, and develop positive media relationships. (formerly COMM 2328).

## COMM 2331 RADIO AND TELEVISION ANNOUNCING

**Credit: 3 (2 lecture, 2 lab)**

The development of skills required for efficient announcing, acting, newscasting, and other speaking before microphone and camera. Students write and present radio, TV, audiovisual announcements and assignments. Utilize lectures, lab setting with supervision by faculty.

## COMM 2332 BROADCAST JOURNALISM I

**Prerequisite: Department Approval**

**Credit: 3 (2 lecture, 2 lab)**

Studies fundamentals of broadcast news. Covers broadcast writing, performing, and standard broadcasting formats. Uses lecture and laboratory setting with supervision by both sponsoring commercial studio and faculty.

## COMM 2339 SCRIPT WRITING: RADIO, TELEVISION, VIDEOTAPE, FILM

**Credit: 3 (3 lecture)**

Writing for production of programs and various documentaries, training materials slide/tape sets, and other situations requiring a production script.

## COSC 1436 PROGRAMMING FUNDAMENTALS I

**Prerequisite: Must be at college-level skills in reading and writing, place into MATH 1314 College Algebra or higher, and have had high school computer literacy or equivalent.**

**Credit: 4 (3 lecture, 3 lab)**

Introduces the fundamental concepts of structured programming. Topics include software development methodology, data types, control structures, functions, arrays, and the mechanics of running, testing, and debugging. This course assumes computer literacy.

## COSC 1437 PROGRAMMING FUNDAMENTALS II

**Prerequisite: COSC 1436 or ITSE 1402, and MATH 2412 and ENGL 1301.**

**Credit: 4 (3 lecture, 3 lab)**

Review of control structures and data types with emphasis on structured data types. Applies the object-oriented programming paradigm, focusing on the definition and use of classes along with the fundamentals of object-oriented design. Includes basic analysis of algorithms, searching and sorting techniques, and an introduction to software engineering.

## COSC 2325 COMPUTER ORGANIZATION AND MACHINE LANGUAGE

**Prerequisite: COSC 1436, MATH 1314 and ENGL 1301.**

**Credit: 3 (2 lecture, 2 lab)**

Basic computer organization; machine cycle, digital representation of data and instructions; assembly language programming, assembler, loader, macros, subroutines, and program linkages.

## COSC 2436 PROGRAMMING FUNDAMENTALS III

**Prerequisite: Math 2413 and either COSC 1437 or ITSE 2421**

**Credit: 4 (3 lecture, 3 lab)**

Further applications of programming techniques, introducing the fundamental concepts of data structures and algorithms. Topics include recursion, fundamental data structures (including stacks, queues, linked lists, hash tables, trees, and graphs), and algorithmic analysis.

## CPMT 1303 INTRODUCTION TO COMPUTER TECHNOLOGY

**Credit: 3 (2 lecture, 4 lab)**

A fundamental computer course that provides in-depth explanation of the procedures to utilize hardware and software. Emphasis on terminology, acronyms, and hands-on activities.

## CPMT 2389 INTERNSHIP - COMPUTER INSTALLATION AND REPAIR TECHNOLOGY/TECHNICIAN

**Prerequisite: Department Approval**

**Credit: 3 (1 lecture, 17 lab)**

A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

## CPMT 1407 ELECTRONIC AND COMPUTER SKILLS

**Prerequisites: CETT 1409 or Department Approval**

**Credit: 4 (3 lecture, 2 lab)**

The study of modern electronic construction techniques including the application of the most common hand tools used in disassembly, repair, and reassembly of electronics and computer components.

## CPMT 1411 INTRODUCTION TO COMPUTER MAINTENANCE

**Credit: 4 (3 lecture, 3 lab)**

Identify modules that make up a computer system and its operation; identify each type of computer bus structure; and assemble/setup microcomputer systems, accessory boards, and install/connect associated peripherals.

## CPMT 1449 COMPUTER NETWORKING TECHNOLOGY

**Prerequisite/Corequisite: CPMT 1411 or Department Approval**

**Credit: 4 (3 lecture, 3 lab)**

A course in computer networks with focus on networking fundamentals, terminology, hardware, software, and network architecture. A study of local/wide area networking concepts and networking installations and operations.

## CPMT 1491 SPECIAL TOPICS IN COMPUTER MAINTENANCE TECHNOLOGY/TECHNICIAN

**Prerequisite: Department Approval**
**Credit: 4 (3 lecture, 2 lab)**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

## CPMT 2350 INDUSTRY CERTIFICATION PREPARATION

**Prerequisite: Department Approval**
**Credit: 3 (2 Lecture, 4 Lab)**
An overview of the objectives for industry specific certification exam(s).

## CPMT 2433 COMPUTER INTEGRATION

**Prerequisite: CPMT 1411 or Department Approval**
**Credit: 4 (3 lecture, 3 lab)**
An advanced course in integration of hardware, software, and applications. Customization of computer systems for specific applications in engineering, multi-media, or data acquisition.

## CPMT 2434 NETWORK SECURITY

**Prerequisite: ITCC 1446 or Department Approval**
**Credit: 4 (3 Lecture, 3 Lab)**
Focus on overall security processes with particular emphasis on hands-on skills in the following areas: security policy design and management; security technologies, products and solutions; firewall and secure router design, installation, configuration and maintenance; AAA implementation using routers and firewalls; VPN implementation using routers and firewalls.

## CPMT 2445 COMPUTER SYSTEM TROUBLESHOOTING

**Prerequisite: Department Approval**
**Credit: 4 ( 3 lecture, 3 lab)**
Principles and practices involved in computer system troubleshooting techniques and repair procedures including advanced diagnostic test programs and the use of specialized test equipment.

## CPMT 2449 ADVANCED COMPUTER NETWORKING TECHNOLOGY

**Prerequisite/Corequisite: CPMT 1449 or Department Approval**
**Credit: 4 (3 lecture, 3 lab)**
An in-depth study of network technology with emphasis on network operating systems, network connectivity, hardware, and software. Mastery of implementation, troubleshooting, and maintenance of LAN and/or WAN network environments.

## CRIJ 1301 INTRODUCTION TO CRIMINAL JUSTICE

**Prerequisite: Must be placed in college level reading and writing or higher.**
**Credit: 3 (3 lecture)**
History, philosophy, and ethical considerations of criminal justice; the nature and impact of crime; and an overview of the criminal justice system, including law enforcement and court procedures. Designated as Criminal Justice Transfer Curriculum.

## CRIJ 1306 THE COURTS AND CRIMINAL PROCEDURE

**Prerequisite: Must be placed in college level reading and writing or higher.**
**Credit: 3 (3 lecture)**
Study of the judiciary in the American criminal justice system and the adjudication processes and procedures. Designated as Criminal Justice Transfer Curriculum.

## CRIJ 1307 CRIME IN AMERICA

**Prerequisite: Must be placed in college level reading and writing or higher.**
**Credit: 3 (3 lecture)**
American crime problems in historical perspective, social and public policy factors affecting crime, impact and crime trends, social characteristics of specific crimes, and prevention of crime.

## CRIJ 1310 FUNDAMENTALS OF CRIMINAL LAW

**Prerequisite: Must be placed in college level reading and writing or higher.**
**Credit: 3 (3 lecture)**
Study of criminal law, its philosophical and historical development, major definitions and concepts, classifications and elements of crime, penalties using Texas statutes as illustrations, and criminal responsibility. Designated as Criminal Justice Transfer Curriculum

## CRIJ 1313 JUVENILE JUSTICE SYSTEMS

**Prerequisite: Must be placed in college level reading and writing or higher.**
**Credit: 3 (3 lecture)**
A study of the juvenile justice process to include specialized juvenile law, role of the juvenile law, role of the juvenile courts, role of police agencies, role of correctional agencies, and theories concerning delinquency.

## CRIJ 2301 COMMUNITY RESOURCES IN CORRECTIONS

**Prerequisite: Must be placed in college level reading and writing or higher.**
**Credit: 3 (3 lecture)**
An introductory study of the role of the community in corrections; community programs for adults and juveniles; administration of community programs; legal issues; future trends in community treatment

## CRIJ 2313 CORRECTIONAL SYSTEMS AND PRACTICES

**Prerequisite: Must be placed in college level reading and writing or higher.**
**Credit: 3 (3 lecture)**
Corrections in the criminal justice system; organization of correctional systems; correctional role; institutional operations; alternatives to institutionalization; treatment and rehabilitation; current and future issues. Designated as Criminal Justice Transfer Curriculum.

## CRIJ 2314 CRIMINAL INVESTIGATION

**Prerequisite: Must be placed in college level reading and writing or higher.**
**Credit: 3 (3 lecture)**
Investigative theory; collection and preservation of evidence; sources of information; interview and interrogation; uses of forensic sciences; case and trial preparation.

## CRIJ 2323 LEGAL ASPECTS OF LAW ENFORCEMENT

**Prerequisite/Corequisite: CRIJ 1301; Must also be placed in college level reading and writing or higher.**
**Credit: 3 (3 lecture)**
Police authority; responsibilities; constitutional constraints; laws of arrest, search, and seizure; police liability. Designated as Criminal Justice Transfer Curriculum

## CRIJ 2328 POLICE SYSTEMS AND PRACTICES

**Prerequisite: Must be placed in college level reading and writing or higher.**
**Credit: 3 (3 lecture)**
The police profession; organization of law enforcement systems; the police role; police discretion; ethics; police-community interaction; current and future issues. Designated as Criminal Justice Transfer Curriculum.

## CRPT 1311 CONVENTIONAL ROOF SYSTEMS

**Prerequisite/Corequisite: CRPT 1329**
**Credit: 3 (2 lecture, 3 lab)**
Principles of design and construction of a conventional roof system incorporating gable, hip, and intersections. Emphasis given to safe work practices and the selection, use, and maintenance of tools and equipment

## CRPT 1315 CONVENTIONAL WALL SYSTEMS

**Prerequisite/Corequisite: CRPT 1329**
**Credit: 3 (2 lecture, 3 lab)**
Conventional wall systems with emphasis on wood frame construction. Includes identification of components; construction of wall systems; safe work practices; and the selection, use, and maintenance of tools and equipment.

## CRPT 1325 FORMS AND FOUNDATIONS I

**Prerequisite/Corequisite: CRPT 1329 or Department Approval**
**Credit: 3 (2 lecture, 3 lab)**
Construction of basic form and foundation systems including related safety, tools, equipment, and building layout. Emphasis on safe work practices and the selection, use, and maintenance of tools and equipment.

## CRPT 1329 INTRODUCTION TO CARPENTRY

**Credit: 3 (2 lecture, 3 lab)**
An introduction to the carpentry trade including safety, tools, equipment, terminology, and methods.

## CRPT 1341 CONVENTIONAL EXTERIOR FINISH SYSTEMS

**Prerequisite/Corequisite: CRPT 1329**
**Credit: 3 (2 lecture, 3 lab)**
Installation of exterior finish systems and components including the placement and installation of cornice, windows, doors, siding, and flashing. Emphasis on safe work practices and the selection, use, and maintenance of tools and equipment.

**CRPT 1345 CONVENTIONAL INTERIOR FINISH SYSTEMS**
**Prerequisite/Corequisite: CRPT 1329**
**Credit: 3 (2 lecture, 3 lab)**
Installation of interior finish systems and components including the placement and installation of doors, trim, floor, wall, and ceiling finishes. Emphasis on safe work practices and the selection, use, and maintenance of tools and equipment.

**CRPT 1380 COOPERATIVE EDUCATION - CARPENTRY/ CARPENTER**
**Prerequisite: Department Approval**
**Credit: 3 (1 lecture, 14 lab)**
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

**CRPT 2335 METAL WALL SYSTEMS**
**Prerequisite/Corequisite: CRPT 1329**
**Credit: 3 (2 lecture, 3 lab)**
Instruction in metal wall system construction. Topics include walls, partitions, framing materials, and fastening systems with emphasis on safe work practices and the selection, use, and maintenance of tools and equipment.

**CSIR 1355 INDUSTRY CERTIFICATIONS**
**Prerequisites/Corequisites: ELPT 1221, ELPT 1329**
**Credit: 3 (2 lecture, 3 lab)**
Preparation for the certifications required by industry. This course is designed to familiarize the student with modern wiring technology concepts, components and applications. The advantages, characteristics, operation, and configurations of fiber optics and network wiring systems are studied. Topics include light sources, light transmission, fiber optics principles and terminology, shielded cables and networking system components. The proper use of testing equipment and accepted termination, installation, diagnostic, troubleshooting procedures and safety regulations are emphasized.

**CSIR 1391 SPECIAL TOPICS IN COMMUNICATIONS SYSTEM INSTALLER AND REPAIRER - CABLE AND NETWORK INSTALLATIONS**
**Prerequisite: CSIR 1355**
**Credit: 3 (2 lecture, 3 lab)**
This course reviews the fundamentals of telecommunications media, including terminology, rules and regulations, safety procedures, industry standards and protocols, installation, connectorization, maintenance, and troubleshooting. General principles of customer service within a technical environment are also studied. The competencies acquired in the preceding courses are summarized in a comprehensive project covering network, telephone and coaxial wiring, fiber optic cables, satellite television systems, structural wiring, and "smart house" concepts.

**CSME 1291 SPECIAL TOPICS IN COSMETOLOGY CLIENT RELATIONS**
**Prerequisite: Department Approval**
**Credit: 2 (1 lecture, 3 lab)**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

**CSME 1365 PRACTICUM COSMETOLOGY/COSMETOLOGIST**
**Credit: 3 (21 lab)**
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

**CSME 1401 ORIENTATION TO COSMETOLOGY**
**Credit: 4 (2 lecture, 8 lab)**
An overview of the skills and knowledge necessary for the field of cosmetology.

**CSME 1405 FUNDAMENTALS OF COSMETOLOGY**
**Credit: 4 (2 lecture, 8 lab)**
A course in the basic fundamentals of cosmetology. Topics include service preparation, manicure, facial, chemical services, shampoo, haircut, wet styling, and comb out.

**CSME 1420 ORIENTATION TO FACIAL SPECIALIST**
**Corequisites: CSME 1421, CSME 1447**
**Credit: 4 (2 lecture, 8 lab)**
An overview of the skills and knowledge necessary for the field of facials and skin care.

**CSME 1421 PRINCIPLES OF FACIAL/ ESTHETIC TECHNOLOGY I**
**Corequisites: CSME 1420, CSME 1447**
**Credit: 4 (2 lecture, 6 lab)**
An introduction to the principles of facial and esthetic technology. Topics include anatomy, physiology, theory, and related skills of facial and esthetic technology.

**CSME 1430 ORIENTATION TO NAIL TECHNOLOGY**
**Credit: 4 (2 lecture, 6 lab)**
An overview of the fundamental skills and knowledge necessary for the field of nail technology. This class is a combination of 1 lecture and 6 lab hours (112 contact hours). Upon successful completion of the course the student will receive 3 semester hour credits. This course is designed to assist the student in obtaining the following competencies: exhibit comprehension of professional ethics, demonstrate knowledge of the proper sanitation and sterilization procedures relative to nail technology, know and follow the rules and regulations of the institution, department and the Texas Cosmetology Commission.

**CSME 1431 PRINCIPLES OF NAIL TECHNOLOGY I**
**Credit: 4 (3 lecture, 4 lab)**
A course in the principles of nail technology. Topics include anatomy, physiology, theory and related skills. This course is a combination of 3 lecture and 4 lab hours (112 contact hours), designed to assist the student in obtaining the following outcomes: identify and explain the basic physiology of the hands, arms and feet; and demonstrate the related skills of manicuring and pedicure.

**CSME 1441 PRINCIPLES OF NAIL TECHNOLOGY II**
**Credit: 4 (3 lecture, 4 lab)**
This course presents the advanced concepts and principles of nail technology. Topics include advanced instruction in anatomy, physiology, theory and related skills of nail technology. This course is 112 contact hours. This course is designed to assist the student in obtaining the following competencies: exhibit the skills mandated by the Texas Cosmetology Commission License examination, demonstrate professional ethics and salon management, and perform client related skills.

**CSME 1443 MANICURING AND RELATED THEORY**
**Credit: 4 (3 lecture, 4 lab)**
This course is a presentation of the theory and practice of nail technology. Topics include terminology, application, and workplace competencies related to nail technology. This course is 112 contact hours. This course is designed to assist the student in obtaining the following competencies: identify terminology related to nail technology, demonstrate the proper application of nail technology, and exhibit workplace competencies in nail technology.

**CSME 1447 PRINCIPLES OF SKIN CARE/FACIALS AND RELATED THEORY**
**Corequisites: CSME 1420, CSME 1421**
**Credit: 4 (2 lecture, 8 lab)**
An in-depth coverage of the theory and practice of skin care, facials, and cosmetics.

**CSME 1453 CHEMICAL REFORMATION**
**Credit: 4 (2 lecture, 8 lab)**
Presentation of the theory and practice of chemical reformation, including terminology, application, and workplace competencies.

**CSME 1534 COSMETOLOGY INSTRUCTOR I**
**Corequisite: CSME 1535, CSME 2514**
**Credit: 5 (3 lecture, 5 lab)**
The fundamentals of instruction of cosmetology students.

**CSME 1535 ORIENTATION TO THE INSTRUCTION OF COSMETOLOGY**
**Prerequisites: A current Texas Cosmetology Operator License. Must have 3 years recent verifiable work experience. Must obtain department chair approval.**
**Corequisites: CSME 1534, CSME 2514**
**Credit: 5 (3 lecture, 5 lab)**
An overview of the skills and knowledge necessary for the instruction of cosmetology students.

**CSME 1545 PRINCIPLES OF FACIAL/ ESTHETIC TECHNOLOGY II**
**Prerequisite: CSME 1447. Corequisites: CSME 2531, CSME 1291**
**Credit: 5 (3 lecture, 6 lab)**
A continuation of the concepts and principles in skin care and other related technologies. Topics include advanced instruction in anatomy, physiology, theory, and the related skills of facial and esthetic technology.

## CSME 1551 ARTISTRY OF HAIR, THEORY AND PRACTICE

**Credit: 5 (3 lecture, 7 lab)**
Instruction in the artistry of hair design. Topics include theory, techniques, and application of hair design.

## CSME 2337 ADVANCED COSMETOLOGY TECHNIQUES

**Credit: 3 (2 lecture, 2 lab)**
Mastery of advanced cosmetology techniques including hair design, professional cosmetology services, and workplace competencies.

## CSME 2343 SALON DEVELOPMENT

**Credit: 3 (2 lecture, 4 lab)**
Exploration of salon development. Topics include professional ethics and goals, salon operation, and record keeping.

## CSME 2401 PRINCIPLES OF HAIR COLORING AND RELATED THEORY

**Credit: 4 (2 lecture, 8 lab)**
Presentation of the theory, practice, and chemistry of hair color. Topics include terminology, application, and workplace competencies related to hair color.

## CSME 2430 NAIL ENHANCEMENT

**Credit: 4 (2 lecture, 6 lab)**
A course in the general principles of the theory and application of artificial nails and related technology. This course is a combination of 2 hours lecture and 6 lab (128 contact hours). Upon successful completion of this course the student will receive 4 semester hours credit. This course is designed to assist the student in obtaining the following competencies: develop product knowledge, demonstrate the application of artificial nails, exhibit competency relative to the Texas Cosmetology Examination.

## CSME 2439 ADVANCED HAIR DESIGN

**Credit: 4 (2 lecture, 6 lab)**
Advanced concepts in the theory and practice of hair design.

## CSME 2441 PREPARATION FOR TEXAS COSMETOLOGY COMMISSION EXAMINATION

**Credit: 4 (3 lecture, 4 lab)**
Preparation for the Texas Cosmetology Commission Operator Examination.

## CSME 2514 COSMETOLOGY INSTRUCTOR II

**Corequisites: CSME 1534, CSME 1535**
**Credit: 5 (3 lecture, 5 lab)**
Continuation of the fundamentals of instruction of cosmetology students.

## CSME 2515 COSMETOLOGY INSTRUCTOR III

**Prerequisites: CSME 1534, CSME 1535, CSME 2514**
**Corequisites: CSME 2544, CSME 2545**
**Credit: 5 (3 lecture, 5 lab)**
Presentation of assignments and evaluation techniques for a cosmetology program.

## CSME 2531 PRINCIPLES OF FACIAL/ ESTHETIC TECHNOLOGY III

**Prerequisite: CSME 1447Corequisites: CSME 1545, CSME 1291**
**Credit: 5 (3 lecture, 6 lab)**
Advanced concepts and principles of skin care and other related technologies.

## CSME 2544 COSMETOLOGY INSTRUCTOR IV

**Prerequisites: CSME 1534, CSME 1535, CSME 2514**
**Corequisites: CSME 2515, CSME 2545**
**Credit: 5 (3 lecture, 5 lab)**
Advanced concepts of instruction in a cosmetology program. Topics include demonstration and implementation of advanced evaluation and assessment techniques.

## CSME 2545 INSTRUCTIONAL THEORY AND CLINIC OPERATION

**Prerequisites: CSME 1534, CSME 1535, CSME 2514**
**Corequisites: CSME 2515, CSME 2544**
**Credit: 5 (3 lecture, 5 lab)**
Overview of the objectives required by the Texas Cosmetology Commission Instructor Examination.

## CTEC 1213 INTRODUCTION TO CHEMICAL TECHNOLOGY

**Credit: 2 (1 lecture, 2 lab)**
Introduction to the educational and professional requirements of the chemical technician. Topics include safety, industrial site visits, chemical literature, and computer applications.

## CTEC 1345 CHEMICAL LABORATORY SAFETY

**Credit: 3 (3 lecture)**
Study of the safety problems encountered in the operation of a chemical laboratory. Topics include chemical and safety regulations, chemical hygiene plans, the Lab Standard, and safe laboratory procedures.

## CTEC 1349 ENVIRONMENTAL CHEMISTRY

**Prerequisite: SCIT 1414 or Department Approval**
**Credit: 3 (2 lecture, 3 lab)**
Instruction in laboratory operations for the analysis of environmental contaminants according to current federal, state, and local standards.

## CTEC 1391 SPECIAL TOPICS IN CHEMICAL TECHNOLOGY/ TECHNICIAN

**Credit: 3 (3 lecture)**
Topics address recently identified current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## CTEC 1401 APPLIED PETROCHEMICAL TECHNOLOGY

**Prerequisite: College-Level Algebra**
**Credit: 4 (3 lecture, 3 lab)**
Instruction in the basic principles of physics and their application to process facilities. Topics include units of measurement; gas laws; thermodynamics; temperature; pressure; and the properties of solids, liquids, and gases and how these properties relate to the operation of process equipment.

## CTEC 1491 SPECIAL TOPICS IN CHEMICAL TECHNOLOGY/ TECHNICIAN

**Credit: 4 (3 lecture, 3 lab)**
Topics address recently identified current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## CTEC 1541 APPLIED INSTRUMENTAL ANALYSIS I

**Prerequisite: SCIT 1543, or Department Approval**
**Credit: 5 (3 lecture, 6 lab)**
Overview of instrumental chemical analysis. Topics include chromatography, spectroscopy, and/or electroanalytical chemistry.

## CTEC 2333 COMPREHENSIVE STUDIES IN CHEMICAL TECHNOLOGY

**Prerequisite: Department Approval**
**Credit: 3 (1 lecture, 6 lab)**
Course requiring a special laboratory research project.

## CTEC 2381 COOPERATIVE EDUCATION - CHEMICAL TECHNOLOGY/TECHNICIAN

**Prerequisite: SCIT 1414 or Department Approval**
**Credit: 3 (1 lecture, 20 lab)**
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## CTEC 2386 INTERNSHIP-CHEMICAL TECHNOLOGY/TECHNICIAN

**Prerequisite: Department Approval**
**Credit: 3 (18 lab)**
A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

## CTEC 2441 POLYMERS I

**Prerequisite: SCIT 2401 or Concurrent Enrollment or Department Approval**
**Credit: 4 (3 lecture, 2 lab)**
Study of the concepts of polymer science. Topics include classification, structure, properties, synthesis, characterization, and industrial application.

## CTEC 2443 POLYMERS II
**Prerequisite: CTEC 2441 or Department Approval**
**Credit: 4 (3 lecture, 2 lab)**
Continuation of Polymers I with emphasis on polymeric materials.

## CTEC 2445 UNIT OPERATIONS
**Prerequisite: CTEC 1541 or Department Approval**
**Credit: 4 (3 lecture, 2 lab)**
Instruction in the principles of chemical engineering and process equipment. Emphasis on scale-up from laboratory bench to pilot plant.

## CTEC 2531 APPLIED INSTRUMENTAL ANALYSIS II
**Prerequisite: CTEC 1541 or Department Approval**
**Credit: 5 (3 lecture, 6 lab)**
Study of advanced topics in instrumental analysis. Topics include atomic absorption, inductively coupled plasma, nuclear magnetic resonance, gas chromatography/mass spectrometry, liquid chromatography, and infrared spectroscopy.

## CTMT 2336 COMPUTED TOMOGRAPHY EQUIPMENT AND METHODOLOGY
**Prerequisites: Registered and in good standing with ARRT or NMTCB**
**Corequisites: RADR 2340, CTMT 2460, CTMT 2461**
**Credit: 3 (3 lecture)**
Skill development in the operation of computed tomographic equipment, focusing on routine protocols, image quality, quality assurance and radiation protection.

## CTMT 2460 CLINICAL - RADIOLOGIC TECHNOLOGY/ SCIENCE - RADIOGRAPHER
**Prerequisites: Registered and in good standing with ARRT or NMTCB**
**Corequisites: RADR 2340, CTMT 2336, CTMT 2461**
**Credit: 4 (12 external lab)**
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## CTMT 2461 CLINICAL - RADIOLOGIC TECHNOLOGY/ SCIENCE - RADIOGRAPHER
**Prerequisites: Registered and in good standing with ARRT or NMTCB**
**Corequisites: RADR 2340, CTMT 2336, CTMT 2460**
**Credit: 4 (12 external lab)**
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## CVTT 1110 CARDIAC CATHETERIZATION I
**Prerequisite: CVTT 1307**
**Credit: 1 (1 lecture)**
Perform basic CPR including one-man, two-man, infant, and obstructed airway procedures; identify the most common drugs used in the cardiac cath lab; describe action, side effects, and implications of the drugs used in the cardiac cath lab; discuss the role of each member of the cath team during emergency procedures such as an arrest; identify emergency equipment and describe its function; perform a mock code utilizing emergency equipment; discuss the potential outcome of cath lab emergencies including termination of the procedure and transport to surgery or the morgue.

## CVTT 1153 CATHETERIZATION LAB FUNDAMENTALS II
**Prerequisite: CVTT 1313**
**Credit: 1 (1 lecture)**
A continuation of Catheterization Lab Fundamentals I with emphasis on X-ray technology and interventional procedures in the cardiac cath lab. Focus on the beginning cath lab clinical experience.

## CVTT 1201 INTRODUCTION TO CARDIOVASCULAR TECHNOLOGY
**Prerequisite: BIOL 2401**
**Credit: 2 (2 lecture)**
Introduction to the field of invasive cardiovascular technology and the role of the cardiovascular technologist. Topics include medical terminology, ethical/legal aspects, and communication skills.

## CVTT 1260 CLINICAL - CARDIOVASCULAR TECHNOLOGY/ TECHNICIAN
**Prerequisite: CVTT 1371**
**Credit: 2 (12 lab)**
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## CVTT 1304 CARDIOVASCULAR ANATOMY AND PHYSIOLOGY
**Credit: 3 (2 lecture, 2 lab)**
A study of the anatomy, physiology, and structural relationships of the human heart and vascular system. Focuses on cardiac anatomy, electrocardiology, cardiac hemodynamics, and the innervation of the heart

## CVTT 1307 CARDIOVASCULAR INSTRUMENTATION
**Credit: 3 (3 lecture)**
Basic principles, theory, and operation of cardiovascular equipment, electronics, and instrumentation.

## CVTT 1313 CATHETERIZATION LAB FUNDAMENTALS I
**Credit: 3 (2 lecture, 2 lab)**
Introduction to the diagnostic procedures used in the cath lab. Prior didactic instruction in cardiac physiology and medical instrumentation applied to cath lab procedures including patient preparation and monitoring, angiographic equipment set-up, and the coronary angiography procedure itself.

## CVTT 1340 CARDIOVASCULAR PATHOPHYSIOLOGY
**Credit: 3 (3 lecture)**
Continuation of CVTT 1004/1304: Cardiovascular Anatomy and Physiology. Methods of hemodynamic data collection and implications in relation to cardiac diseases.

## CVTT 1350 CARDIAC CATHETERIZATION II
**Credit: 3 (3 lecture)**
A continuation of Cardiac Catheterization I. An intensive study of advanced cardiovascular diagnostic and therapeutic procedures including percutaneous transluminal coronary angioplasty and electrophysiology studies.

## CVTT 1371 PATIENT CARE PROCEDURES IN THE CARDIAC CATH LAB
**Credit: 3 (2 lecture, 4 lab)**
Introduction to basic procedures in caring for the patient in the cardiac cath lab. Topics include monitoring, vital signs, patient assessment, special consideration for the cardiac patient both physical and psychological, pre-and post-care routines, aseptic techniques and maintaining a sterile environment; surgical scrubbing, gowning and gloving procedures.

## CVTT 1391 SPECIAL TOPICS IN CARDIOVASCULAR TECHNOLOGY/ TECHNICIAN
**Credit: 3 (2 lecture, 4 lab)**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## CVTT 2330 ADVANCED CARDIOVASCULAR INSTRUMENTATION
**Credit: 3 (2 lecture, 4 lab)**
Continuation of CVTT 1007/1307: Cardiovascular Instrumentation. Theory, calibration, operation, and clinical application of cardiovascular diagnostic instrumentation and methods of hemodynamic data collection, calculation, analysis, and implications.

## CVTT 2350 CARDIOVASCULAR PROFESSIONAL TRANSITION
**Credit: 3 (3 lecture)**
Exploration of professional opportunities outside the cardiovascular lab. Includes non-invasive cardiology, cardiac surgical procedures, hospital administration, and professional transition

## CVTT 2361 CLINICAL II
**Credit: 3 (18 lab)**
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## CVTT 2362 CLINICAL III
**Credit: 3 (18 lab)**
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## CVTT 2462 CLINICAL - CARDIOVASCULAR TECHNOLOGY/ TECHNOLOGIST

**Credit: 4 (12 lab)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## CVTT 2470 REGISTERED CARDIOVASCULAR INVASIVE SPECIALIST (RCIS) EXAM

Credit: 4 (2 lecture, 6 lab)

This is a capstone course to prepare the student for the Registered Cardiovascular Invasive Specialist Exam. Topics will include cardiovascular structure, function, pathophysiology, electrophysiology of the cardiovascular system, diagnostic and interventional techniques and devices, cardiovascular pharmacology, equipment, patient care and assessment.

## DAAC 1304 PHARMACOLOGY OF ADDICTION

**Credit: 3 (3 lecture)**

Psychological, physiological, and sociological effects of mood altering substances and behaviors and their implications for the addiction process are discussed. Emphasis is placed on pharmacological effects of tolerance, dependency/withdrawal, cross addiction, and drug interaction.

## DAAC 1311 COUNSELING THEORIES

**Credit: 3 (3 lecture)**

Identify major counseling theories; define and explain techniques relevant to the various theories; and discuss major approaches to treatment.

## DAAC 1319 INTRODUCTION TO THE STUDIES OF ALCOHOL AND OTHER DRUG ADDICTIONS

**Credit: 3 (3 lecture)**

Causes and consequences of addiction as they relate to the individual, family, community, and society are discussed. Response alternatives regarding intervention, treatment, education, and prevention are reviewed. Competencies and requirements for licensure in Texas are explained. Addiction issues related to diverse populations are presented.

## DAAC 1391 SPECIAL TOPICS IN ALCOHOL/DRUG ABUSE COUNSELING

**Credit: 3 (varies with course)**

Topics address recently identified current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student

## DAAC 1417 BASIC COUNSELING SKILLS

**Credit: 4 (2 lecture, 8 lab)**

Facilitate development of the basic counseling skills necessary to develop an effective helping relationship with clients. Includes the utilization of special skills to assist individuals, families, or groups in achieving objectives through exploration of a problem and its ramifications; examination of attitudes and feelings; consideration of alternative solutions; and decision making.

## DAAC 2267 PRACTICUM (OR FIELD EXPERIENCE) ALCOHOL/DRUG ABUSE COUNSELING

**Prerequisite: Department Approval**
**Credit: 2 (19 lab)**

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## DAAC 2343 CURRENT ISSUES

**Credit: 3 (3 lecture)**

Current issues in addiction counseling. Includes special populations, dual diagnosis, ethics, gambling, and infectious diseases associated with addiction counseling.

## DAAC 2354 DYNAMICS OF GROUP COUNSELING

**Prerequisite: DAAC 1417**
**Credit: 3 (3 lecture)**

Exploration of group counseling skills, techniques, and stages of group development.

## DANC 1210 TAP I

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 2 (1 lecture, 2 lab)**

Basic skills and vocabulary of tap dance. Core Curriculum Course.

## DANC 1211 TAP II

**Prerequisite: DANC 1210; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 2 (1 lecture, 2 lab)**

Continuation of Tap I.

## DANC 1301 DANCE COMPOSITION

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (3 lecture)**

This course explores expansion of movement vocabulary through improvisation and compositional techniques. Students will create and perform group and solo movement studies. Core Curriculum Course.

## DANC 1305 WORLD DANCE I

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (2 lecture, 2 lab)**

Students will learn cultural dances of five major world civilizations, with emphasis on rhythmic awareness and movement development. The cultural origins, significance, and motivation, as well as the use of costumes and music, will be explored in lecture and research through live performances, guest artists, and the use of multi-media sources. Instruction will include experiential and written assignments, and students will be expected to participate in an end-of-semester concert. Each time the course is taught, different cultures are examined. Core Curriculum Course. (Formerly DANC 1381)

## DANC 1306 WORLD DANCE II

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (2 lecture, 2 lab)**

Continuation of World Dance I. Core Curriculum Course. (Formerly DANC 1382)

## DANC 1341 BALLET I

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (2 lecture, 2 lab)**

A beginning-level course which introduces the student to the concepts of classical ballet, through practice of basic bare and centre skills, the body positions, and movement combinations. The history of the development of ballet is presented through lecture and multimedia, and esthetic principles of dance are explored through lecture and concert attendance. Core Curriculum Course.

## DANC 1342 BALLET II

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (2 lecture, 2 lab)**

Continuation of DANC 1341.

## DANC 1345 MODERN DANCE I

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (2 lecture, 2 lab)**

An beginning-level course which introduces the student to the concepts of modern dance. The course includes floor work, basic axial center technique, locomotor movements, and improvisation. The history of modern dance is presented through lecture and multimedia, and esthetic principles of dance are explored through lecture and concert attendance. Core Curriculum Course.

## DANC 1346 MODERN DANCE II

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (2 lecture, 2 lab)**

Continuation of DANC 1345.

## DANC 1347 JAZZ DANCE I

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (2 lecture, 2 lab)**

A beginning level course which introduces the student to the basic skills of jazz dance, with an emphasis on technique development, rhythmic awareness, and various jazz movement styles. The history of jazz dance is presented through lecture and multimedia, and esthetic principles of dance are explored through lecture and concert attendance. Core Curriculum Course.

## DANC 1348 JAZZ DANCE II

**Prerequisite: DANC 1347, Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (2 lecture, 2 lab)**

Continuation of Jazz Dance I.

## DANC 1349 BALLET FOLKLORICO I

**Prerequisites: Must be placed into GUST 0342 (or Higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (2 lecture, 2 lab)**

Instruction and participation in folk dance technique. Core Curriculum Course.

## DANC 1377 AFRICAN-AMERICAN DANCE I

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (2 lecture, 2 lab)**

A beginning level course which introduces the student to movement styles of various African-American dance artists. Primary movement vocabulary incorporates techniques of stretching and strengthening, as well as movement progressions. Through lecture and multimedia, the student will explore the origins of African dance, and its fusion into the dance of the United States. Core Curriculum Course.

## DANC 1378 AFRICAN-AMERICAN DANCE II

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (2 lecture, 2 lab)**

A continuation of DANC 1377.

## DANC 2210 DANCE REPERTORY I

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 2 (2 lecture)**

Dance technique and repertory of various styles taught by guest artist(s). Core Curriculum Course. (Formerly DANC 1213)

## DANC 2301 PROBLEMS IN DANCE

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (3 lecture)**

A course designed to meet the individual needs of students who otherwise have exhibited a particular talent or skill in dance which is not addressed in any existing dance course. Must have coordinator's approval after recommendation by the instructor. May be repeated.

## DANC 2303 DANCE APPRECIATION

**Prerequisites: Must be placed into college-level reading and college-level writing.**
**Credit: 3 (3 lecture)**

Introduction to dance designed for the general student. This course explores what is dance, who makes it, and why it is made. Through lecture, multimedia, and live performances, students are presented with examples from many world cultures. Core Curriculum Course.

## DANC 2325 ANATOMY AND KINESIOLOGY

**Prerequisite: Program approval; Must be placed into college-level reading and college-level writing.**
**Credit: 3 (3 lecture)**

The study of human movement designed specifically to relate to dance. The course will cover the skeletal, nervous, and muscular systems. Studies include movement analysis, therapeutic exercises, and prevention of dance injuries.

## DANC 2341 BALLET III

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (2 lecture, 2 lab)**

A continuation of DANC 1342 with an emphasis on developing strength, control, flexibility and line to develop a more comprehensive classical ballet movement vocabulary. Through lecture and multimedia, the student will trace the development of ballet in the United States. Core Curriculum Course.

## DANC 2342 BALLET IV

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (2 lecture, 2 lab)**

Continuation of DANC 2341.

## DANC 2345 MODERN DANCE III

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (2 lecture, 2 lab)**

A continuation of DANC 1346 with an emphasis on developing strength, control, flexibility, and improvisational skills to develop a more comprehensive modern dance vocabulary. Through lecture and multimedia, the student will trace the recent developments in modern dance performance styles. Core Curriculum Course.

## DANC 2346 MODERN IV

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (2 lecture, 2 lab)**

Continuation of DANC 2345.

## DANC 2347 JAZZ DANCE III

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (2 lecture, 2 lab)**

A continuation of DANC 1348.

## DANC 2351 PERFORMANCE III

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (2 lecture, 2 lab)**

This course offers students the opportunity to engage in rehearsal and performance of dance works in the making under the direction of faculty or guest choreographers. May be repeated with coordinator's approval.

## DANC 2352 PERFORMANCE IV

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (2 lecture, 2 lab)**

Continuation of DANC 2351

## DANC 2389 ACADEMIC COOPERATIVE IN DANCE

**Prerequisites: Must be placed into college-level reading and college-level writing.**
**Credit: 3 (1 lecture, 16 lab)**

An instructional program designed to integrate on-campus study with practical hands-on experience in dance. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of dance

## DEMR 1301 SHOP SAFETY AND PROCEDURES

**Credit: 3 (2 lecture, 4 lab)**

A study of shop safety, rules, basic shop tools, and test equipment.

## DEMR 1305 BASIC ELECTRICAL SYSTEMS

**Prerequisite: DEMR 1301**
**Credit: 3 (2 lecture,4 lab)**

Basic principles of electrical systems of diesel powered equipment with emphasis on starters, alternators, and batteries.

## DEMR 1306 DIESEL ENGINE I

**Prerequisite/Corequisite: DEMR 1301**
**Credit: 3 (2 lecture,4 lab)**

An introduction to the basic principles of diesel engines and systems.

## DEMR 1310 DIESEL ENGINE TESTING AND REPAIR I

**Prerequisite/Corequisite: DEMR 1313**
**Credit: 3 (2 lecture, 4 lab)**

An introduction to testing and repairing diesel engines including related systems specialized tools.

## DEMR 1313 FUEL SYSTEMS

**Prerequisite/Corequisite: DEMR 1316**
**Credit: 3 (2 lecture, 4 lab)**

In-depth coverage of fuel injector pumps and injection systems.

## DEMR 1316 BASIC HYDRAULICS

**Prerequisite/Corequisite: DEMR 1301**
**Credit: 3 (1 lecture, 4 lab)**

Fundamentals of hydraulics including components and related systems.

## DEMR 1329 PREVENTATIVE MAINTENANCE

**Prerequisites: DEMR 1301**
**Credit: 3 (2 lecture,2 lab)**

An introductory course designed to provide the student with basic knowledge of proper servicing practices. Content includes record keeping and condition of major systems.

## DEMR 1342 POWER TRAIN APPLICATIONS I

**Prerequisite/Corequisite: DEMR 1349**
**Credit: 3 (2 lecture,4 lab)**

In-depth coverage of the mechanics and theory of power trains. Emphasis on disassembly, inspection, and repair of power train components.

## DEMR 1349 DIESEL ENGINE II
**Prerequisite/Corequisite: DEMR 2348**
**Credit: 3 (2 lecture, 4 lab)**
An in-depth coverage of disassembly, repair, identification, evaluation, and reassembly of diesel engines.

## DEMR 1381 COOPERATIVE EDUCATION-DIESEL ENGINE MECHANIC AND REPAIRER
**Prerequisite/Corequisite: DEMR 2312 and Department Approval**
**Credit: 3 (1 lecture, 20 lab)**
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## DEMR 2312 DIESEL ENGINE TESTING AND REPAIR II
**Prerequisite/Corequisite: DEMR 1342**
**Credit: 3 (2 lecture, 4 lab)**
Coverage of testing and repairing diesel engines including related systems specialized tools.

## DEMR 2334 ADVANCED DIESEL TUNE-UP AND TROUBLESHOOTING
**Prerequisite/Corequisite: DEMR 2312**
**Credit: 3 (2 lecture, 4 lab)**
Advanced concepts and skills required for tune-up and troubleshooting procedures of diesel engines. Emphasis on the science of diagnostics with a common sense approach.

## DEMR 2348 FAILURE ANALYSIS
**Prerequisite/Corequisite: DEMR 1310**
**Credit: 3 (2 lecture, 3 lab)**
An advanced course designed for analysis of typical part failures on equipment.

## DFTG 1302 INTRODUCTION TO TECHNICAL ANIMATION AND RENDERING
**Prerequisite: DFTG 2319**
**Credit: 3 (2 lecture, 4 lab)**
Basic terminology and concepts associated with the development of computer modules used in technical computer animation. Topics include basic animation principles, model creation, light sources, camera positioning, rendering, importing and modification of external files.

## DFTG 1305 TECHNICAL DRAFTING
**Credit: 3 (2 lecture, 4 lab)**
Introduction to the principles of drafting to include terminology and fundamentals, including size and shape descriptions, projection methods, geometric construction, sections, auxiliary views, and reproduction processes.

## DFTG 1309 BASIC COMPUTER-AIDED DRAFTING
**Corequisite: DFTG 1305 or Department Approval**
**Credit: 3 (2 lecture, 4 lab)**
An introduction to computer-aided drafting. Emphasis is placed on setup; creating and modifying geometry; storing and retrieving predefined shapes; placing, rotating, and scaling objects, adding text and dimensions, using layers, coordinate systems and plot/print to scale.

## DFTG 1310 SPECIALIZED BASIC COMPUTER AIDED DRAFTING (CAD)
**Prerequisite: DFTG 1309**
**Credit: 3 (2 lec, 4 lab)**
A supplemental course to Basic Computer Aided Drafting using an alternative computer-aided drafting (CAD) software to create detail and working drawings.

## DFTG 1315 ARCHITECTURAL BLUEPRINT READING
**Credit : 3 (3 lecture)**
The fundamentals of blueprint reading for the construction industry will be examined.

## DFTG 1317 ARCHITECTURAL DRAFTING-RESIDENTIAL
**Prerequisite: DFTG 1305**
**Credit: 3 (2 lecture, 4 lab)**
Architectural drafting procedures, practices, and symbols, including preparation of detailed working drawings for residential structure with emphasis on light frame construction methods.

## DFTG 1329 ELECTROMECHANICAL DRAFTING
**Prerequisite: DFTG 1305**
**Credit: 3 (2 lecture, 4 lab)**
A basic course including layout and design of electro-mechanical equipment from engineering notes and sketches. Emphasis on drawing of electronics enclosures, interior hardware, exterior enclosure, detailed and assembly drawings with a parts list, and flat-pattern layouts.

## DFTG 1333 MECHANICAL DRAFTING
**Prerequisite: DFTG 1305**
**Credit: 3 (2 lecture, 4 lab)**
Detail drawings with proper dimensioning and tolerances, use of sectioning techniques, common fasteners, pictorial drawings, including bill of materials.

## DFTG 1358 ELECTRICAL/ELECTRONIC DRAFTING
**Prerequisite: DFTG 1305**
**Credit: 3 (2 lecture, 4 lab)**
Electrical and electronic drawings stressing modern representation used for block diagrams, schematic diagrams, logic diagrams, wiring/assembly drawings, printed circuit board layouts, motor control diagrams, power distribution diagrams, and electrical one-line diagrams.

## DFTG 1391 SPECIAL TOPICS IN DRAFTING
**Prerequisite: DFTG 2319**
**Credit: 3 (2 lecture, 4 lab)**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## DFTG 1392 SPECIAL TOPICS IN ARCHITECTURAL DRAFTING AND ARCHITECTURAL CAD/CADD
**Prerequisite: DFTG 2319**
**Credit: 3 (2 lecture, 4 lab)**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## DFTG 1394 SPECIAL TOPICS IN ELECTRICAL/ELECTRONICS DRAFTING AND ELECTRICAL/ELECTRONICS CAD/CADD
**Credit: 3 (2 lecture, 4 lab)**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## DFTG 1395 SPECIAL TOPICS IN MECHANICAL DRAFTING AND MECHANICAL DRAFTING CAD/CADD
**Credit: 3 (2 lecture, 4 lab)**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## DFTG 2300 INTERMEDIATE ARCHITECTURAL DRAFTING - RESIDENTIAL
**Prerequisite: DFTG 1317**
**Credit 3 (2 lecture, 4 lab)**
Continued application of principles and practices used in residential construction.

## DFTG 2302 MACHINE DRAFTING
**Prerequisite: DFTG 1333**
**Credit: 3 (2 lecture, 4 lab)**
Production of detail and assembly drawings of machine, threads, gears, cams, tolerances and limit dimensioning, surface finishes, and precision drawings.

## DFTG 2305 PRINTED CIRCUIT BOARD DESIGN
**Prerequisite: DFTG 1358**
**Credit: 3 (2 lecture, 4 lab)**
Course includes single-sided and double-sided printed circuit board design, emphasizing the drawings, standards, and processes required to layout printed circuit board and manufacturing documentation.

## DFTG 2306 MACHINE DESIGN
**Prerequisite: DFTG 2302**
**Credit: 3 (2 lecture, 4 lab)**
Theory and practice of design. Projects in problem solving, including press fit, bolted and welded joints, and transmission components.

## DFTG 2308 INSTRUMENTATION DRAFTING

**Prerequisite: DFTG 2323 or DFTG 1329**
**Credit: 3 (2 lecture, 4 lab)**
Principles of instrumentation as applicable to industrial applications; fundamentals of measurements and control devices; currently used ISA (Instrument Society of America) symbology; basic flow sheet layout, and drafting practices.

## DFTG 2316 ELECTRICAL DRAFTING

**Prerequisite: DFTG 1305**
**Credit: 3 (2 lecture, 4 lab)**
A study of electrical drawing preparation as applied to commercial and industrial standards.

## DFTG 2317 DESCRIPTIVE GEOMETRY

**Prerequisite: DFTG 1305**
**Credit: 3 (2 lecture, 4 lab)**
Graphical solutions to problems involving points, lines, and planes in space.

## DFTG 2319 INTERMEDIATE COMPUTER-AIDED DRAFTING

**Prerequisite: DFTG 1309 and DFTG 1305**
**Credit: 3 (2 lecture, 4 lab)**
A continuation of practices and techniques used in basic computer-aided drafting emphasizing advanced dimensioning techniques, the development and use of prototype drawings, construction of pictorial drawings, construction of 3-dimensional drawings, interfacing 2-D and 3-D environments and extracting data.

## DFTG 2323 PIPE DRAFTING

**Prerequisite: DFTG 1305**
**Credit: 3 (2 lecture, 4 lab)**
A study of pipe fittings, symbols, specifications, and their applications to a piping process system. Creation of symbols and their usage in flow diagrams, plans, elevations, and isometrics.

## DFTG 2328 ARCHITECTURAL DRAFTING - COMMERCIAL

**Prerequisite: DFTG 1317**
**Credit: 3 (2 lecture, 4 lab)**
Architectural drafting procedures, practices, and symbols including the preparation of detailed working drawings for a commercial building, with emphasis on commercial construction methods.

## DFTG 2330 CIVIL DRAFTING

**Prerequisite: DFTG 1305**
**Credit: 3 (2 lecture, 4 lab)**
An in-depth study of drafting methods and principles used in civil engineering.

## DFTG 2331 ADVANCED TECHNOLOGIES IN ARCHITECTURAL DESIGN AND DRAFTING

**Prerequisite: DFTG 2319**
**Credit: 3 (2 lecture, 4 lab)**
Use of architectural specific software to execute the elements required in designing standard architectural exhibits utilizing custom features to create walls, windows and specific design requirements for construction in residential/commercial and industrial architecture.

## DFTG 2332 ADVANCED COMPUTER-AIDED DRAFTING

**Prerequisite: DFTG 2319**
**Credit: 3 (2 lecture, 4 lab)**
Advanced techniques, including the use of a customized system. Presentation of advanced drawing applications, such as three-dimensional solids modeling and linking graphic entities to external non-graphic data.

## DFTG 2335 ADVANCED TECHNOLOGIES IN MECHANICAL DESIGN AND DRAFTING

**Prerequisite: DFTG 2319**
**Credit: 3 (2 lecture, 4 lab)**
Use parametric based mechanical design software for mechanical assembly design and drafting.

## DFTG 2340 SOLID MODELING/ DESIGN

**Prerequisite: DFTG 2319**
**Credit: 3 (2 lecture, 4 lab)**
A computer-aided modeling course. Development of three-dimensional drawings and models from engineering sketches and orthographic drawings and utilization of three-dimensional models in design work.

## DFTG 2345 ADVANCED PIPE DRAFTING

**Prerequisite: DFTG 2323**
**Credit: 3 (2 lecture, 4 lab)**
A continuation of pipe drafting concepts building on the basic principles acquired in pipe drafting.

## DFTG 2358 ADVANCED MACHINE DESIGN

**Prerequisite: DFTG 2306**
**Credit: 3 (2 lecture, 4 lab)**
Design process skills for the production of complete design package, which includes jig and fixture design, extrusion dies, and injection mold design.

## DFTG 2370 INTERMEDIATE COMPUTER-AIDED DRAFTING-MICROSTATION

**Prerequisite: DFTG 1370**
**Credit: 3 (2 lec, 4 lab)**
A continuation of practices and techniques used in the basic computer-aided drafting (Microstation), emphasizing advanced dimensioning techniques, the development and use of prototype drawings, construction of pictorial drawings, construction of three (3) dimensional drawings, interfacing 2D and 3D environments and extracting data.

## DFTG 2371 ADVANCED TECHNOLOGIES IN PROCESS PLANT DESIGN-AUTOPLANT

**Prerequisite: DFTG 2319**
**or 2370**
**Credit: 3 (2 lec, 4 lab)**
Use process plant based mechanical design software for specific applications in industrial design and drafting.

## DFTG 2380 COOPERATIVE EDUCATION - DRAFTING AND DESIGN TECHNOLOGY/ TECHNICIAN, GENERAL

**Prerequisite: Complete 12 semester hours in Drafting Program and Department Approval**
**Credit: 3 (1 lecture, 20 lab)**
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## DFTG 2381 COOPERATIVE EDUCATION - DRAFTING AND DESIGN TECHNOLOGY/ TECHNICIAN, GENERAL

**Prerequisite: Complete 12 semester hours in Drafting Program and Department Approval**
**Credit: 3 (1 lecture, 20 lab)**
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## DMSO 1210 INTRODUCTION TO SONOGRAPHY

**Prerequisite: Admission to the program**
**Credit: 2 (1 lecture; 2 lab)**
An introduction to the profession of sonography and the role of the sonographer. Emphasis on medical terminology, ethical/legal aspects, written and verbal communication, and professional issues related to registry, accreditation, professional organizations and history of the profession.

## DMSO 1266 PRACTICUM (OR FIELD EXPERIENCE) - DIAGNOSTIC MEDICAL SONOGRAPHY/ SONOGRAPHER AND ULTRASOUND TECHNICIAN

**Prerequisites: DMSO 1302, 1355, 1441,1451**
**Credit: 2 (16 lab)**
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## DMSO 1302 BASIC ULTRASOUND PHYSICS

**Prerequisite: Admission to the program**
**Credit: 3 (3 lecture, 1 lab)**
Basic acoustical physics and acoustical waves in human tissue. Emphasis is on ultrasound transmission in soft tissues, attenuation of sound energy, parameters affecting sound transmission and resolution of sound beams.

## DMSO 1342 INTERMEDIATE ULTRASOUND PHYSICS
**Prerequisite: DMSO 1302**
**Credit: 3 (3 lecture, 1 lab)**
Continuation of Basic Ultrasound Physics. Includes interaction of ultrasound with tissues, mechanics of ultrasound production and display, various transducer designs and construction, quality assurance, bioeffects, and image artifacts. May introduce methods of Doppler flow analysis.

## DMSO 1355 SONOGRAPHIC PATHOPHYSIOLOGY
**Prerequisite: Admission to program**
**Credit: 3 (2 lecture; 2 lab)**
Pathology and pathophysiology of the abdominal structures visualized with ultrasound. Includes abdomen, pelvis, and superficial structures.

## DMSO 1441 ABDOMINOPELVIC SONOGRAPHY
**Prerequisite: Admission to program**
**Credit: 4 (3 lecture, 4 lab)**
Normal anatomy and physiology of the abdominal and pelvic cavities as related to scanning techniques, transducer selection, and scanning protocols.

## DMSO 1451 SONOGRAPHIC SECTIONAL ANATOMY
**Prerequisite: Admission to program**
**Credit: 4 (3 lecture, 2 lab)**
Sectional anatomy of the male and female body. Includes anatomical relationships of organs, vascular structures, and body planes and quadrants.

## DMSO 2243 ADVANCED ULTRASOUND PRINCIPLES AND INSTRUMENTATION
**Prerequisites: DMSO 1302, DMSO 1342 and DMSO 2351**
**Credit: 2 (2 lecture)**
Theory and application of ultrasound principles. Includes advances in ultrasound technology.

## DMSO 2245 ADVANCED SONOGRAPHY PRACTICES
**Prerequisites: All DMSO courses**
**Credit: 2 (2 lecture)**
Exploration of advanced sonographic procedures and emerging ultrasound applications.

## DMSO 2253 SONOGRAPHY OF SUPERFICIAL STRUCTURES
**Prerequisites: DMSO 2405, DMSO 2441**
**Credit: 2 (2 lecture)**
Detailed study of normal and pathological superficial structures as related to scanning techniques, patient history and laboratory data, transducer selection and scanning protocols.

## DMSO 2266 PRACTICUM (OR FIELD EXPERIENCE) - DIAGNOSTIC MEDICAL SONOGRAPHY/ SONOGRAPHER AND ULTRASOUND TECHNICIAN
**Prerequisite: DMSO 1266**
**Credit: 2 (16 lab)**
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## DMSO 2342 SONOGRAPHY OF HIGH RISK OBSTETRICS
**Prerequisite: DMSO 2405**
**Credit: 3 (2 lecture, 2 lab)**
Maternal disease and fetal abnormalities. Includes scanning techniques, patient history and laboratory data, transducer selection, and scanning protocols.

## DMSO 2351 DOPPLER PHYSICS
**Prerequisite: DMSO 1342**
**Credit: 3 (3 lecture)**
Doppler and hemodynamic principles relating to arterial and venous imaging and testing.

## DMSO 2405 SONOGRAPHY OF OBSTETRICS/GYNECOLOGY
**Prerequisite: DMSO 1451**
**Credit: 4 (4 lecture, 1 lab)**
Detailed study of the pelvis and obstetrics/gynecology as related to scanning techniques, patient history and laboratory data, transducer selection and scanning protocols.

## DMSO 2441 SONOGRAPHY OF ABDOMINOPELVIC PATHOLOGY
**Prerequisites: DMSO 1355, DMSO 1441, DMSO 1451**
**Credit: 4 (3 lecture, 4 lab)**
Pathologies and disease states of the abdomen and pelvis as related to scanning techniques, patient history and laboratory data, transducer selection, and scanning protocols. Emphasizes endocavitary sonographic anatomy and procedures including pregnancy.

## DMSO 2467 PRACTICUM (OR FIELD EXPERIENCE) - DIAGNOSTIC MEDICAL SONOGRAPHY/ SONOGRAPHER AND ULTRASOUND TECHNICIAN
**Prerequisites: All DMSO courses**
**Credit: 4 (32 lab)**
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## DNTA 1102 COMMUNICATION AND BEHAVIOR IN THE DENTAL OFFICE
**Credit: 1 (1 lecture)**
Provides for better understanding of human interaction in the dental office. Studies motivation and learning experiences as related to the dental health care provider, focused on practical applications of human behavior.

## DNTA 1167 PRACTICUM-DENTAL ASSISTANT
**Prerequisites: DNTA 1401, DNTA 1245, DNTA 1411, DNTA 1415, DNTA 1205**
**Credit: 1 (10 lab)**
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## DNTA 1205 DENTAL RADIOLOGY
**Credit: 2 (1 lecture, 3 lab)**
Introduction to radiation physics, protection, the operation of radiographic equipment, exposure, processing and mounting of dental radiographs. Specific safety and standard precautions for the classroom and lab settings will be practiced.

## DNTA 1245 PREVENTIVE DENTISTRY
**Credit: 2 (2 lecture)**
The study and prevention of dental diseases and community dental health.

## DNTA 1349 DENTAL RADIOLOGY IN THE CLINIC
**Prerequisite: DNTA 1205**
**Credit: 3 (2 lecture, 3 lab)**
The practical application of exposing, processing and mounting of dental radiographs obtained by utilizing various radiographic techniques. This course will encompass critical evaluation of all procedures.

## DNTA 1351 DENTAL OFFICE MANAGEMENT
**Prerequisite: DNTA 1415**
**Credit: 3 (3 lecture)**
The study of business office procedures, including telephone management, appointment control, receipt of payment for dental services, completion of third-party reimbursement forms, supply inventory maintenance, data entry for charges and payments, recare management (manage recall systems), federal and state guidelines regarding health care providers, and operating basic business equipment.

## DNTA 1401 DENTAL MATERIALS
**Credit: 4 (3 lecture, 3 lab)**
Structure, properties, and procedures related to dental materials. Includes safety and standard precautions practiced in the lab and classroom settings.

## DNTA 1411 DENTAL SCIENCE
**Credit: 4 (4 lecture)**
An introduction to anatomical systems with emphasis placed on head and neck anatomy. Topics include the physiology and morphology of the deciduous and permanent teeth along with basic dental terminology.

## DNTA 1415 CHAIRSIDE ASSISTING
**Credit: 4 (3 lecture, 3 lab)**
An introduction to pre-clinical chairside assisting procedures, instrumentation, infection and hazard control protocol, equipment safety and maintenance.

## DNTA 1447 ADVANCED DENTAL SCIENCE
**Prerequisite: DNTA 1411**
**Credit: 4 (4 lecture)**
A study of anatomical systems with emphasis on pharmacology, oral pathology and developmental abnormalities.

## DNTA 1453 DENTAL ASSISTING APPLICATIONS
**Prerequisites: DNTA 1401, DNTA 1415**
**Credit: 4 (3 lecture, 3 lab)**
Comprehensive procedures and applications for the general and specialty areas of dentistry.

## DNTA 2130 SEMINAR FOR THE DENTAL ASSISTANT
**Prerequisites: DNTA 1167, DNTA 1453, DNTA 1349, DNTA 1351, DNTA 1447**
**Credit: 1 (1 lecture)**
This seminar will allow problem solving case studies during the clinical phase of practicum.

## DNTA 2267 PRACTICUM-DENTAL ASSISTANT

**Prerequisite: DNTA 1167**
**Credit: 2 (15 lab)**
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## DRAM 1161 MUSICAL THEATRE I

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 1 (0 lecture, 4 lab)**
Focus on the study and performance of works from the musical theatre repertory, including musical comedy, reviews, operetta, and basic vocal and movement skills. Theatre attendance and/or assistance in college productions required. Core curriculum course. (formerly DRAM 1172)

## DRAM 1162 MUSICAL THEATRE II

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 1 (0 lecture, 4 lab)**
Focus on the study and performance of works from the musical theatre repertory, including musical comedy, reviews, operetta, and basic vocal and movement skills. Theatre attendance and/or assistance in college productions required. Core curriculum course.

## DRAM 1310 INTRODUCTION TO THEATRE

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (3 lecture)**
Basic principles of theatre, including the various styles of theatrical production and present practices in the theatre. Required of majors. Open to non-majors. Core Curriculum Course.

## DRAM 1320 PERFORMANCE

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (2 lecture, 4 lab)**
This class is devoted to the rehearsal and performance of one or more plays and is designed to give the student experience in applying his performance techniques for an audience.

## DRAM 1322 STAGE MOVEMENT

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (2 lecture, 2 lab)**
A course to develop the actor's expressive use of the body through pantomime, tumbling, acrobatics, fencing, and stage fighting.

## DRAM 1330 BASIC THEATRE PRACTICE I

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (2 lecture, 2 lab)**
Stagecraft, stage properties, and makeup. Practical experience on technical crews is provided. Laboratory hours may be arranged. Required of majors. Open to non-majors.

## DRAM 1341 STAGE MAKEUP

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (3 lecture)**
Principles of straight and character makeup. Student must purchase basic makeup kit. Theatre attendance and/or assistance in college productions required. Required of majors. Open to non-majors.

## DRAM 1351 ACTING I

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (2 lecture, 2 lab)**
An introduction to the problems of internal acting technique, creation of visual images, reaction to stimulus, and creation of inner life of character. Scene work: finding beats, developing subtext, and playing intentions. Theatre attendance and/or assistance in college productions required. Required of majors. Open to non-majors. Core Curriculum Course.

## DRAM 1352 ACTING II

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (2 lecture, 2 lab)**
An introduction to the problems of external acting technique with emphasis on characterization using animal, color and inanimate object improvisational techniques. Scene work focuses on comedic technique including analyzing incongruities, playing opposites, and timing. Theatre attendance and/or assistance in college productions required. Required of majors. Open to non-majors. Core Curriculum Course.

## DRAM 2331 BASIC THEATRE PRACTICE II

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (2 lecture, 2 lab)**
A continuation of DRAM 1330. Required of majors. Open to non-majors.

## DRAM 2336 VOCAL PRODUCTION

**Recommended Prerequisite: SPCH 1342; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (3 lecture)**
Emphasis on vocal production: breathing and support, resonance, pitch, range, quality projection. Emphasis on oral interpretation skills. SPCH 1342 recommended.

## DRAM 2337 VOICE FOR THE ACTOR I

**Prerequisites: SPCH 1342, DRAM 2336, or Department Approval; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (3 lecture)**
Acting with voice: combining proper production techniques and correct pronunciation and articulation, the actor learns to be expressive vocally. Analysis of the emotional potential of vowel and consonant sounds and combinations. Scansion, phrasing, rhythm and dynamics.

## DRAM 2338 VOICE FOR THE ACTOR II

**Prerequisites: SPCH 1342 or a demonstrable knowledge of the IPA; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (3 lecture)**
Accents and dialects. Using the International Phonetic Alphabet (IPA) students learn the alterations from English needed to produce correctly the sounds of most needed foreign accents, including standard British, Cockney, French, German, American New York, and Southerners, among others.

## DRAM 2351 ACTING III

**Prerequisites: DRAM 1351,1352 or Department Approval Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (2 lecture, 2 lab)**
A study of classical acting style with an emphasis on Shakespeare. Special attention is paid to movement and vocal technique dealing with the problems of period movement and heightened language.

## DRAM 2361 HISTORY OF THE THEATRE

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (3 lecture)**
Survey of the theatre from its beginning. Core Curriculum Course.

## DRAM 2363 HISTORY OF MUSICAL THEATRE

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (3 lecture)**
Development of musical theatre art from the earliest times through the 21st Century. Core curriculum course.

## DRAM 2366 SURVEY AND HISTORY OF FILM

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (3 lecture)**
Emphasis on the analysis of the visual and aural aspects of selected motion pictures, dramatic aspects of narrative films, and historical growth and sociological effect of film as an art. Core Curriculum Course.

## DRAM 2367 THE ART OF FILM MAKING

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (3 lecture)**
The analysis of key masterworks of American and international films with particular emphasis on works by famed and influential directors. Core curriculum course.

### DRAM 2389 ACADEMIC COOPERATIVE IN DRAMA
**Prerequisites: Must be placed into college-level reading and college-level writing.**
**Credit: 3 (1 lecture, 16 lab)**
An instructional program designed to integrate on-campus study with practical hands-on experience in drama. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of drama.

### DVST 1103 INTRODUCTION TO VASCULAR TECHNOLOGY
**Credit: 1 (1 lecture)**
An introduction to basic noninvasive vascular theories, with emphasis on basic skills and knowledge, such as image orientation, transducer handling, and identification of anatomic structures.

### ECON 1301 INTRODUCTION TO ECONOMICS
**Credit: 3 (3 lecture)**
Examination of the structure and operation of the American economic system. Introduction to selected economic principles essential to the understanding of contemporary issues. May not be substituted for ECON 2301 or ECON 2302.

### ECON 2289 ACADEMIC COOPERATIVE IN ECONOMICS
**Prerequisites: Departmental approval only.**
**Credit: 3 (1 lecture, 16 lab)**
An instructional program designed to integrate on-campus study with practical hands-on experience in economics. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of human social behavior and/or social institutions.

### ECON 2301 PRINCIPLES OF MACROECONOMICS
**Prerequisites: Must be placed into college-level reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (3 lecture)**
Macroeconomics examines the fundamentals of the American economy as it relates to social welfare. Emphasis is on basic concepts and theories as they affect domestic and international markets. This course integrates behavioral social sciences to present solutions to real world problems. Macroeconomics includes measurements of GDP, fiscal and monetary policy. Core Curriculum Course.

### ECON 2302 PRINCIPLES OF MICROECONOMICS
**Prerequisites: Must be placed into college-level reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (3 lecture)**
Microeconomics examines the fundamentals of the American economy as it relates to business and individual welfare. Emphasis is on basic concepts and theories as they affect domestic and international markets. Microeconomics includes cost and production decisions and discusses the role of competition, monopolies and oligopolies. Core Curriculum Course.

### ECON 2311 ECONOMIC GEOGRAPHY
**Prerequisite: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**
**Credit: 3 (3 lecture)**
Analytical study of the historical development of particular economic distributions as they relate to social, cultural, political, and physical factors. Includes critical inquiry into the reasons for location of various types of economic activity, production, and marketing. This course explores markets and people across time and spatial dimensions. The course also discusses exchange rates and factors which influence them. It includes analysis of world fundamental occupations and commodities. Cross-listed with GEOG 2312. Core Curriculum Course.

### ECON 2289 ACADEMIC COOPERATIVE IN ECONOMICS
**Prerequisites: Departmental approval only.**
**Credit: 3 (1 lecture, 16 lab)**
An instructional program designed to integrate on-campus study with practical hands-on experience in economics. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of human social behavior and/or social institutions.

### ECON 2389 ACADEMIC COOPERATIVE IN ECONOMICS
**Prerequisites: Departmental approval only.**
**Credit: 3 (1 lecture, 16 lab)**
An instructional program designed to integrate on-campus study with practical hands-on experience in economics. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of human social behavior and/or social institutions

### ECRD 1211 ELECTROCARDIOGRAPHY
**Credit: 2 (1 lecture, 3 lab)**
Fundamentals of cardiovascular anatomy and physiology. Includes basic electrocardiography procedures, interpretation of basic dysrhythmias, and appropriate treatment modalities.

### EDUC 1300 LEARNING FRAMEWORK
**Prerequisite: Must be placed into GUST 0341 (or higher). Credit: 3 (3 lecture)**
Cognitive psychology and teacher education research has resulted in a greatly improved and greatly increased body of knowledge on how students and teachers learn. At this time, there is a striking gap between the knowledge of learning and the application of that knowledge to teachers' preparation programs. EDUC 1300 enables the student to develop effective academic behaviors for college success and be able to transfer these behaviors into the teaching experience. For successful and sustained reform to occur in the field of teaching, the changes made in how teaching and learning take place in schools must be mirrored in how teachers are prepared to teach. Note: This course qualifies as a Student Success Course

### EDUC 1301 INTRODUCTION TO EDUCATION
**Prerequisites: Must be placed into college-level reading and college-level writing.**
**Credit: 3 (3 lecture)**
This course is designed to help individuals decide whether teaching could be a satisfying career for them. Information concerning the role of education and educators, teacher preparation programs, effective teaching, employability, and rewards and challenges of teaching is presented.

### EDUC 1325 MULTICULTURAL EDUCATION
**Prerequisites: Must be placed into college-level reading and college-level writing.**
**Credit: 3 (3 lecture)**
An examination of cultural diversity found in society and reflected in the classroom. Topics will include the study of major cultures and their influence on lifestyle, behavior, learning, intercultural communication and teaching, as well as psychosocial stressors encountered by diverse cultural groups.

### EDUC 2301 CHILDREN WITH SPECIAL NEEDS
**Prerequisites: EDUC 1301, Must be placed into college-level reading and college-level writing.**
**Credit: 3 (3 lecture)**
This course introduces the student to the medical, psychological, social, and personal characteristics of exceptional students in the regular and special classroom. Issues related to this area will also be introduced. These include diversity and exceptionality, infants and young children with special needs, families of exceptional children, the use of technology in special education, and transition to work and community living.

### EECT 1307 CONVERGENT TECHNOLOGIES
**Credit: 3 (2 lecture, 4 lab)**
A study of telecommunications convergent technologies including telephone, LAN, WAN, wireless, voice, video, and internet protocol.

### EECT 1440 TELECOMMUNICATIONS TRANSMISSION MEDIA
**Credit: 4 (3 lecture, 2 lab)**
Fundamentals of telecommunications media, including installation, maintenance, and troubleshooting. Topics address media characteristics and connectorization.

### EECT 2337 WIRELESS TELEPHONE SYSTEMS
**Prerequisite: EECT 2439**
**Credit: 3 (2 lecture, 4 lab)**
Principles of wireless/cellular telephony systems to include call processing, hand-off, site analysis, antenna radiation patterns, commonly used test/maintenance equipment and access protocol.

## EECT 2380 COOPERATIVE EDUCATION-ELECTRICAL ELECTRONIC AND COMMUNICATIONS ENGINEERING TECHNOLOGY/TECHNICIAN

**Prerequisite: Preassigned/Program approval**
**Credit: 3 (1 lecture/seminar, 20 hours of work experience per week)**
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## EECT 2389 INTERNSHIP - ELECTRICAL, ELECTRONIC AND COMMUNICATIONS ENGINEERING TECHNOLOGY/TECHNICIAN

**Prerequisite: Department Approval**
**Credit: 3 (1 lecture, 17 lab)**
A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

## EECT 2433 TELEPHONE SYSTEMS

**Prerequisite: CETT 1409 or Department Approval**
**Credit: 4 (3 lecture, 3 lab)**
Study of installation and maintenance systems including telephone set, public switched networks, local exchanges, networks, two- and four-wire systems, tip and ringing requirements, and digital transmission techniques.

## EECT 2439 COMMUNICATIONS CIRCUITS

**Prerequisite: CETT 1429 or Department Approval**
**Credit: 4 (3 lecture, 3 lab)**
A study of communications systems with emphasis on amplitude modulation, frequency modulation, phase modulation, and digital pulse modulation. Discussion of several types of modulators, demodulators, receivers, transmitters, and transceivers.

## EEIR 1307 INTRODUCTORY SECURITY SYSTEMS

**Prerequisite: ELPT 1311**
**Credit: 3 (2 lecture, 3 lab)**
A study of the security system components, maintenance, troubleshooting, and repair procedures. Emphasis on the installation of security systems as directed.

## EEIR 1345 INTERMEDIATE SECURITY SYSTEMS

**Prerequisite: EEIR 1307**
**Credit: 3 (2 lecture, 3 lab)**
A study of maintenance, troubleshooting, and repair of security systems of moderate complexity. Emphasis on the maintenance of security systems with limited instructor direction.

## ELMT 1301 PROGRAMMABLE LOGIC CONTROLLERS

**Prerequisite/Corequisite: ELPT 1341**
**Credit: 3 (2 lecture, 3 lab)**
An introduction to programmable logic controllers as used in industrial environments including basic concepts, programming, applications, troubleshooting of ladder logic, and interfacing of equipment.

## ELMT 2333 INDUSTRIAL ELECTRONICS

**Prerequisite: ELMT 2341**
**Credit: 3 (2 lecture, 3 lab)**
A study of devices, circuits, and systems primarily used in automated manufacturing and/or process control including computer controls and interfacing between mechanical, electrical, electronic, and computer equipment. Presentation of programming schemes.

## ELMT 2337 ELECTRONIC TROUBLESHOOTING, SERVICE, AND REPAIR

**Prerequisite: CETT 1429, CETT 1425**
**Credit: 3 (2 lecture, 2 lab)**
In-depth coverage of electronic systems, maintenance, troubleshooting, and repair. Topics include symptom identification, proper repair procedures, repair checkout, and preventative maintenance. Emphasis on safety and proper use of test equipment. May be offered as a capstone course.

## ELMT 2341 ELECTROMECHANICAL SYSTEMS

**Prerequisite: DEMR 1405**
**Credit: 3 (1 lecture, 4 lab)**
Covers the application of electromechanical systems, including linear and rotational positioning systems, and their associated control systems, and the methods employed to operate them. Students will devise open and closed loop control solutions for a variety of positioning and power transformation problems. Emphasis is placed on programmable control devices and solid state systems.

## ELPT 1215 ELECTRICAL CALCULATIONS I

**Credit: 2 (1 lecture, 3 lab)**
Introduction to mathematical applications utilized to solve problems in the electrical field. Topics include fractions, decimals, percentages, simple equations, ratio and proportion, unit conversions, applied geometry, area and volume calculations, simple algebraic equations, inequalities and the use of triangles to calculate electrical values.

## ELPT 1221 INTRODUCTION TO ELECTRICAL SAFETY AND TOOLS

**Credit: 2 (1 lecture, 2 lab)**
A comprehensive overview of safety rules and regulations and the selection, inspection, use, and maintenance of common tools for electricians. Emphasis is given to safety rules and accepted safety practices in the workplace, the use of hand tools, power tools and the proper selection, function and operation of common electrical measuring instruments.

## ELPT 1311 BASIC ELECTRICAL THEORY

**Prerequisite/Corequisite: ELPT 1215**
**Credit: 3 (2 lecture, 3 lab)**
Basic theory and practice of electrical circuits. Includes calculations as applied to alternating and direct current.

## ELPT 1325 NATIONAL ELECTRICAL CODE I

**Prerequisite/Corequisite: ELPT 1215**
**Credit: 3 (2 lecture, 2 lab)**
An introductory study of the National Electric Code (NEC) for those employed in fields requiring knowledge of the Code. Emphasis on wiring design, protection, methods, and materials; equipment for general use; and basic calculations.

## ELPT 1329 RESIDENTIAL WIRING

**Prerequisite/Corequisite: ELPT 1221**
**Credit: 3 (2 lecture, 3 lab)**
Wiring methods for single family and multi-family dwellings. Includes load calculations, service entrance sizing, proper grounding techniques, and associated safety procedures.

## ELPT 1341 MOTOR CONTROL

**Corequisite: ELPT 1311**
**Credit: 3 (2 lecture, 3 lab)**
Operating principles of solid-state and conventional controls along with their practical applications. Includes braking, jogging, plugging, safety interlocks, wiring, and schematic diagram interpretations.

## ELPT 1345 COMMERCIAL WIRING

**Prerequisite: ELPT 1221 and ELPT 1329**
**Corequisite: ELPT 1325**
**Credit: 3 (2 lecture, 3 lab)**
Commercial wiring methods. Includes overcurrent protection, raceway panel board installation, proper grounding techniques, and associated safety procedures.

## ELPT 1355 ELECTRONIC APPLICATIONS

**Prerequisite/Corequisite: ELPT 1311**
**Credit: 3 (2 lecture, 3 lab)**
Electronic principles and the use of electronic devices. Includes diodes, transistors, and rectifiers.

## ELPT 2301 JOURNEYMAN ELECTRICIAN EXAM REVIEW

**Prerequisite: Department Approval**
**Credit: 3 (2 lecture, 2 lab)**
Preparation for journeyman electrician licensure with emphasis on calculations and the National Electrical Code (NEC).

## ELPT 2325 NATIONAL ELECTRICAL CODE II

**Prerequisite/Corequisite: ELPT 1215 and ELPT 1325**
**Credit: 3 (2 lecture, 2 lab)**
In-depth coverage of the National Electric Code (NEC) for those employed in fields requiring knowledge of the Code. Emphasis on wiring protection and methods, special conditions, and advanced calculations. Topics include hazardous location classifications and divisions, wiring methods and materials for electrical installations in special occupancies.

**ELPT 2364 PRACTICUM (OR FIELD EXPERIENCE) - ELECTRICAL AND POWER TRANSMISSION INSTALLER, POWER TECHNOLOGY**

**Prerequisite: Department Approval**
**Credit: 3 (30 lab)**
Practical general workplace training supported by an individualized learning plan developed by the employer, college and student.

**ELPT 2365 PRACTICUM (OR FIELD EXPERIENCE) - ELECTRICAL AND POWER TRANSMISSION INSTALLER, INDUSTRIAL AUTOMATION**

**Prerequisite: Department Approval**
**Credit: 3 (30 lab)**
Practical general workplace training supported by an individualized learning plan developed by the employer, college and student.

**ELPT 2419 PROGRAMMABLE LOGIC CONTROLLERS I**

**Prerequisite: ELMT 1301 or Department Approval**
**Credit: 4 (3 lecture, 2 lab)**
Fundamental concepts of programmable logic controllers, principles of operation, and numbering systems as applied to electrical controls.

**ELPT 2449 INDUSTRIAL AUTOMATION**

**Prerequisite/Corequisite: ELPT 2455**
**Credit: 4 (3 lecture, 2 lab)**
Electrical control systems, applications, and interfacing utilized in industrial automation.

**ELPT 2455 PROGRAMMABLE LOGIC CONTROLLERS II**

**Prerequisite: ELPT 2419**
**Credit: 4 (3 lecture, 2 lab)**
Advanced concepts in programmable logic controllers and their applications and interfacing to industrial controls.

**EMSP 1160 CLINICAL-EMT BASIC**

**Corequisite: EMSP 1401**
**Credit: 1 (3 lab)**
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

**EMSP 1263 CLINICAL FOUNDATIONS**

**Corequisite: EMSP 1356**
**Credit: 2 (9 lab)**
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

**EMSP 1338 INTRODUCTION TO ADVANCED PRACTICE**

**Corequisite: EMSP 2248, EMSP 1356, EMSP 1263**
**Credit: 3 (2 lecture, 4 lab)**
An exploration of the foundations necessary for mastery of the advanced topics of clinical practice out of the hospital.

**EMSP 1355 TRAUMA MANAGEMENT**
**Corequisite: EMSP 2444, EMSP 2160**
**Credit: 3 (2 lecture, 4 lab)**
A detailed study of the knowledge and skills in the assessment and management of patients with traumatic injuries.

**EMSP 1356 PATIENT ASSESSMENT AND AIRWAY MANAGEMENT**
**Corequisite: EMSP 1338, EMSP 2248, EMSP 1263**
**Credit: 3 (2 lecture, 4 lab)**
A detailed study of the knowledge and skills required to perform patient assessment and airway management.

**EMSP 1391 SPECIAL TOPICS IN EMS**

**Corequisite: EMSP 2261**
**Credit: 3 (3 lecture)**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

**EMSP 1401 EMERGENCY MEDICAL TECHNICIAN–BASIC**

**Credit: 4 (3 lecture, 4 lab)**
Introduction to the level of Emergency Medical Technician (EMT)-Basic. Includes all the skills necessary to provide emergency medical care at a basic life support level with an ambulance service or other specialized services.

**EMSP 2135 ADVANCED CARDIAC LIFE SUPPORT**

**Credit: 1 (2 lab)**
Skill development for professional personnel practicing in critical care units, emergency departments, and paramedic ambulances. Establishes a system of protocols for management of the patient experiencing cardiac difficulties.

**EMSP 2160 CLINICAL - EMERGENCY MEDICAL TECHNOLOGY/ TECHNICIAN (EMT PARAMEDIC)/ CARDIOLOGY**

**Corequisite: EMSP 2444**
**Credit: 1 (5 lab)**
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

**EMSP 2243 ASSESSMENT BASED MANAGEMENT**

**Corequisite: EMSP 2338, EMSP 2261**
**Credit: 2 (1 lecture, 4 lab)**
Comprehensive, assessment-based patient care management. Includes specific care when dealing with pediatric, adult, geriatric, and special needs patients.

**EMSP 2248 EMERGENCY PHARMACOLOGY**

**Corequisite: EMSP 1338, EMSP 1356, EMSP 1263**
**Credit: 2 (1 lecture, 4 lab)**
A comprehensive course covering all aspects of the utilization of medications for treating emergency situations. Course is designed to complement Cardiology, Special Populations, and Medical Emergency courses.

**EMSP 2260 CLINICAL- EMERGENCY MEDICAL TECHNOLOGY/ TECHNICIAN (EMT PARAMEDIC)/ SPECIAL POPULATIONS**

**Corequisite: EMSP 2330**
**Credit: 2 (9 lab)**
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

**EMSP 2261 CLINICAL- EMERGENCY MEDICAL TECHNOLOGY/ TECHNICIAN (EMT PARAMEDIC)/ FIELD**

**Corequisite: EMSP 2338**
**Credit: 2 (9 lab)**
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

**EMSP 2330 SPECIAL POPULATIONS**
**Corequisite: EMSP 2434, EMSP 2260**
**Credit: 3 (2 lecture, 4 lab)**
A detailed study of the knowledge and skills necessary to reach competence in the assessment and management of ill or injured patients in nontraditional populations.

**EMSP 2338 EMS OPERATIONS**
**Corequisite: EMSP 2243, EMSP 2261**
**Credit: 3 (2 lecture, 4 lab)**
A detailed study of the knowledge and skills to safely manage the scene of an emergency.

**EMSP 2352 EMERGENCY MEDICAL SERVICES RESEARCH**

**Corequisite: EMSP 2243, EMSP 2261**
**Credit: 3 (2 lecture, 2 lab)**
Primary and/or secondary research in current and emerging issues in EMS. Basic research principles, scientific inquiry, and interpretation of professional literature are emphasized.

**EMSP 2434 MEDICAL EMERGENCIES**
**Corequisite: EMSP 2330, EMSP 2260**
**Credit: 4 (4 lecture, 1 lab)**
A detailed study of the knowledge and skills necessary to reach competence in the assessment and management of patients with medical emergencies.

**EMSP 2444 CARDIOLOGY**
**Corequisite: EMSP 1355, EMSP 2160**
**Credit: 4 (2 lecture, 6 lab)**
Assessment and management of patients with cardiac emergencies. Includes basic dysrhythmia interpretation, recognition of 12-lead EKGs for field diagnosis, and electrical and pharmacological interventions.

**ENGL 0100 DEVELOPMENTAL ENGLISH**

**Credit: 1 (1 lecture)**
An individualized curriculum intended for students who have completed one of the college developmental English sequences (through ENGL 0310 or ENGL 0349), but have yet to demonstrate the appropriate ENGL 0100 standard. Counselor's or department chair approval required.

### ENGL 0300 FUNDAMENTALS OF GRAMMAR AND COMPOSITION I

**Prerequisites: Must be placed into ENGL 0300 (or higher) in writing.**

**Credit: 3 (3 lecture)**

A refresher course devoted to improving basic English skills for native speakers. (NOTE: Instead of ENGL 0300, non-native speakers must refer to ENGL 0340-0349 or ESOL 0341-0356). Emphasizes grammar, sentence structure, and paragraph development through essay writing.

### ENGL 0310 FUNDAMENTALS OF GRAMMAR AND COMPOSITION II

**Prerequisites: Must be placed into ENGL 0310 or completion of ENGL 0300.**

**Credit: 3 (3 lecture)**

A course designed to prepare students for ENGL 1301. Students will ordinarily proceed to ENGL 0310 after taking ENGL 0300. Some students may, however, test directly into ENGL 0310 (ENGL 0300 is not a prerequisite for ENGL 0310). ENGL 0310 provides a basic review of the principles of grammar, usage and mechanics and utilizes the writing process to teach the students to write short essays (350-500 words).

### ENGL 0320 ADVANCED GRAMMAR AND TOEFL PREPARATION

**Prerequisite: A satisfactory score on the CELSA test or completion of ENGL 0346**

**Credit: 3 (3 lecture)**

An advanced grammar review and listening skills development. Excellent preparation for ESL students who must pass the TOEFL in order to transfer to a four-year institution.

### ENGL 0340 ENGLISH GRAMMAR AND CONVERSATION FOR FOREIGN SPEAKERS I

**Prerequisite: A satisfactory score on the CELSA Test**

**Credit: 3 (3 lecture, 1 lab)**

A course in English grammar and conversation. This course is intended to aid foreign students in acquiring fluency in spoken English. The approach is communicative, involving grammar study, oral exercises, dialogues, and role playing. All four language skills (listening, speaking, reading, and writing) are developed.

### ENGL 0341 ENGLISH GRAMMAR AND CONVERSATION FOR FOREIGN SPEAKERS II.

**Prerequisite: A satisfactory score on the CELSA Test or completion of ENGL 0340**

**Credit: 3 (3 lecture, 2 lab)**

An intermediate course in English grammar and conversation. This course is a continuation of the skills acquired in ENGL 0340 and uses the same approach. It should be taken prior to ENGL 0346, although some students whose assessment score qualifies them for ENGL 0346 may be advised to take ENGL 0341 as a companion course.

### ENGL 0343 ADVANCED CONVERSATION FOR FOREIGN SPEAKERS

**Prerequisite: English 0341 or sufficient assessment score for English 0346 or above**

**Credit: 3 (3 lecture, 2 lab)**

Students discuss current events and cultural topics in English. Pronunciation, vocabulary development, and group discussion skills are stressed. May be taken concurrently with other English courses.

### ENGL 0346 GRAMMAR AND COMPOSITION FOR FOREIGN SPEAKERS I

**Prerequisite: A satisfactory score on the CELSA Test or completion of ENGL 0341**

**Credit: 3 (3 lecture, 1 lab)**

An intermediate course in English grammar and composition designed to help the student acquire a greater facility in written English. This course is designed for the student who already possesses adequate conversational skill and is pursuing a college career. This course emphasizes grammar, vocabulary, sentence composition, and paragraph writing. It may be taken with ENGL 0341 or 0343 if the student placed into 0346 wishes more proficiency in conversation.

### ENGL 0347 GRAMMAR AND COMPOSITION FOR FOREIGN SPEAKERS II

**Prerequisite: A satisfactory score on the CELSA Test or completion of ENGL 0346**

**Credit: 3 (3 lecture, 1 lab)**

An advanced course in English grammar and composition designed to help the foreign student who already has some elementary skills in English grammar and composition. This course is a continuation of ENGL 0346, and focuses more on advanced grammar and essay writing.

### ENGL 0349 ADVANCED COMPOSITION FOR FOREIGN SPEAKERS

**Prerequisite: A satisfactory score on the CELSA Test or completion of ENGL 0347**

**Credit: 3 (3 lecture, 1 lab)**

A continuation of ENGL 0347. Designed to help non-native speakers to improve writing skills before taking ENGL 1301. Concentrated interdisciplinary writing practice and vocabulary study to prepare students for freshman composition, ENGL 1301, and other academic courses.

### ENGL 1301 COMPOSITION I

**Prerequisite: Prerequisites: Must be placed into college-level reading and college-level writing. Credit: 3 (3 lecture)**

A course devoted to improving the student's writing and critical reading. Writing essays for a variety of purposes from personal to academic, including the introduction to argumentation, critical analysis, and the use of sources. Core Curriculum Course.

### ENGL 1302 COMPOSITION II

**Prerequisite: Composition 1301 or satisfactory score on the CLEP Exam; Credit: 3 (3 lecture)**

A more extensive study of the skills introduced in ENGL 1301 with an emphasis on critical thinking, research and documentation techniques, and literary and rhetorical analysis. Core Curriculum Course.

### ENGL 1311 BUSINESS ENGLISH

**Prerequisite: ENGL 0300 or ENGL 0349 or satisfactory score on English Diagnostic Test**

**Credit: 3 (3 lecture)**

A comprehensive review of English grammar, punctuation, spelling, and basic skills. Introduction to principles of writing with a focus on applications in business contexts. Applications include letters, memos and collaborative writing required in a business environment.

### ENGL 2307 AN INTRODUCTION TO CREATIVE WRITING

**Prerequisite: ENGL 1301 or permission of Department Chair**

**Credit: 3 (3 lecture)**

A course designed to introduce the student to the forms, strategies, and techniques involved in creative writing. The student may be given a series of directed assignments which may be critiqued in class.

### ENGL 2308 CREATIVE WRITING II

**Prerequisite: ENGL 2307**

**Credit: 3 (3 lecture)**

A course designed to build on the foundations developed in ENGL 2307. Students are encouraged to work on creative projects with the guidance of instructors which may be critiqued in class.

### ENGL 2311 TECHNICAL AND INDUSTRIAL CORRESPONDENCE AND REPORT WRITING

**Prerequisite: ENGL 1301**

**Credit: 3 (3 lecture)**

Studies situational analysis, data analysis, and presentation of technical and industrial project development through letters and reports. Practices precise audience identification, including product and process specification and presentation, safety reporting, and governmental compliance and proposal writing. Includes periodic and progress and other forms of reporting and related correspondence, plus use of form and extended reporting.

### ENGL 2322 BRITISH LITERATURE: BEGINNINGS TO NEOCLASSICAL

**Prerequisite: ENGL 1302**

**Credit: 3 (3 lecture)**

A critical study of major British writers from the Anglo-Saxon period through the eighteenth century. Students may take ENGL 2322 and ENGL 2323 in any order. Core Curriculum Course.

### ENGL 2323 BRITISH LITERATURE: ROMANTICISM TO PRESENT

**Prerequisite: ENGL 1302**

**Credit 3 (3 lecture)**

A critical study of major British writers of the nineteenth and twentieth centuries. Students may take ENGL 2322 and ENGL 2323 in any order. Core Curriculum Course.

### ENGL 2327 EARLY AMERICAN LITERATURE

**Prerequisite: ENGL 1302**

**Credit: 3 (3 lecture)**

A critical study of major American writers from the colonial period to 1865. Students may take ENGL 2327 and ENGL 2328 in any order. Core Curriculum Course.

## ENGL 2328 AMERICAN LITERATURE SINCE THE CIVIL WAR
**Prerequisite: ENGL 1302**
**Credit: 3 (3 lecture)**
A critical study of major American writers from 1865 to the present. Students may take ENGL 2327 and ENGL 2328 in any order. Core Curriculum Course.

## ENGL 2332 LITERATURE OF THE WESTERN WORLD: ANCIENT TO RENAISSANCE
**Prerequisite: ENGL 1302**
**Credit: 3 (3 lecture)**
A critical study of major Western writers from antiquity through the Renaissance. Students may take ENGL 2332 and ENGL 2333 in any order. Core Curriculum Course.

## ENGL 2333 LITERATURE OF THE WESTERN WORLD: NEO-CLASSICAL TO PRESENT
**Prerequisite: ENGL 1302**
**Credit: 3 (3 lecture)**
A critical study of major Western writers from the Neoclassical period to present. Students may take ENGL 2332 and ENGL 2333 in any order. Core Curriculum Course.

## ENGL 2334 THE BIBLE AS LITERATURE: THE OLD TESTAMENT
**Prerequisite: ENGL 1302**
**Credit: 3 (3 lecture)**
Survey of the Old Testament as a literary work. Examination of representative portions of the Old Testament. Emphasis upon the literary characteristics and the cultural and historical contexts of the various books of the Old Testament. Students may take ENGL 2334 and ENGL 2335 in any order. Core Curriculum Course.

## ENGL 2335 THE BIBLE AS LITERATURE: THE NEW TESTAMENT
**Prerequisite: ENGL 1302**
**Credit: 3 (3 lecture)**
Survey of the New Testament as a literary work. Examination of representative portions of the New Testament. Emphasis upon the literary characteristics and the cultural and historical contexts of the various books of the New Testament. Students may take ENGL 2334 and ENGL 2335 in any order. Core Curriculum Course.

## ENGL 2336 INTRODUCTION TO MULTICULTURAL LITERATURE
**Prerequisite: ENGL 1302**
**Credit: 3 (3 lecture)**
This course is a survey of multicultural literature written by a diverse group of contemporary writers. Students will read selections from fiction, nonfiction, poetry, and drama and will analyze these works through class discussions and written assignments. Core Curriculum Course.

## ENGL 2341 LITERATURE AND FILM
**Prerequisite: ENGL 1302**
**Credit: 3 (3 lecture)**
An introduction to film form and its relationship to literary form. Students will read poems, novels, and essays and view experimental feature and documentary films. Discussion and papers will center on the parallel influence and development of form in both mediums. Core Curriculum Course.

## ENGL 2342 INTRODUCTION TO FICTION
**Prerequisite: ENGL 1302**
**Credit: 3 (3 lecture)**
An introductory study of short stories, novellas, and novels with emphasis upon understanding the vocabulary of literary analysis and applying it to fiction. Core Curriculum Course.

## ENGL 2343 INTRODUCTION TO DRAMATIC LITERATURE
**Prerequisite: ENGL 1302**
**Credit: 3 (3 lecture)**
An introductory study of representative plays by ancient, medieval, classical, nineteenth-century and modern playwrights. Core Curriculum Course.

## ENGL 2353 WOMEN IN LITERATURE
**Prerequisite: ENGL 1302**
**Credit: 3 (3 lecture)**
A comprehensive historical overview of the female literary tradition in English from the Middle Ages to the twentieth century. A critical study of how women have responded to culture and society, personal relationships, and their inner selves through a variety of literary genres. Core Curriculum Course.

## ENGL 2374 INTRODUCTION TO POETRY
**Prerequisite: ENGL 1302**
**Credit: 3 (3 lecture)**
A critical study of poetry as a genre. The course introduces the English/American tradition of poetry in the context of the Western European and other traditions from around the world in translation. The analysis stems from the elements of poetry and poetry's importance to culture, both popular and high. Core Curriculum Course.

## ENGL 2389 TECHNICAL WRITING COOPERATIVE EDUCATION
**Prerequisites: ENGL 1301, minimal GPA of 2.5 overall and/or approval of the instructor or department chair; Must be placed into college-level reading and college-level writing.**
**Credit: 3 (3 lecture, minimum 20 hours career-related work experience per week)**
A cooperative study effort integrating classroom study with work experience that enables students to learn more about organizational functions. Students also have the opportunity to learn about occupational roles in their fields as their supervising employers cooperate with the College to insure a blend of work and study.

## ENGR 1201 INTRODUCTION TO ENGINEERING
**Credit: 2 (2 lecture)**
Introduction to engineering as a discipline and a profession. Includes instruction in the application of mathematical and scientific principles to the solution of practical problems for the benefit of society

## ENGR 2301 ENGINEERING STATICS
**Prerequisites: PHYS 2425 and MATH 2414**
**Credit: 3 (3 lecture, 1 lab)**
Composition and resolution of forces, free body diagrams, analysis of forces acting on structures and machines, friction, centroids, and moments of inertia.

## ENGR 2302 ENGINEERING DYNAMICS
**Prerequisite: ENGR 2301**
**Credit: 3 (3 lecture, 1 lab)**
Dynamics of rid bodies, force-mass acceleration, work-energy, impulse momentum and introduction of mechanical vibrations.

## ENGR 2304 COMPUTER PROGRAMMING FOR ENGINEERS
**Prerequisite: MATH 2413. Recommended co-enrollment in MATH 2414.**
**Credit: 3 (2 lecture, 2 lab)**
Course designed for students who intend to obtain a degree in an engineering discipline. Course covers problem solving, algorithm development for advanced topics in engineering and mathematics

## ENGR 2332 ENGINEERING MECHANICS OF MATERIALS
**Prerequisites: MATH 2414 and ENGR 2302**
**Credit: 3 (3 lecture)**
Concepts of stresses and strains, engineering properties of materials including thin-walled pressure vessels, torsional and flexural members, shear, moment, equation of elastic curve, deflection of members, combined loadings, column behavior.

## ENTC 1301 ROBOTICS I
**Credit: 3 (3 lecture)**
An introduction to Robots/Automation. Topics include history, terminology, classification of robots, basic components, control systems, AC and hydraulic servomechanisms, programming, sensors, types of drive, end-of-arm tooling, end effectors, safety and design procedures.

## ENTC 1343 STATICS
**Credit: 3 (3 lecture)**
A study of the composition and resolution of forces and the equilibrium of forces acting on structures. Includes the concepts of friction, moments, couples, centroids, and moment of inertia.

## ENTC 1391 SPECIAL TOPICS IN ENGINEERING TECHNOLOGY/
**Technician, General**
**Credit: 3 (3 lecture)**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

## ENTC 1423 STRENGTH OF MATERIALS
**Credit: 4 (3 lecture, 3 lab)**
Study of the relationship between externally applied forces and internally induced stresses and the resulting deformations in structural members. The student will identify the principle behind moments of interim and explain the relationship between that principle and the shape's cross-sectional geometry and reference axis; and calculate the torsional shearing stress on a solid round shaft subjected to various torques and horsepower requirements.

## ENTC 2381 COOPERATIVE EDUCATION - ENGINEERING TECHNOLOGY/TECHNICIAN, GENERAL

**Prerequisite: Department Approval**
**Credit: 3 (1 lecture, 20 lab)**
Career related activities encountered in the student's area of specialization are offered through a cooperative agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines classroom learning with work experience. Directly related to a technical discipline, specific learning objectives guide the student through the paid work experience. This course may be repeated if topics and learning outcomes vary.

## ENVR 1301 ENVIRONMENTAL SCIENCE

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (3 lecture)**
Study of natural resources, energy, pollution, and natural disasters. Core Curriculum Course. (Formerly GEOL 1305) Note: ENVR 1301 and ENVR 1401 cannot both be taken for credit toward certificate or degree requirements.

## ENVR 1401 ENVIRONMENTAL SCIENCE

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 4 (3 lecture, 3 lab)**
Study of natural resources, energy, pollution, and natural disasters. Core Curriculum Course. Formerly GEOL 1305. Note: ENVR 1301 and ENVR 1401 cannot both be taken for credit toward certificate or degree requirements.

## EPCT 1305 ENVIRONMENTAL REGULATIONS OVERVIEW

**Credit: 3 (3 lecture)**
An introduction to the history of the environmental movement, including identification of the regulations and standards that pertain to public health and air and water quality, the agencies that administer them, and the basic requirements for compliance with environmental regulations.

## EPCT 1344 ENVIRONMENTAL SAMPLING AND ANALYSIS

**Credit: 3 (2 lecture, 4 lab)**
Sampling protocol, procedures, quality control, preservation technology, and field analysis. Emphasis on analysis commonly performed by the field technician. The student will demonstrate proper selection of basic monitoring equipment and instrument calibration, sampling, field analysis, and preservation procedures; representative sampling methods; and prepare and evaluate documentation associated with sampling and field analysis.

## EPCT 1380 COOPERATIVE EDUCATION - ENVIRONMENTAL ENGINEERING TECHNOLOGY/ ENVIRONMENTAL TECHNOLOGY

**Credit: 3 (1 lecture, 20 lab)**
**Prerequisite: Department Approval**
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## EPCT 1427 WATER TREATMENT AND OPERATIONS

**Credit: 4 (3 lecture, 3 lab)**
Introduction to the information and operational skills needed for water treatment plants.

## EPCT 1428 BASIC WASTEWATER OPERATIONS

**Credit: 4 (3 lecture, 3 lab)**
Introduction to the information and operational skills needed for water treatment plants.

## EPCT 1492 SPECIAL TOPICS IN WATER QUALITY AND WASTEWATER TREATMENT TECHNOLOGY/ TECHNICIAN

**Prerequisite: EPCT 2441**
**Credit: 4 (3 lecture, 3 lab)**
This course covers knowledge and skills in the planning, operation, preventive maintenance, and reporting of water and wastewater equipment. Included are positive displacement and centrifugal pumping instrumentation, valve and sluice gates, corrosion control, lubrication, maintenance, record keeping, reporting methods and operator safety.

## EPCT 2212 WATER RULES AND REGULATIONS

**Prerequisite: EPCT 1427**
**Credit: 2 (2 lecture)**
Discussion of local, state, and national rules and regulations relevant to water. Chemical and microbiological analysis for nonstandard water and wastewater samples.

## EPCT 2403 SURFACE AND GROUNDWATER COLLECTION

**Prerequisite: EPCT 1427**
**Credit: 4 (3 lecture, 3 lab)**
In-depth study of operations and maintenance procedures for surface and ground water collection.

## EPCT 2413 WASTEWATER COLLECTIONS

**Prerequisite: EPCT 1427**
**Credit: 4 (3 lecture, 3 lab)**
Basic concepts in operation and maintenance of collection systems.

## EPCT 2414 WASTEWATER CHEMISTRY

**Prerequisite: EPCT 1427**
**Credit: 4 (3 lecture, 3 lab)**
Basic techniques for sampling and chemical and microbiological analysis of water.

## EPCT 2441 WASTEWATER TREATMENT

**Prerequisite: EPCT 1428**
**Credit: 4 (3 lecture, 3 lab)**
Advance study of the theory of operations and maintenance of wastewater treatment.

## EPCT 2442 ADVANCED WATER AND WASTEWATER CHEMISTRY

**Prerequisite: EPCT 2414 or EPCT 2415**
**Credit: 4 (lecture 3, lab 3)**
Advanced chemical and microbiological analysis for nonstandard water and wastewater samples.

## ESOL 0341 BEGINNING CONVERSATION FOR FOREIGN SPEAKERS

**Corequisites: ESOL 0342, ESOL 0343, and ESOL 0344**
**Credit: 3 (3 lecture, 2 lab)**
A course developing conversational skills in simple English with emphasis on vocabulary and grammatical structures used in day-to-day living. Vocabulary, pronunciation, simple sentence structure, and intonation patterns are stressed.

## ESOL 0342 BEGINNING READING FOR FOREIGN SPEAKERS

**Corequisites: ESOL 0341, ESOL 0343, and ESOL 0344**
**Credit: 3 (3 lecture, 2 lab)**
An elementary course in reading English. Emphasis is placed on vocabulary building and reading skills including identifying main ideas and answering comprehension questions.

## ESOL 0343 BEGINNING WRITING

**Corequisites: ESOL 0341, ESOL 0342, and ESOL 0344**
**Credit: 3 (3 lecture, 2 lab)**
A course devoted to developing basic writing skills such as simple sentence structure and developing paragraphs.

## ESOL 0344 BEGINNING GRAMMAR FOR FOREIGN SPEAKERS

**Corequisites: ESOL 0341, ESOL 0342, and ESOL 0343**
**Credit: 3 (3 lecture, 2 lab)**
An introduction to basic English grammar. Emphasis is placed on correct verb forms, parts of speech, sentence order, capitalization, and punctuation.

## ESOL 0345 INTERMEDIATE CONVERSATION FOR FOREIGN SPEAKERS

**Corequisites: ESOL 0346, ESOL 0347, and ESOL 0348**
**Credit: 3 (3 lecture, 2 lab)**
A continuation of ESOL 0341. This course places emphasis on idiomatic speech, everyday vocabulary development, and listening comprehension.

### ESOL 0346 INTERMEDIATE READING FOR FOREIGN SPEAKERS
**Corequisites: ESOL 0345, ESOL 0347, and ESOL 0348**
**Credit: 3 (3 lecture, 2 lab)**
A continuation of ESOL 0342. An intermediate course in reading academically oriented English. Emphasis is placed on expanding English vocabulary and developing reading skills such as identifying main ideas, separating fact from opinion, and organizing information.

### ESOL 0347 INTERMEDIATE WRITING FOR FOREIGN SPEAKERS
**Corequisites: ESOL 0345, ESOL 0346, and ESOL 0348**
**Credit: 3 (3 lecture, 2 lab)**
A continuation of ESOL 0343. This course expands writing skills through writing simple and compound sentences. Students broaden their knowledge of paragraph organization and the importance of unity and coherence in the paragraph.

### ESOL 0348 INTERMEDIATE GRAMMAR FOR FOREIGN SPEAKERS
**Corequisites: ESOL 0345, ESOL 0346 and ESOL 0347**
**Credit: 3 (3 lecture, 2 lab)**
A continuation of ESOL 0344. This course reviews the basic structures of English grammar and develops the production of complex English sentences.

### ESOL 0349 ADVANCED INTERMEDIATE CONVERSATION FOR FOREIGN SPEAKERS
**Corequisites: ESOL 0350, ESOL 0351 and ESOL 0352**
**Credit: 3 (3 lecture, 2 lab)**
A continuation of ESOL 0345. This course is designed to further develop conversational skills by incorporating more complicated vocabulary and grammatical structures. Students are also required to present oral reports at various times during the semester.

### ESOL 0350 ADVANCED INTERMEDIATE READING FOR FOREIGN SPEAKERS
**Corequisites: ESOL 0349, ESOL 0351 and ESOL 0352**
**Credit: 3 (3 lecture, 2 lab)**
A continuation of ESOL 0346. An advanced intermediate course in reading academically oriented English. This course further develops reading comprehension skills and expands vocabulary. Emphasis is on distinguishing main ideas from supporting details and drawing conclusions.

### ESOL 0351 ADVANCED INTERMEDIATE COMPOSITION FOR FOREIGN SPEAKERS
**Corequisites: ESOL 0349, ESOL 0350 and ESOL 0352**
**Credit: 3 (3 lecture, 2 lab)**
A continuation of ESOL 0347. This course concentrates on the development of writing skills, reviews the paragraph and its essential elements, and introduces the multi-paragraph essay.

### ESOL 0352 ADVANCED INTERMEDIATE GRAMMAR FOR FOREIGN SPEAKERS
**Corequisites: ESOL 0349, ESOL 0350 and ESOL 0351**
**Credit: 3 (3 lecture, 2 lab)**
A continuation of ESOL 0348. This course provides a review of essential grammatical and structural features while introducing their finer points. Emphasis is placed on compound and complex sentence structures and is designed to lead students toward active mastery of the patterns and principles of formal written English.

### ESOL 0353 ADVANCED READING FOR FOREIGN SPEAKERS
**Corequisites: ESOL 0354, ESOL 0355 and ESOL 0356**
**Credit: 3 (3 lecture, 2 lab)**
A continuation of ESOL 0350. An advanced course designed to develop reading and critical thinking skills for college-bound students. Reading skills are refined to guide students towards mastery of deduction, inference, and figurative language.

### ESOL 0354 ADVANCED COMPOSITION FOR FOREIGN SPEAKERS
**Corequisites: ESOL 0353, ESOL 0355 and ESOL 0356**
**Credit: 3 (3 lecture, 2 lab)**
A continuation of ESOL 0351. This course concentrates on elements of essay organization. Students are required to produce well-organized, well-substantiated essays.

### ESOL 0355 ADVANCED GRAMMAR FOR FOREIGN SPEAKERS
**Corequisites: ESOL 0353, ESOL 0354 and ESOL 0356**
**Credit: 3 (3 lecture, 2 lab)**
A continuation of ESOL 0352. This course provides a review of both essential and finer points of the grammatical structural features of formal written English. Emphasis is placed on active production and error analysis of standard English.

### ESOL 0356 ADVANCED CONVERSATION FOR FOREIGN SPEAKERS
**Corequisites: ESOL 0353, ESOL 0354 and ESOL 0355**
**Credit: 3 (3 lecture, 2 lab)**
A continuation of ESOL 0349. This course is designed to encourage students' use of high-level grammatical structures and vocabulary skills. Students are required to present an oral book report, an oral report of a personal, off-campus interview, and an oral research report.

### ETWR 1371 TECHNICAL COMPOSITION
**Credit: 3 (3 lecture)**
A study of the selection, organization, relevancy and logical sequencing of technological ideas and information. Includes a review of basic English grammar.

### ETWR 1372 TECHNICAL WRITING II
**Prerequisite: ETWR 2301 or Department Approval**
**Credit: 3 (3 lecture)**
A study of technical manual preparation for business and industry. Includes research methods, organizational skills, writing and presentation of printed and/or electronic technical manuals.

### ETWR 1373 ONLINE DOCUMENTATION
**Prerequisite: ARTC 1302, IMED 1316 and ETWR 2301 or Department Approval**
**Credit: 3 (2 lecture, 4 lab)**
An exploration of electronic technical documentation in business and industry, including Web-based solutions and CD-ROM/DVD-ROM presentations. Uses industry standard computer software to produce end product.

### ETWR 1374 PROPOSAL WRITING
**Prerequisite: ETWR 2301 or Department Approval**
**Credit: 3 (2 lecture, 4 lab)**
Comprehensive study of the process of preparing effective proposals for business, education, and industry. Includes responding to requests for proposals, developing unsolicited proposals, researching and evaluating information for maximum benefit, developing strategies, writing persuasively, and presenting the written proposal orally.

### ETWR 1391 SPECIAL TOPICS IN ENGLISH TECHNICAL WRITING
**Prerequisite: ETWR 2301 or Department Approval**
**Credit: 3 (2 lecture, 4 lab)**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. Individual course may cover Proposal Writing, Technical Writing II, On-Line Documentation-FrameMaker or RoboHelp or The Interview Process.

### ETWR 2301 TECHNICAL WRITING
**Prerequisite: ENGL 1301, ETWR 1371 or Department Approval**
**Credit: 3 (3 lecture, 0 lab)**
Study of the principles, techniques, and skills needed for college level scientific, technical, and business writing.

### FCEL 1302 INTRODUCTION TO FUEL CELL TECHNOLOGY
**Credit: 3 (2 lecture, 4 Lab)**
Types of fuel cells and other alternative energy fields. Includes professional requirements of fuel cell technicians.

### FCEL 2400 FUEL CELL BASIC OPERATIONS AND MAINTENANCE
**Credit: 3 (2 lecture, 4 Lab)**
Fuel cell instruments and their terminology. Emphasizes fuel cell utilization in alternative energy applications. Includes methanol, solid oxide, phosphoric acid, and polymer type fuel cells.

### FIRS 1301 FIRE FIGHTER CERTIFICATION I

**Credit: 3 (2 lecture, 4 lab)**

An introduction to fire fighter safety and development. Topics include Texas Commission on Fire Protection Rules and Regulations, fire fighter safety, fire science, personal protective equipment, self contained breathing apparatus, and fire reports and records.

### FIRS 1313 FIRE FIGHTER CERTIFICATION III

**Prerequisite or Corequisite: FIRS 1407**
**Credit: 3 (2 lecture, 3 lab)**

Fire streams and pump operations as they relate to fundamental development of basic firefighter skills. \*\*\*THIS COURSE MAY BE OFFERED ONLY BY INSTITUTIONS LICENSED AS A FIRE ACADEMY BY THE TEXAS COMMISSION ON FIRE PROTECTION\*\*\*

### FIRS 1319 FIRE FIGHTER CERTIFICATION IV

**Prerequisite or Corequisite: FIRS 1313**
**Credit: 3 (2 lecture, 2 lab)**

A study of equipment, tactics, and procedures used in forcible entry, ventilation, salvage, and overhaul. Preparation for certification as a basic fire fighter.

### FIRS 1329 FIRE FIGHTER CERTIFICATION VI

**Prerequisite or Corequisite: FIRS 1423**
**Credit: 3 (2 lecture, 3 lab)**

The study of fire inspection techniques and practices, public transportation, fire cause determination. Topics include fire protection systems, wild land fire, and pre incident planning. Preparation for certification as a basic fire fighter.

### FIRS 1407 FIRE FIGHTER CERTIFICATION II

**Prerequisite or Corequisite: FIRS 1301**
**Credit: 4 (3 lecture, 4 lab)**

The study of basic principles and skill development in handling fire service hose and ladders. Topics include the distribution system of water supply, basic building construction, and emergency service communication, procedures, and equipment.

### FIRS 1423 FIRE FIGHTER CERTIFICATION V

**Prerequisite or Corequisite: FIRS 1319**
**Credit: 4 (3 lecture, 2 lab)**

The study of ropes and knots, rescue procedures and techniques, and hazardous materials. Preparation for certification as a basic fire fighter.

### FIRS 1433 FIRE FIGHTER CERTIFICATION VII

**Prerequisite or Corequisite: FIRS 1329**
**Credit: 4 (2 lecture, 6 lab)**

An in depth study and practice of simulated emergency operations and hands on live fire training exercises, incident command procedures, and combined operations using proper extinguishing methods. Emphasis on safety.

### FIRT 1303 FIRE AND ARSON INVESTIGATION I

**Credit: 3 (3 lecture)**

In depth study of basic fire and arson investigation practices. Emphasis on fire behavior principles related to fire cause and origin determination.

### FIRT 1305 PUBLIC EDUCATION PROGRAMS

**Credit: 3 (3 lecture)**

Preparation of fire fighters and fire officers to develop public fire safety awareness. Emphasis on implementation of fire and public safety programs in an effort to reduce the loss of life.

### FIRT 1307 FIRE PREVENTION CODES AND INSPECTIONS

**Credit: 3 (3 lecture)**

Study of local building and fire prevention codes. Emphasis on fire prevention inspections, practices, and procedures.

### FIRT 1309 FIRE ADMINISTRATION I

**Credit: 3 (3 lecture)**

Introduction to the organization and management of a fire department and the relationship of government agencies to the fire service. Emphasis on fire service leadership from the perspective of the company officer.

### FIRT 1311 FIRE SERVICE HYDRAULICS

**Credit: 3 (3 lecture)**

Study of water distribution systems and fire stream development as related to fire protection and suppression.

### FIRT 1315 HAZARDOU MATERIALS I

**Credit: 3 (3 lecture)**

Study of the chemical characteristics and behavior of various materials. Topics include storage, transportation, handling hazardous emergency situations, and the most effective methods of hazard mitigation.

### FIRT 1319 FIRE FIGHTER HEALTH AND SAFETY

**Credit: 3 (3 lecture)**

Study of fire fighter occupational safety and health in emergency and non emergency situations.

### FIRT 1323 BUILDING CODES

**Credit: 3 (3 lecture)**

Survey of model codes used nationally to develop understanding of the interrelationships of building construction, occupancy, and related safety issues. Topics include Underwriters Laboratory (U.L.) listings and Factory Mutual (F.M.) Approvals.

### FIRT 1327 BUILDING CONSTRUCTION IN THE FIRE SERVICE

**Credit: 3 (3 lecture)**

Exploration of building construction and design related to fire spread and suppression in various structures. Examination of potential hazards resulting from construction practices and materials.

### FIRT 1331 FIRE FIGHTING STRATEGIES AND TACTICS I

**Credit: 3 (3 lecture)**

Analysis of the nature of fire problems and selection of initial strategies and tactics including an in depth study of efficient and effective use of manpower and equipment to mitigate the emergency.

### FIRT 1336 FIRE INSURANCE FUNDAMENTALS

**Credit: 3 (3 lecture)**

Examination of the relationship between fire defenses, fire losses, and insurance rates. In depth study of the insurance grading system.

### FIRT 1338 FIRE PROTECTION SYSTEMS

**Credit: 3 (3 lecture)**

Study of fire detection, alarm, and extinguishing systems.

### FIRT 1345 HAZARDOUS MATERIALS II

**Credit: 3 (3 lecture)**

In depth study of mitigation practices and techniques to effectively control hazardous material spills and leaks.

### FIRT 1347 INDUSTRIAL FIRE PROTECTION

**Credit: 3 (3 lecture)**

Study of industrial emergency response teams and specific concerns related to business and industrial facilities.

### FIRT 1349 FIRE ADMINISTRATION II

**Credit: 3 (3 lecture)**

In depth study of fire service management as pertaining to budgetary requirements, administration, organization of divisions within the fire service, and relationships between the fire service and outside agencies.

### FIRT 1355 METHODS OF TEACHING

**Credit: 3 (3 lecture)**

Preparation of public safety personnel to effectively teach technical skills, techniques, and information.

### FIRT 1370 FIRE INSTRUCTOR I

**Prerequisite: FIRS 1433 or proof of Firefighter II level certification**
**Credit: 3 (3 lecture, 1 lab)**

Preparation of fire and emergency services personnel to deliver instruction effectively from a prepared lesson plan, including the use of instructional aids and evaluation instruments to meet the Texas Commission on Fire Protection requirements for Fire Instructor I certification.

### FIRT 1371 FIRE INSTRUCTOR II

**Prerequisite: FIRT 1370, or proof of Fire Instructor I certification**
**Credit: 3 (3 lecture, 1 lab)**

Preparation of fire and emergency services personnel to develop individual less plans for a specific topic including learning objectives, instructional aids, and evaluation instruments; schedule training sessions, and supervise and coordinate the activities of other instructors to meet Texas Commission on Fire Protection requirements for Fire Instructor III certification.

## FIRT 1391 SPECIAL TOPICS IN FIRE PROTECTION AND SAFETY TECHNOLOGY/TECHNICIAN

**Prerequisite: Department Approval**

**Credit: 3 (3 lecture)**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

## FIRT 1392 SPECIAL TOPICS IN FIRE SERVICES ADMINISTRATION

**Credit: 3 (3 lecture)**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

## FIRT 1433 FIRE CHEMISTRY I

**Credit: 4 (2 lecture, 4 lab)**

Introduction to the chemical nature and properties of inorganic compounds as related to the fire service. Topics include fundamental laws of chemistry, states of matter, gas laws, chemical bonding, and thermodynamics with applications to various industrial processes.

## FIRT 1434 FIRE CHEMISTRY II

**Credit: 4 (2 lecture, 4 lab)**

Introduction to the chemistry of carbon compounds as related to the fire service with primary emphasis on the hydrocarbons. Topics include alcohols, phenols, halogen compounds, and ethers with application to various industrial processes.

## FIRT 2333 FIRE & ARSON INVESTIGATION II

**Credit: 3 (3 lecture)**

Continuation of Fire and Arson Investigation I. Topics include reports, courtroom demeanor, and expert witnesses.

## FIRT 2351 COMPANY FIRE OFFICER

**Credit: 3 (3 lecture)**

A capstone course covering fire ground operations and supervisory practices. Includes performance evaluation of incident commander, safety officer, public information officer, and shift supervisor duties.

## FIRT 2380 COOPERATIVE EDUCATION FIRE PROTECTION AND SAFETY TECHNOLOGY/ TECHNICIAN

**Prerequisite: 15 semester hours of FIRT/ FIRS and Department Approval**

**Credit: 3 (1 lecture, 20 lab)**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## FIRT 2470 FIRE INSTRUCTOR III

**Prerequisite: FIRT 1371, or proof of the Fire Instructor II Certification**

**Credit: 3 (3 lecture, 1 lab)**

Preparation of fire and emergency services personnel to develop comprehensive training curriculum and programs, conduct organization needs analysis, and develop training goals and implementation strategies to meet Texas Commission on Fire Protection requirements for Fire Instructor III certification.

## FITT 1301 FITNESS AND EXERCISE TESTING

**Prerequisite: FITT 2313**

**Credit: 3 (2 lecture, 2 lab)**

Techniques for conducting physical fitness assessments including tests of cardiorespiratory fitness, muscular strength and endurance, joint flexibility, body composition, and pulmonary capacity. Includes fitness equipment use and maintenance. Emphasis on safety guidelines and precautions. (Fall semester only)

## FITT 1303 FITNESS EVENT PLANNING AND PROMOTION

**Prerequisite: FITT 2313**

**Credit: 3 (3 lecture)**

Practical aspects of developing and scheduling group exercise fitness classes. Includes recreational activities, competitive events, and promotion of exercise and non-exercise activities. Emphasis on the design of safe, enjoyable activities. (Fall semester only)

## FITT 2311 PREVENTION AND CARE OF EXERCISE INJURY

**Prerequisite: FITT 2313 and PHED 1150**

**Credit: 3 (3 lecture)**

Overview of design methods for exercise settings and programs for injury prevention. Includes the use of safe physical conditioning techniques, current exercise fads and myths that promote injury, methods for injury recognition and evaluation, on-site care of exercise injuries, and emergency procedures. (Spring semester only)

## FITT 2313 EXERCISE SCIENCE

**Credit: 3 (3 lecture)**

A survey of scientific principles, methodologies, and research as applied to exercise and physical fitness. Emphasis on physiological responses and adaptations to exercise. Topics include basic elements of kinesiology, biomechanics, motor learning, and the physical fitness industry. (Fall semester only)

## FITT 2333 FITNESS INDUSTRY OPERATIONS AND TECHNOLOGY

**Prerequisite: FITT 2313**

**Credit: 3 (3 lecture)**

A survey of practical aspects of the physical fitness industry. Emphasis on equipment, cost analysis, program marketing, legal issues, policy formation, budgetary planning, computer software applications, and current industry trends. (Spring semester only)

## FITT 2364 PRACTICUM FIELD EXPERIENCE– HEALTH AND PHYSICAL EDUCATION, GENERAL

**Prerequisites: BIOL 2401, FITT 1301, 2311, 2313, 2409, Department Chair approval required, grade of C or better in all prerequisites**

**Credit: 3 (21 lab)**

Practical general workplace training supported by an individualized learning plan developed by the employer, college and student.

## FITT 2409 THEORY OF EXERCISE PROGRAM DESIGN AND INSTRUCTION

**Prerequisite: FITT 1301, 2313**

**Credit: 4 (3 lecture, 2 lab)**

The study of health-related components of physical fitness including cardiorespiratory endurance, muscular strength, and muscular endurance. Topics include the theoretical basis underlying physical fitness: instructional techniques for fitness development; and methods for leading an exercise session, including design, biomechanics, instruction, and evaluation. (Spring semester only)

## FLMC 1300 PRODUCTION MANAGEMENT

**Prerequisite: RTVB 1421**

**Credit: 3 (2 lecture, 4 lab)**

Managing a film/video production from the "business end." Emphasizes analysis of scripts and treatments to determine production costs, crewing requirements, location needs, equipment rentals, and associated production costs. Includes dealing with production personnel and unions, budgeting, location scouting, permitting, dealing with "civilians" on the set, handling security and insurance issues, handling transportation issues, managing set catering and safety, disbursing funds, documenting expenditures, handling clearance license fees, and managing other business issues. Also covers developing detailed budgets for analyzing scripts by using costs researched in the local area.

## FLMC 1304 LIGHTING FOR FILM AND VIDEO

**Prerequisite: RTVB 2437**

**Credit: 3 (2 lecture, 4 lab)**

Lighting techniques for 16mm film or video production. (This class demonstrates advanced lighting techniques for 16mm film and video productions. Using a variety of lab projects and location settings, students will use lights, filters, in-camera special effects and mood setting techniques to enhance shot composition and camera movement. Topics also include operating film cameras, light meters and selecting film stock. Students are required to attend additional lab hours outside of class.)

## FLMC 1373 ADVANCED NON-LINEAR EDITING

**Prerequisite: RTVB 2430**

**Credit: 3 (2 lecture, 4 lab)**

In this class the student explores the creative possibilities of non-linear film and video editing. Topics include editing esthetics, titles and graphic design, compositing, special effects and editing scenes with a computer. Software packages used will include Apple's Final Cut Pro and Adobe After Effects. Students are required to attend additional lab hours outside of class.

## FLMC 2308 FILM BUSINESS AND MARKETING
**Prerequisite: MUSB 2355 AND FLMC 1300**
**Credit: 3 (3 lecture)**
The fundamentals of budgeting, financial records, and the distribution of films. (The course will introduce the fundamentals of budgeting, financial records, and the distribution of films. Starting with a brief historical review of the American film industry, the course will describe the major film corporations and their subsidiaries and the rise of the independent film industry. Additional topics include basic accounting issues, marketing concepts, distribution, advertising, the Internet, publicity, finding a distribution partner, negotiation tactics and strategies, and establishing a 'paper trail' for financial transactions.)

## FLMC 2330 AUDIO POST PRODUCTION
**Prerequisite: RTVB 2437 and RTVB 2430**
**Credit: 3 (2 lecture, 4 lab)**
The technology, creative application and requirements for producing audio soundtracks for film and video. (This course explores the technology, creative application and requirements for producing audio soundtracks for film and video projects. Topics include time code, synchronization, mixing, Foley, dialog replacement, sound effects and location sound. The students will work on computerized workstations to produce finished audio tracks for various projects. Students are required to attend additional lab hours outside of class.)

## FLMC 2333 CINEMATOGRAPHY
**Prerequisite: FLMC 1304**
**Credit: 3 (2 lecture, 4 lab)**
Theoretical elements and practical applications of cinematography. (This class teaches theoretical elements and practical application of cinematography. While learning techniques of film production, students study historical and contemporary trends and styles. Theoretical topics include differences in film stocks, exposure, color theory and filters. Professional techniques that alter an image's character are demonstrated and discussed. Practical tests and scenes are shot using color and black and white film stocks. Students are required to attend additional lab hours outside of class.)

## FLMC 2334 DIRECTING FOR FILM OR VIDEO
**Prerequisite: FLMC 1300**
**Credit: 3 (2 lecture, 4 lab)**
Directing to lead a production team. (This course teaches the craft of directing to students who aspire to lead a production team. By analyzing the work of classic and contemporary directors, the class investigates the art and language of filmmaking. Topics include framing and composition, camera angles, camera movement, blocking of actors, visualizing action, and creating a sequence, script breakdown, and techniques for establishing mood, character, and conflict.)

## FLMC 2335 SCREENWRITING FOR FEATURES, SHORTS AND DOCUMENTARIES
**Prerequisite: RTVB 1429**
**Credit: 3 (2 lecture, 4 lab)**
Screenwriting for the principle genres of film. (This class emphasizes screenwriting for the principle genres of film. Students will create treatments from dramatic concepts, turn these treatments into screenplays and complete full shooting scripts by the course's end. Topics include scriptwriting, formatting conventions and structural analysis of comedies, dramas, documentaries and short films. At the conclusion of the course students will submit an original script to a scriptwriting contest. Students are required to attend additional lab hours outside of class.)

## FLMC 2336 PRODUCTION DEVELOPMENT/PRODUCING
**Prerequisite: RTVB 2437**
**Credit: 3 (2 lecture, 4 lab)**
Preproduction process. Includes resource acquisition and allocation and production structure. (During this class the student will address three primary questions posed when developing an idea for a film: What are you going to film? How are you going to film it? How are you going to structure the production? This class will teach students how to explore these questions fully before production begins. Class discussions, student projects and instructor analysis will emphasize the pre-production process: storyboarding shot lists, scheduling, location scouting, stock footage and budgeting. The class will also address design and esthetic decisions in costuming, makeup and set design. Students are required to attend additional lab hours outside of class.)

## FLMC 2342 FILM EDITING AND SOUND SYNCHRONIZATION
**Prerequisite or Corequisite: RTVB 2430**
**Credit: 3 (2 lecture, 4 lab)**
Design and theory of film editing. Addresses the different phases of film post-production as a project evolves from raw footage to a final release print. Includes editing, preparing film for the lab, setting up opticals, making and shooting titles, hot splicing, sound track dubbing, and obtaining a final release print. Also may include special effects and sync vs. non-sync sound.

## FLMC 2380 COOPERATIVE EDUCATION/ CINEMATOGRAPHY AND FILM/VIDEO PRODUCTION
**Prerequisite: FLMC 1304, RTVB 2437, and Department Approval**
**Credit: 3 (1 lecture, 20 lab)**
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## FMKT 1301 FLORAL DESIGN
**Credit: 3 (2 lecture, 2 lab)**
Principles of floral art with an emphasis on commercial design. Topics include basic design styles and color harmonies; identification, use, and care of processing of cut flowers and foliages; mechanical aids and containers; personal flowers; holiday designs; and plant identification and care.

## FMKT 2331 ADVANCED FLORAL DESIGN
**Credit: 3 (2 lecture, 2 lab)**
An in-depth coverage of advanced floral design practices for the retail floral industry. Topics include contemporary floral arrangement styles and trends.

## FORE 1314 DENDROLOGY
**Credit: 3 (2 lecture, 2 lab)**
Taxonomy, identification and silvical features of the important timber and understory species of North America (formerly AGRI 2335).

## FORE 2309 FOREST ECOLOGY
**Credit: 3 (2 lecture, 2 lab)**
Tree selection and planting to fit climatic, space and edaphic conditions; diagnosing tree abnormalities and practicing intensive tree care. Frequent fieldwork and demonstrations (formerly AGRI 2336).

## FREN 1300 BEGINNING FRENCH CONVERSATION I
**Credit: 3 (3 lecture)**
An introductory French course that emphasizes listening comprehension and speaking skills. Reading and writing may be done as reinforcement to oral communication skills. The course is slower-paced and less comprehensive than French 1411. It is highly recommended for students without previous experience in the French language. This course is not open to students whose first language is French. Generally, does not transfer as foreign language credit, but may transfer as elective credit.

## FREN 1310 BEGINNING FRENCH CONVERSATION II
**Prerequisite: FREN 1300 or equivalent**
**Credit: 3 (3 lecture)**
Continuation of FREN 1300. Emphasizes oral communication skills. Generally, does not transfer as foreign language credit, but may transfer as elective credit. Students who continue the study of French following this course must take FREN 1411.

## FREN 1411 BEGINNING FRENCH I
**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 4 (3 lecture, 2 lab)**
Introduction to the French language and culture. Development of basic skills in listening comprehension, speaking, reading, writing, and cultural awareness. Course includes vocabulary building, conversation and grammar. Transfers as foreign language credit. Core Curriculum Course.

## FREN 1412 BEGINNING FRENCH II
**Prerequisites: FREN 1411 or satisfactory score on an advanced placement examination or at least two years of high school French within the last two years; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 4 (3 lecture, 2 lab)**
Continuation of FREN 1411. Further development of listening comprehension, speaking, reading and writing skills and cultural awareness. More advanced grammar. Transfers as foreign language credit. Core Curriculum Course.

## FREN 2303 READINGS IN FRENCH LITERATURE I

**Prerequisite: FREN 2312 or equivalent; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (3 lecture)**
An introduction to French poetry, prose and drama with selections drawn mainly from the nineteenth and twentieth centuries. May include some writings from French-speaking countries outside France. Conducted in French. Core Curriculum Course.

## FREN 2304 READINGS IN FRENCH LITERATURE II

**Prerequisite: FREN 2312 or equivalent; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (3 lecture)**
Selections of poetry, prose and drama in French with special emphasis on writers from French-speaking countries outside France. Conducted in French. Core Curriculum Course.

## FREN 2306 INTERMEDIATE CONVERSATIONAL FRENCH

**Prerequisite: FREN 1411; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (3 lecture)**
Refinement of conversational skills through practice of idiomatic usage and discussion of contemporary issues and/or current events.

## FREN 2311 INTERMEDIATE FRENCH I

**Prerequisite: FREN 1412 or equivalent; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (3 lecture)**
Further development of listening, speaking, reading and writing skills and cultural awareness acquired in Beginning French. Introduction of more complex language structures. Oral and written practice based on selected readings. Class conducted mainly in French. Core Curriculum Course.

## FREN 2312 INTERMEDIATE FRENCH II

**Prerequisite: FREN 2311 or equivalent; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (3 lecture)**
Continuation of FREN 2311, but with special emphasis on written communication. Readings, discussions and compositions. Class conducted mainly in French. Core Curriculum Course.

## FSHD 1191 SPECIAL TOPICS IN FASHION

**Credit: 1 (1 lecture)**
Topics address recently identified current events, skills, knowledge, and /or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

## FSHD 1233 FASHION STUDY TOUR

**Credit: 2 (2 lecture)**
A course which combines the study of fashion with travel. Exploration of fashion, art, architecture, textiles, costume, business and cultural activities in major art and fashion cities. Examination of the most current work in the industry from a global perspective.

## FSHD 1235 MILLINERY

**Credit: 2 (2 lecture, 1 lab)**
A study of the basic skills and methods used to create hats. An application of the techniques used to design and produce hats for fashion, theater, historic reproduction and educational instruction purposes.

## FSHD 1291 SPECIAL TOPICS IN FASHION

**Credit: 2 (2 lecture)**
Topics address recently identified current events, skills, knowledge, and /or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

## FSHD 1302 INTRODUCTION TO FASHION

**Credit: 3 (3 lecture)**
Survey of the world of fashion businesses. Introduction to the creation and merchandising of fashion through the study of fashion vocabulary, the fashion process, fashion publications and career opportunities.

## FSHD 1308 FASHION TRENDS

**Credit: 3 (3 lecture)**
A study of the effects of Eastern and Western cultures on the development of fashion. Examination of the relationship of social, psychological, economic, demographic and life-style trends to fashion trends.

## FSHD 1311 FASHION HISTORY

**Credit: 3 (3 lecture)**
Survey of the evolution of fashion change, traced through garment development from ancient times to present day. A study of customs and silhouettes of each historical period and their modern day adaptations. Examination of twentieth century fashion designers.

## FSHD 1313 ART FOR FASHION

**Credit: 3 (3 lecture, 1 lab)**
A study of the basic elements and principles of art applied to the design of clothing for the human form. Emphasis on the basic body types, clothing silhouettes, fabric weights, and the use of line movement, proportion and color to achieve flattering, marketable fashion design.

## FSHD 1318 APPAREL COMPUTER SYSTEMS

**Credit: 3 (3 lecture, 1 lab)**
An introduction to apparel computer systems used in wholesale and retail fashion businesses. Applications demonstrated include computer-aided garment and textile design, fashion illustration, pattern making, pattern grading, marker making, newsletters, brochures, advertisements and catalogs.

## FSHD 1322 FASHION SKETCHING

**Credit: 3 (3 lecture, 1 lab)**
Fundamentals of quick sketching to communicate design ideas. Instruction in drawing the male and female fashion figure. Emphasis on simple methods for making quick sketches to illustrate style information.

## FSHD 1324 READY-TO-WEAR CONSTRUCTION

**Credit: 3 (2 lecture, 4 lab)**
Fundamentals of mass production of apparel, focusing on the operation of industrial sewing and pressing equipment. Survey of materials selection and construction techniques used at all price levels of mass produced apparel. Introduction to industry seam allowances. Identification of differences between ready-to-wear and couture construction.

## FSHD 1328 FLAT PATTERN DESIGN I

**Prerequisite: FSHD 1324**
**Credit: 3 (2 lecture, 3 lab)**
An introduction to the creative design of clothing through the flat pattern method. General principles of pattern making using the basic five-piece dress sloper. A study of dart manipulation, slashing and spreading the pattern and contouring sew lines.

## FSHD 1332 CUSTOM PATTERNS

**Prerequisites: FSHD 1328 and FSHD 2306**
**Credit: 3 (2 lecture, 3 lab)**
Skill development in taking body measurements. Instruction in developing custom fittings for customized patterns. In depth coverage of the process of transferring a custom body fitted canvas to a basic dress form and padding it for custom sizing.

## FSHD 1351 DESIGN CONSTRUCTION TECHNIQUES

**Prerequisite: FSHD 1324**
**Credit: 3 (2 lecture, 4 lab)**
A continuation of Ready-to-Wear Construction with emphasis on design details. Instruction in basic manipulation of a commercial pattern to create individual design details, dressmaking and fully lined unstructured garments in intermediate level fabrics.

## FSHD 1355 FLAT PATTERN DESIGN II

**Prerequisite: FSHD 1328**
**Credit: 3 (2 lecture, 3 lab)**
A continuation of Flat Pattern Design I with emphasis on patterns for tailored garments. Instruction in creating a jacket sloper with a two piece suit sleeve to make patterns for a variety of jacket silhouettes. adding shoulder pad allowance, drafting patterns for jacket linings and interfacing pieces, lapel and collar variations and various pants shapes.

## FSHD 1371 FASHION STUDY TOUR

**Credit: 3 (3 lecture)**
A course which combines the study of fashion with travel. Exploration of fashion, art, architecture, textiles, costume, business and cultural activities in major art and fashion cities. Examination of the most current work in the industry from a global perspective.

## FSHD 1391 SPECIAL TOPICS IN FASHION

**Credit: 3 (3 lecture)**
Topics address recently identified current events, skills, knowledge, and /or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

## FSHD 2171 FIELD EXPERIENCE LECTURE
**Corequisite: FSHD 2266**
**Prerequisite: Department Approval**
**Credit: 1 (1 lecture)**
Principles and practices in resume and cover letter development, interview techniques, goal setting and business etiquette in the field of fashion design. Instruction in the development of a professional fashion design portfolio to complement the corequisite field experience course.

## FSHD 2266 FIELD EXPERIENCE IN FASHION DESIGN
**Corequisite: FSHD 2171**
**Prerequisite: Department Approval**
**Credit: 2 (240 hours work experience)**
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## FSHD 2306 DRAPING
**Prerequisite: FSHD 1324**
**Credit: 3 (2 lecture, 3 lab)**
A study of three-dimensional fashion design conceptualizing by draping in muslin or fashion fabric directly on the dress form. Skill development in observing grain of fabric, identifying drapable fabrics and creating designs suitable for draping. Presentation of major fashion designers' draping techniques.

## FSHD 2310 FABRIC DESIGN
**Prerequisites: FSHD 1324, FSHN 1301**
**Credit: 3 (2 lecture, 3 lab)**
Fundamentals of fabric design. Instruction in silk screen, batik, tie-dye, painting, resist dye, block print, stenciling and weaving. Skill development in fabric design and production suitable for fashion apparel.

## FSHD 2312 THEATRICAL COSTUME DESIGN
**Prerequisite: DRAM 1310**
**Credit: 3 (2 lecture, 3 lab)**
A study of garment design for the theater in which costumes are researched and designed for theatrical productions. Instruction in the effect of lighting and staging in relationship to costuming.

## FSHD 2315 BUSTIER CONSTRUCTION
**Credit: 3 (2 lecture, 2 lab)**
Instruction in the skills and techniques for creating a boned bodice. Production of strapless bodices from fashion and theatrical sources through the pattern-making and construction process.

## FSHD 2337 COUTURE DRESSMAKING
**Prerequisite: FSHD 1351**
**Credit: 3 (2 lecture, 4 lab)**
A study of advanced apparel construction addressing couture dressmaking techniques and the traditional highest-quality methods for planning, cutting, sewing and pressing garments. Instruction in designing and producing couture fashion garments in advanced level fabrics.

## FSHD 2341 PATTERN GRADING
**Prerequisite: FSHD 1328**
**Credit: 3 (3 lecture, 1 lab)**
Instruction in sizing standard patterns larger and smaller for the mass production of apparel. A study of 1", 1-1/2", and 2" and S-M-L-XL grade rules and their applications. Skill development in grading basic and fashion patterns with the ruler, the grading machine, and the computer.

## FSHD 2343 FASHION COLLECTION DESIGN
**Prerequisites: FSHD 1351 and FSHD 1328**
**Credit: 3 (2 lecture, 3 lab)**
Advanced concepts in designing a collection of marketable apparel. Instruction in developing a design work board for a specific target market and selecting the most marketable ideas for the collection. Projects in resource development, fabric selection, estimating wholesale costs and initial pattern and garment production.

## FSHD 2344 FASHION COLLECTION PRODUCTION
**Prerequisite: FSHD 2343**
**Credit: 3 (2 lecture, 3 lab)**
A continuation of the Fashion Collection Design course. Emphasis on the production, costing and marketing of a cohesive collection of fashion apparel. Instruction in completing production patterns for all collection garments.

## FSHN 1301 TEXTILES
**Credit: 3 (3 lecture, 1 lab)**
A general study of textiles with emphasis on factors that affect the hand, appearance and performance in clothing use. Examination of the properties of natural and man-made fibers, how yarn is formed, methods of production and the properties of a wide variety of fabrics. Application of textiles used in the apparel industry.

## FSHN 1305 APPAREL ALTERATIONS
**Prerequisite: FSHD 1324**
**Credit: 3 (2 lecture, 3 lab)**
Skill development in fitting, altering, conserving and restyling apparel for men, women and children. Preparation for fitting, alterations, conservation and restoration work for a retail store, dry cleaning establishment, wedding gown business or historical costume collection.

## FSHN 1320 FASHION SELLING
**Credit: 3 (3 lecture)**
Examination of selling techniques for fashion apparel and accessories in retail and wholesale settings. Identification of buying motives, sales psychology, customer approach and closure. Instruction in product analysis, building a regular clientele, developing a fashion vocabulary and training and motivating a sales staff.

## FSHN 1329 BASIC MEN'S TAILORING
**Prerequisite: FSHD 1324**
**Credit: 3 (2 lecture, 3 lab)**
An introduction to tailoring men's structured apparel including fundamentals of sewing machine operations, fabric preparation and cutting, machine and hand sewing techniques, and pressing proficiency including instruction in pattern and alterations, assembling men's jackets, vests and pants, and fitting and alterations procedures.

## FSHN 1342 VISUAL MERCHANDISING
**Credit: 3 (2 lecture, 3 lab)**
Skill development in the creation of showroom or retail store window/interior displays that sell merchandise. Study of the basic techniques of store planning, mannequin dressing, alternate form design and display space conceptualizing and implementation.

## FSHN 2171 FIELD EXPERIENCE LECTURE
**Corequisite: FSHN 2266**
**Prerequisite: Department Approval**
**Credit: 1 (1 lecture)**
Principles and practices in resume and cover letter development, interview techniques, goal setting and business etiquette in the field of fashion merchandising. Instruction to complement the corequisite field experience course through goal development and workplace problem identification and solution.

## FSHN 2266 PRACTIUM (OR FIELD EXPERIENCE) -FASHION MERCHANDISING
**Corequisite: FSHN 2171**
**Prerequisite: Department Approval**
**Credit: 2 (240 hours work experience)**
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## FSHN 2301 FASHION PROMOTION
**Credit: 3 (3 lecture)**
A survey of fashion direction, publicity and fashion event coordination. Emphasis on fashion show production from idea to runway, including theme development, stage/set design, choreography, music coordination, lighting, lineup, model fittings, rehearsal and press kit development.

## FSHN 2303 FASHION BUYING
**Credit: 3 (3 lecture)**
Fundamentals of fashion buying with instruction in planning, pricing, and purchasing retail fashion inventories. Identification of wholesale merchandise and media resources.

## FSHN 2305 FASHION RETAILING
**Credit: 3 (3 lecture)**
An overview of fashion retailing procedures used in various types of retail fashion companies. A study of profit and loss, pricing, markup, inventory control, shortages, forecasting, store organization and events. Examination of the wide variety of job o2able in the retail fashion industry.

## FSHN 2307 FASHION ADVERTISING AND COMMUNICATION
**Credit: 3 (3 lecture)**
General principles and practices of fashion retail store advertising and consumer directed communication. A study of persuasive media approaches for public relations induced publicity and advertising produced sales promotions.

## FSHN 2309 FASHION IMAGE

**Credit: 3 (3 lecture)**

Instruction in the techniques used to analyze the fashion image of individual clients. Emphasis on personal coloring, seasonal color harmonies, appropriate fabric textures, body proportion and silhouette, figure, facial and hair analysis, and wardrobe coordination. Study of fashion image consultant business practices and job qualifications.

## GAME 1201 COMPUTER ETHICS

**Prerequisite: Department Approval**
**Credit: 2 (2 lecture)**

A study of ethical issues that apply to computer related professions, intellectual property and privacy issues, professional responsibility, and the effects of globalization. Emphasizes the practical application of computer ethics through case studies and current events in the game and simulation industry. (formerly GAME 1270)

## GAME 1212 GAME THEORY

**Prerequisite: Department Approval**
**Credit: 2 (1 lecture, 3 lab)**

Game and simulation design. Application of design theories to production-based projects from the conceptual stage to a completed project. (formerly GAME 1271)

## GAME 1302 STORYBOARDING

**Prerequisite: Department Approval**
**Credit: 3 (2 lecture, 4 lab)**

In-depth coverage of storyboarding for the development of games and simulations. Addresses pre-production preparation and creation of comprehensive design for a game or simulation including target audience analysis, purpose, goals and objectives, content outline, flow chart, and storyboard. (formerly GAME 1373)

## GAME 1304 LEVEL DESIGN

**Prerequisite: Department Approval**
**Credit: 3 (2 lecture, 4 lab)**

Introduction to the tools and concepts used to create levels for games and simulations. Incorporates level design, architecture theory, concepts of critical path and flow, balancing, play testing, and storytelling. Includes utilization of toolsets from industry titles. (formerly GAME 1374)

## GAME 1306 DESIGN AND CREATION OF GAMES

**Prerequisite: Department Approval**
**Credit: 3 (2 lecture, 4 lab)**

Introduction to game and simulation development. Includes analysis of existing applications and their play elements. In-depth coverage of the elements of the application and examination of social issues, genres, and trends. Also covers creation of design documents, investigation of why people play games, review of technological and cultural history of electronic games, survey of the major innovators and historical figures of the industry, and examination of the trends and taboos that motivate game design. (formerly GAME 1370)

## GAME 1314 CHARACTER SCULPTING

**Prerequisite: Department Approval**
**Credit: 3 (1 lecture, 6 lab)**

Creation of original characters from the drawing stage to sculpting clay status. Explores a variety of poses using clay and aluminum armatures. (formerly GAME 1371)

## GAME 1375 PRINCIPALS OF GAME CONCEPT ART

**Prerequisite: Department Approval**
**Credit: 3 (2 lecture, 2 lab)**

A study of traditional art techniques and its applications to game concept art.

## GAME 2302 MATHEMATICAL APPLICATIONS FOR GAME DEVELOPMENT

**Prerequisites: Department Approval and MATH 1314**
**Corequisite: COSC 1437**
**Credit: 3 (2 lecture 4 lab)**

Presents applications of mathematics and science in game and simulation programming. Includes the utilization of matrix and vector operations, kinematics, and Newtonian principles in games and simulations. Also covers code optimization. (formerly GAME 1372)

## GAME 2332 PROJECT DEVELOPMENT I

**Prerequisite: Department Approval**
**Credit: 3 (2 lecture, 4 lab)**

Skill development in an original modification based on a current game engine. Includes management of version control; development of project timeliness; integration of sound, models, and animation; production of demos; and creation of original levels, characters, and content for a real-time multiplayer game. Applies skills learned in previous classes in a simulated real-world design team experience. (formerly GAME 2370)

## GAME 2334 PROJECT DEVELOPMENT II

**Prerequisites: Department Approval and GAME 2332**
**Credit: 3 (2 lecture, 4 lab)**

Continuation of an original modification based on a current game engine with an emphasis on new content and radical changes in game play over the base game experience. Includes creation of original levels, characters, and content for a real-time multiplayer game applying skills learned in pervious classes. (formerly GAME 2375)

## GAME 2336 LIGHTING, SHADING AND TEXTURE

**Prerequisites: ARTC 1345 and GAME 1306**
**Credit: 3 (2 lecture, 4 lab)**

Lighting, shading, and texture painting for 3D models using digital painting techniques. Emphasizes lighting, shading, and texture creation of limited resolution to increase system performance for digital games and simulation training models. (formerly GAME 2373)

## GAME 2341 GAME SCRIPTING

**Prerequisite: Department Approval and COSC 1437**
**Credit: 3 (2 lecture, 4 lab)**

Scripting languages with emphasis on game concepts and simulations. (formerly GAME 2372)

## GAME 2342 GAME DEVELOPMENT USING C++

**Prerequisites: Department Approval and COSC 1437**
**Credit: 3 (2 lecture, 4 lab)**

Skill development in C++ programming for games and simulations. Examines real-world C++ development issues. (formerly GAME 2371)

## GAME 2344 DIRECTX PROGRAMMING

**Prerequisite: GAME 2341**
**Credit: 3 (2 lecture, 4 lab)**

Exploration of the advanced suite of multimedia application programming interfaces (API) built into the Microsoft Windows operating system. Includes fundamentals of Direct X's API that give multimedia applications access to advanced features of high-performance hardware such as 3D graphics acceleration chips and sound cards. Addresses control of low-level functions including 2D graphics acceleration; support for input devices such as joysticks, keyboards, and mice; and control of sound mixing and sound output. (formerly GAME 2374)

## GAME 2378 TECHNIQUES OF GAME ART

**Prerequisites: Department Approval**
**Credit: 3 (2 lecture, 4 lab)**

A study of industry-used, game-art techniques and its applications of 3D game art assets.

## GAME 2379 PORTFOLIO DEVELOPMENT

**Prerequisites: Department Approval**
**Credit: 3 (3 lecture)**

Design and manage an industry standard portfolio; includes techniques in self-promotion, resume writing, portfolio distribution systems, and interview techniques.

## GAME 2386 INTERNSHIP

**Prerequisite: Department Approval**
**Credit: 3 (15 external lab)**

A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer. (formerly GAME 2377)

## GEOG 1301 PHYSICAL GEOGRAPHY

**Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**
**Credit: 3 (3 lecture)**

Basic physical elements of geography, maps, weather and climate, and natural resources.

## GEOG 1302 CULTURAL GEOGRAPHY

**Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**
**Credit: 3 (3 lecture)**

A survey of the cultural diversity found on earth. Topics include population, language, religion, ethnicity, and popular culture, with a special focus on spatial attributes and expressions of culture. (This is a core curriculum course.)

## GEOG 1303 WORLD, REGIONAL AND LOCAL GEOGRAPHY

**Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit: 3 (3 lecture)**

Study of major world regions with emphasis on prevailing conditions and developments. Including emerging conditions and trends, and awareness of diversity of ideas and practices to be found in these regions. Core Curriculum Course.

## GEOG 2312 ECONOMIC GEOGRAPHY

**Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit: 3 (3 lecture)**

Analytical study of the historical development of particular economic distributions as they relate to social, cultural, political, and physical factors. Includes critical inquiry into the reasons for location of various types of economic activity, production, and marketing.

Cross-listed with ECON 2311.

## GEOL 1345 INTRODUCTION TO OCEANOGRAPHY

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 3 (2 lecture, 2 lab)**

An introduction to the world's oceans, emphasizing the geological, physical, biological, chemical, and ecological aspects of the marine environment. Core Curriculum Course.

## GEOL 1347 METEOROLOGY

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 3 (3 lecture)**

The study of basic principles of weather and climate and the pervasive effects of weather conditions on daily lives, commerce, agriculture, urban planning and other human activity. The course offers basic scientific theory with applications familiar to the student.

## GEOL 1401 EARTH SCIENCES I

**Prerequisites: Must be placed into college level-reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit: 4 (3 lecture, 3 lab)**

Survey of physical geology, historical geology, and related sciences. Includes study of the physical nature of Earth and the physical processes acting upon and within the Earth. This course will also address the geological understanding of time, the history of life, and physical changes since the Earth's origin. This course is designed to meet the needs of education and non-science majors. GEOL 1401 or GEOL 1402 can be taken in any order. Core Curriculum Course.

## GEOL 1402 EARTH SCIENCES II

**Prerequisites: Must be placed into college level-reading or take (GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**

Survey of astronomy, meteorology, oceanography, and related sciences. Includes study of the planets and the stars, the world's oceans, the interactions between humans and Earth, and the basic principles of weather and climate. This course is designed to meet the needs of education and non-science majors. GEOL 1401or GEOL 1402 can be taken in any order. Core Curriculum Course.

## GEOL 1403 PHYSICAL GEOLOGY

**Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit: 4 (3 lecture, 3 lab)**

Study of the nature of the earth, including the physical processes operating on and inside the earth. Laboratory includes the study of rocks, minerals, and topographic maps. Core Curriculum Course.

## GEOL 1404 HISTORICAL GEOLOGY

**Prerequisite: GEOL 1403; Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit: 4 (3 lecture, 3 lab)**

Study of the history of the earth, its life and geologic time. Laboratory includes the study of sedimentary rocks, fossils, and maps. Core Curriculum Course.

## GERM 1300 BEGINNING GERMAN Conversation I

**Credit: 3 (3 lecture)**

An introductory German course which emphasizes listening comprehension and speaking skills. Reading and writing may be done as reinforcement to oral communication skills. The course is slower-paced and less comprehensive than German 1411. It is highly recommended for students without previous experience in the German language. This course is not open to students whose first language is German. Generally, does not transfer as foreign language credit, but may transfer as elective credit.

## GERM 1310 BEGINNING GERMAN CONVERSATION II

**Prerequisite: GERM 1300 or equivalent**

**Credit: 3 (3 lecture)**

Continuation of GERM 1300. Emphasizes oral communication skills. Generally, does not transfer as foreign language credit, but may transfer as elective credit. Students who continue the study of German following this course must take GERM 1411.

## GERM 1411 BEGINNING GERMAN I

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 4 (3 lecture, 2 lab)**

Introduction to German language and culture. Development of basic skills in listening comprehension, speaking, reading, writing, and cultural awareness. Course includes vocabulary building, conversation and grammar. Transfers as foreign language credit. Core Curriculum Course.

## GERM 1412 BEGINNING GERMAN II

**Prerequisites: GERM 1411 or satisfactory score on an advanced placement examination or at least 2 years of high school German within the last two years; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 4 (3 lecture, 2 lab)**

Continuation of GERM 1411. Further development of listening comprehension, speaking, reading, and writing skills, and cultural awareness. More advanced grammar. Transfers as foreign language credit. Core Curriculum Course.

## GERM 2311 INTERMEDIATE GERMAN I

**Prerequisite: GERM 1412 or equivalent; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 3 (3 lecture)**

Further development of listening, speaking, reading and writing skills and cultural awareness acquired in Beginning German. Introduction of more complex language structures. Oral and written practice based on selected readings. Class conducted mainly in German. Core Curriculum Course.

## GERM 2312 INTERMEDIATE GERMAN II

**Prerequisite: GERM 2311 or equivalent; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 3 (3 lecture)**

Continuation of GERM 2311. Special emphasis on writing. Readings, discussions and compositions. Class conducted mainly in German. Core Curriculum Course.

## GERS 1260 CLINICAL - GERONTOLOGY

**Prerequisite: Department Approval**

**Credit: 2 (6 lab)**

A basic, intermediate, or advanced type of health professions work-based instruction that helps students synthesize new knowledge, apply previous knowledge, or gain experience managing the workflow. Practical experience is simultaneously related to theory. Close and/or direct supervision is provided by the clinical professional (faculty or preceptor), generally in a clinical setting. Clinical education is an unpaid learning experience.

## GERS 1301 INTRODUCTION TO GERONTOLOGY

**Credit: 3 (3 lecture)**

Overview of the social, psychological, and biological changes that accompany aging and an overview of the implications of these changes for the individual, as well as for the larger society.

## GERS 1304 LONG TERM CARE ACTIVITY DIRECTING I

**Credit: 3 (2 lecture, 4 lab)**

Role of the activity director in long term health care facilities. Includes study of history, regulations, communications, advocacy, ethics, service delivery, and volunteer management. This course, when combined with "Long Term Care Activity Directing II" and "Practicum-Gerontology" meets the State requirements to be qualified as an activity director in Texas.

## GERS 1307 LONG TERM CARE ACTIVITY DIRECTING II

**Credit: 3 (2 lecture, 4 lab)**

Activity directing in long term health care facilities. Includes assessment, care planning, documentation process, and evaluation of client needs. Also addresses program design and resources/funding. This course, when combined with "Long Term Care Activity Directing I" and "Practicum-Gerontology," meets the State requirements to be qualified as an activity director in Texas.

## GERS 1391 SPECIAL TOPICS IN ADULT DEVELOPMENT AND AGING

**Prerequisite: Department Approval**
**Credit: 3 (Varies)**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

## GISC 1401 CARTOGRAPHY AND GEOGRAPHY IN GEOGRAPHICAL INFORMATION SYSTEMS (GIS) AND GLOBAL POSITIONING SYSTEMS

**Credit: 4 (3 lecture, 3 lab)**
**Prerequisites: GISC 1411 or Department Approval**

Introduction to the principles of cartography and geography. Emphasis on global reference systems and the use of satellites for measurements and navigation.

## GISC 1411 INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS (GIS)

**Credit: 4 (3 lecture, 3 lab)**

Introduction to basic concepts of vector Geographic Information Systems (GIS) using several industry specific software programs including nomenclature of cartography and geography. ArcView and ArcGIS will be used in lab.

## GISC 1421 INTRODUCTION TO RASTER-BASED GEOGRAPHIC INFORMATION SYSTEMS (GIS)

**Prerequisites: GISC 1411 or Department Approval**
**Credit: 4 (3 lecture, 3 lab)**

Instruction in GIS data sets including raster- based information such as images or photographs, acquisition of such data, and processing and merging with vector data.

## GISC 1491 SPECIAL TOPICS IN CARTOGRAPHY

**Prerequisite: Department Approval**
**Credit: 4 (3 lecture, 3 lab)**

Topics address recently identified current events, skills, knowledge and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

## GISC 2364 PRACTICUM (OR FIELD EXPERIENCE)- CARTOGRAPHY

**Prerequisite: Department Approval**
**Credit: 3 (2 lab)**

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## GISC 2380 COOPERATIVE EDUCATION - CARTOGRAPHY

**Prerequisite: Department Approval**
**Credit: 3 (21 lab)**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## GISC 2401 DATA ACQUISITION AND ANALYSIS IN GEOGRAPHIC INFORMATION SYSTEMS (GIS)

**Prerequisites: GISC 1401 or Department Approval**
**Credit: 4 (3 lecture, 3 lab)**

Study of the management of GIS life cycles and costs and benefits. Topics include demographic management and institutional issues such as data providers, data management, combination of attribute and graphical data, information storage and access, Texas and national standards for spatial data, and applications of GIS for demographic modeling and analysis.

## GISC 2411 GEOGRAPHIC INFORMATION SYSTEMS (GIS) APPLICATIONS

**Prerequisites: GISC 1401,1421, or Department Approval**
**Credit: 4 (3 lecture, 3 lab)**

Application of GIS technology to real workplace applications from public and private sectors. Completion of Global Positioning Systems (GPS) fieldwork required for lab exercises.

## GOVT 2301 AMERICAN GOVERNMENT: NATIONAL, STATE, AND LOCAL I

**Prerequisites: Must be placed into college-level reading and college-level writing.**
**Credit: 3 (3 lecture)**

A study of theories of American democracy and other ideologies ,United States and Texas constitutions, federalism, state and local government, political economy, political socialization and public opinion, the media, interest groups, and political parties and elections. Core Curriculum Course.

## GOVT 2302 AMERICAN GOVERNMENT: NATIONAL, STATE, AND LOCAL II

**Prerequisites: Must be placed into college-level reading and college-level writing.**
**Credit: 3 (3 lecture)**

A study of the executive, legislative, and judicial branches of government at both the national and state levels; economic and regulatory policy; social policy; civil liberties and civil rights policy; and foreign policy. Core Curriculum Course.

## GOVT 2304 INTRODUCTION TO POLITICAL SCIENCE

**Prerequisites: Must be placed into college-level reading and college-level writing.**
**Credit: 3 (3 lecture)**

An introduction to the history, scope, and methods of political science. Among the topics covered are the different conceptions of politics and science and the relationships between them, the major controversies over the possibility and shape of political science, and the different approaches employed in the study of politics. Core Curriculum Course.

## GOVT 2389 COOPERATIVE LEGISLATIVE INTERNSHIP

**Prerequisite: Completion of GOVT 2301 or GOVT 2302 with a grade of 'B' or better, a grade point average of at least 3.0, and the written recommendation of an HCC government instructor. ; Must be placed into college-level reading and college-level writing.**
**Credit: 3 (1 lecture, 16 lab)**

An experiential-learning instruction program designed to integrate textbook and classroom knowledge with practical hands-on experience in an applied area of political science. Primary implementation of student activities will occur in pre-selected legislative institutions or other related governmental organizations.

## GRPH 1207 PRINTSHOP MANAGEMENT

**Credit: 2 (2 lecture)**

Management of print shop operations, including techniques for supply sources, jobbers, estimating, pricing, and selling printing services. Topics include location, safety, stocking, and maintenance, determination of profit and the process of bidding and developing plans for a printing plant and public relations and salesmanship skills.

## GRPH 1305 INTRODUCTION TO GRAPHIC ARTS AND PRINTING

**Credit: 3 (3 lecture)**

Graphic arts industry, including the history of printing, techniques involved in the production and distribution of printed materials, the kinds of printing industries and printing terminology and identify career opportunities in graphics and printing fields.

## GRPH 1359 OBJECT-ORIENTED COMPUTER GRAPHICS
**Corequisite: ARTC 1313 and ARTC 1305, or Department Approval**
**Credit: 3 (2 lecture, 4 lab)**
Mastery of the tools and transformation options of an industry standard draw program to create complex illustrations and follow them through to the color output stage. Mastery in the use of basic elements of good layout and design principles and use the capabilities specific to vector (object oriented) drawing software to manipulate both text and graphics with emphasis on the use of bezier curves. Acquisition of images via scanning and the creative use of clip art is included.

## GRPH 1393 SPECIAL TOPICS IN LITHOGRAPHER AND PLATEMAKER
**Credit: 3 (2 lecture, 4 lab)**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

## GRPH 1409 PRESS OPERATIONS I
**Credit: 4 (2 lecture, 6 lab)**
Introduction to offset printing including knowledge and skills to operate a small offset press to print single color jobs. Emphasis on parts of the press and operation procedures, printing terminology, paper and ink type uses, make ready and cleanup.

## GRPH 2382 COOPERATIVE EDUCATION - DESKTOP PUBLISHING EQUIPMENT OPERATOR (GRAPHIC ARTS)
**Credit: 3 (1 lecture/seminar and 20 hours a week employment)**
An intermediate or advanced course with lecture and work-based instruction that helps students gain practical experience in the discipline, enhance skills, and integrate knowledge. Indirect supervision is provided by the work supervisor while the lecture is provided by the college faculty or by other individuals under the supervision of the educational institution. Cooperative education may be a paid or unpaid learning experience.

## GRPH 2388 INTERNSHIP - GRAPHIC AND PRINTING EQUIPMENT OPERATOR
**Credit: 3 (21 lab)**
A basic, intermediate, or advanced type of non-health professions work-based instruction that helps students synthesize new knowledge, apply previous knowledge, or gain experience managing the workflow. Practical experience is simultaneously related to theory. Direct supervision is provided by the faculty or the work supervisor. An internship may be a paid or unpaid learning experience..

## GUST 0339 INTRODUCTION TO READING
**Prerequisites: Must be placed into GUST 0339 (or higher) in reading.**
**Credit: 3 (3 lecture, 1 lab)**
A basic reading course designed to improve students' overall reading skills. Emphasis is on reading comprehension, vocabulary development, study techniques, career planning and critical reading. Classroom instruction is enhanced by a variety of self-paced activities.

## GUST 0340 DEVELOPMENTAL READING FOR NON-NATIVE SPEAKERS OF ENGLISH
**Prerequisites: Satisfactory score on Celsa test**
**Credit: 3 (3 lecture, 1 lab)**
A basic reading course for non-native English speakers designed to improve students' overall reading skills. Emphasis on reading comprehension, vocabulary development, study techniques, and critical reading. Classroom instruction is enhanced by a variety of self-paced activities. Recommended on the basis of CELSA test scores.

## GUST 0341 DEVELOPMENTAL READING I
**Prerequisites: Must be placed into GUST 0341 in reading or completion of GUST 0339 or 0340.**
**Credit: 3 (3 lecture, 1 lab)**
College Reading I is designed to address the developmental reader's need for direct instruction in basic reading behaviors that are essential to the acquisition of knowledge in the content areas. Instruction is based on an interactive reading method with emphasis on learning to learn. These key skills include previewing chapters, selecting and organizing the information read and critical reading, making informed decisions about that information.

## GUST 0342 DEVELOPMENTAL READING II
**Prerequisites: Must be placed into GUST 0342 in reading or completion of GUST 0341.**
**Credit: 3 (3 lecture, 1 lab)**
College Reading II is a continuation of reading skills introduced in GUST 0341. Stronger emphasis is on critical reading and thinking skills. The goal of GUST 0342 is to teach students to analyze materials thoughtfully, synthesize materials from various sources, and apply this information to their reading.

## GUST 1270/0170 COLLEGE AND CAREER PLANNING
**Prerequisite: Must be placed into GUST 0341 (or higher) in reading. Students below this reading level will be deferred from the Student Success course requirement until their reading level has improved.**
This course is designed to prepare students for the demands of college and for success in the world of work. The course emphasizes setting priorities, time management, effective listening, note-taking, concentration techniques, retention of information, book analysis and comprehension techniques and test-taking skills. This course also incorporates modules that are designed to facilitate the use of library databases in conducting research, planning and setting educational objectives, lifelong career assessment and decision-making, financial aid, tutoring and student support services, enabling the student to maximize the use of college resources. GUST 1270 and 0170 must be taken together as co-requisites.

## HALT 1211 SHRUBS, VINES AND GROUNDCOVERS
**Credit: 2 (1 lecture, 3 lab)**
In-depth coverage of the shrubs, vines and groundcovers used in the horticulture industry. Topics include identification, characteristics, adaptation, cultural requirements, pest and disease problems, and use in the landscape.

## HALT 1301 PRINCIPLES OF HORTICULTURE
**Credit: 3 (3 lecture)**
An overview of the horticulture industry, plant science, terminology, classification, propagation, environmental responses, and careers and opportunities in the field of horticulture.

## HALT 1303 HERBACEOUS PLANTS
**Credit: 3 (2 lecture, 2 lab)**
An in-depth study of herbaceous plant material. Topics include practices and procedures used in the identification, growth, propagation, maintenance, and utilization of herbaceous plants in the horticulture industry.

## HALT 1305 HORTICULTURAL SOILS
**Credit: 3 (2 lecture, 2 lab)**
A study of the physical properties of soil including structure and texture. Topics include the origin and development of soils, the composition of a soil horizon, and the interrelationship between soil fertility and plants.

## HALT 1307 PLANT DISEASES
**Credit: 3 (2 lecture, 2 lab)**
An overview of the factors causing plant diseases. Topics include physiological disorders, fungi, bacteria, viruses, nematodes, parasitic plants, nonpathogenic factors, and control methods.

## HALT 1309 INTERIOR PLANTS
**Credit: 3 (2 lecture, 2 lab)**
Instruction in the identification and classification of the plants used in home and commercial interior landscapes. Topics include design characteristics for interiorscapes and environmental requirements of the plants.

## HALT 1319 LANDSCAPE CONSTRUCTION
**Credit: 3 (2 lecture, 2 lab)**
Exploration of landscape construction materials and methods of installation. Topics on soil preparation, including wood, concrete, masonry construction and landscape lighting including pools, spas, and general construction details.

## HALT 1320 HORTICULTURE CALCULATIONS
**Credit: 3 (3 lecture)**
Problem solving and use of formulas and calculations commonly used in the horticulture industry. Emphasis on mathematical, geometrical, financial, and chemical calculations.

## HALT 1322 LANDSCAPE DESIGN
**Credit: 3 (2 lecture, 2 lab)**
A study of the principles and elements of landscape design. Topics include client interview, site analysis, plan view, scale, plant selection, basic drawing and drafting skills, and plan preparation.

### HALT 1324 TURFGRASS SCIENCE AND MANAGEMENT
**Credit: 3 (2 lecture, 2 lab)**
In-depth coverage of various species of warm and cool season grasses including their uses, application, adaptability, environmental tolerances, anatomy, and physiological responses.

### HALT 1327 HORTICULTURAL EQUIPMENT MANAGEMENT
**Credit: 3 (2 lecture, 2 lab)**
Instruction in identification and application of various types of powered equipment used in the horticulture industry. Presentation of functions, operations, troubleshooting techniques, and repair of equipment.

### HALT 1333 LANDSCAPE IRRIGATION
**Credit: 3 (2 lecture, 2 lab)**
In-depth coverage of irrigation systems including equipment, design, performance, and maintenance. Topics include residential and commercial applications, troubleshooting, repair, and technological advances in irrigation systems.

### HALT 1345 GOLF/SPORTS FIELD/ PARK MANAGEMENT
**Credit: 3 (2 lecture, 2 lab)**
Instruction in the management of golf courses, sports fields, and municipal parks departments. Topics include record keeping, budgeting, labor management, maintenance programs, financial reports, personnel management, and business functions.

### HALT 1351 LANDSCAPE BUSINESS OPERATIONS
**Credit: 3 (3 lecture)**
Instruction in the structure of the landscape business including cost estimation; organization; equipment needs; interpretation of financial reports; and material, labor, and equipment management. Emphasis on the types of landscape operations, marketing, legal forms, construction law, and safety.

### HALT 1382 COOPERATIVE EDUCATION
**Prerequisite: Department Approval**
**Credit: 3 (1 lecture/seminar and 20 hrs a week employment)**
Career-related activities encountered in the student's area of specialization are offered through a cooperative agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines classroom learning with work experience. Directly related to a technical discipline, specific learning objectives guide the student through the paid work experience. This course may be repeated if topics and learning outcomes vary.

### HALT 1396 SPECIAL TOPICS IN NURSERY OPERATIONS AND MANAGEMENT
**Prerequisite: Department Approval**
**Credit: 3 (2 lec, 2 lab)**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

### HALT 2307 HORTICULTURE FOOD CROPS
**Credit: 3 (2 lecture, 2 lab)**
A study of commercial and home cultivated food crops including various vegetables, fruits, and nuts. Topics address planting, maintenance, harvest, and storage of the various crops.

### HALT 2308 GREENHOUSE MANAGEMENT
**Credit: 3 (2 lecture, 2 lab)**
Fundamentals of greenhouse construction and operation. Topics include architectural styles, construction materials, environmental systems and controls, growing media, fertilizers, post harvest handing, marketing, and business management.

### HALT 2312 TURFGRASS MAINTENANCE MANAGEMENT
**Credit: 3 (3 lecture)**
Instruction in common turf-grass cultural practices. Topics include calculation and application of materials and the operation and maintenance of equipment.

### HALT 2314 PLANT PROPAGATION
**Credit: 3 (2 lecture, 2 lab)**
A study of the sexual and asexual propagation of plants used in horticulture. Topics include propagation by seeds, cuttings, grafting, budding, layering, division separation, and tissue culture, and environmental factors of propagation.

### HALT 2318 SOIL FERTILITY AND FERTILIZERS
**Credit: 3 (2 lecture, 2 lab)**
An in-depth study of the chemistry, soil interaction, plant uptake, and utilization of essential plant nutrients. Topics include deficiency and toxicity symptoms, and the selection, application, and characteristics of fertilizer materials.

### HALT 2320 NURSERY PRODUCTION AND MANAGEMENT
**Credit: 3 (2 lecture, 2 lab)**
An overview of the procedures for establishing and operating a commercial nursery. Topics include site selection, structures, equipment, stock selection, production practices, harvesting, marketing, and management practices.

### HALT 2321 SMALL FARMING
**Credit: 3 (2 lecture, 2 lab)**
Instruction in small farming techniques with emphasis on horticulture science including comprehensive and profitable guidelines. Topics include herbs, fruits, nut and vegetable crops.

### HALT 2323 HORTICULTURE PEST CONTROL
**Credit: 3 (2 lecture, 2 lab)**
Examination of federal, state, and local laws and regulations governing the control of horticultural pests. Topics include procedures, methods, safety requirements, integrated pest management (IPM) and chemical, natural, and biological controls.

### HALT 2331 ADVANCED LANDSCAPE DESIGN
**Credit: 3 (2 lecture, 2 lab)**
In-depth coverage of advanced practices in landscape planning for commercial and residential landscapes. Topics include advanced design analysis, architectural elements, space articulation, and land engineering concepts.

### HAMG 1313 FRONT OFFICE PROCEDURES
**Credit: 3 (3 lecture)**
A study of the flow of activities and functions in today's lodging operation. Topics include a comparison of manual, machine assisted, and computer based methods for each front line function.

### HAMG 1321 INTRODUCTION TO HOSPITALITY INDUSTRY
**Credit: 3 (3 lecture)**
Introduction to the elements of the hospitality industry.

### HAMG 1324 HOSPITALITY HUMAN RESOURCES MANAGEMENT
**Credit: 3 (3 lecture)**
A study of the principles and procedures of managing people in the hospitality workplace.

### HAMG 1340 HOSPITALITY LEGAL ISSUES
**Credit: 3 (3 lecture)**
A course in legal and regulatory requirements that impact the hospitality industry. Topics include Occupational Safety and Health Administration (OSHA), labor regulations, tax laws, tip reporting, franchise regulations, and product liability laws.

### HAMG 1342 GUEST ROOM MAINTENANCE
**Credit: 3 (3 lecture)**
Demonstrates the working relationship in the lodging industry between housekeeping and maintenance.

### HAMG 2307 HOSPITALITY MARKETING AND SALES
**Credit: 3 (3 lecture)**
Identification of the core principles of marketing and their impact on the hospitality industry.

### HAMG 2332 HOSPITALITY FINANCIAL MANAGEMENT
**Credit: 3 (3 lecture)**
Methods and application of financial management within the hospitality industry. Primary emphasis on sales accountability, internal controls, and reports analysis.

### HAMG 2337 HOSPITALITY FACILITIES MANAGEMENT
**Credit: 3 (3 lecture)**
Identification of building systems, facilities management, security and safety procedures.

## HAMG 2380 COOPERATIVE EDUCATION I -HOSPITALITY ADMINISTRATION AND MANAGEMENT

**Prerequisite: 6 semester hours in HAMG or RSTO courses, approval of Co-op instructor**
**Corequisite: 20 hours or more a week of approved hotel or restaurant related employment**
**Credit: 3 (1 lecture, 20 hours work experience)**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## HAMG 2381 COOPERATIVE EDUCATION II– HOSPITALITY ADMINISTRATION AND MANAGEMENT

**Prerequisite: HAMG 2380**
**Corequisite: 20 hours or more a week of approved hotel or restaurant related employment**
**Credit: 3 (1 lecture, 20 hours work experience)**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## HART 1301 BASIC ELECTRICITY FOR HVAC

**Credit: 3 (2 lecture, 3 lab)**

Principles of electricity as required by HVAC, including proper use of test equipment, electrical circuits, and component theory and operation.

## HART 1303 A/C CONTROL PRINCIPLES

**Prerequisite/Corequisite: HART 1301**
**Credit: 3 (2 lecture, 3 lab)**

A basic study of HVAC and refrigeration controls; troubleshooting of control components; emphasis on use of wiring diagrams to analyze high and low voltage circuits; a review of Ohm's law as applied to air conditioning controls and circuits.

## HART 1307 REFRIGERATION PRINCIPLES

**Credit: 3 (2 lecture, 3 lab)**

An introduction to the refrigeration cycle, basic thermodynamics, heat transfer, temperature/pressure relationship, safety, refrigeration containment, and refrigeration components.

## HART 1310 HVAC SHOP PRACTICES AND TOOLS

**Credit: 3 (2 lecture, 3 lab)**

Tools and instruments used in the HVAC industry. Includes proper application, use and care of these tools, and tubing and piping practices.

## HART 1341 RESIDENTIAL AIR CONDITIONING

**Prerequisite/Corequisite: HART 1345**
**Credit: 3 (2 lecture, 3 lab)**

A study of components, applications, and installation of mechanical air conditioning systems including operating conditions, troubleshooting, repair, and charging of air conditioning systems.

## HART 1345 GAS AND ELECTRIC HEATING

**Prerequisite/Corequisite: HART 1307**
**Credit: 3 (2 lecture, 3 lab)**

A study of components, applications and installation of mechanical air conditioning systems including operating conditions, troubleshooting repair, and charging of air conditioning systems.

## HART 1356 EPA RECOVERY CERTIFICATION PREPARATION

**Credit: 3 (2 lecture, 3 lab)**

Certification training for HVAC refrigerant recovery and recycling. Instruction will provide a review of EPA guidelines for refrigerant recovery and recycling during the installation, service, and repair of all HVAC and refrigeration systems.

## HART 2302 COMMERCIAL AIR CONDITIONING SYSTEM DESIGN

**Credit: 3 (2 lecture, 3 lab)**

Advanced study in essential elements of commercial air conditioning contracting including duct systems design and/or material takeoff, weight estimating, equipment selection using manufacturer's catalog data, job cost estimating, scheduling, preparation of shop drawings and submittals.

## HART 2331 ADVANCED ELECTRICITY

**Prerequisite/Corequisite: HART 1303**
**Credit: 3 (2 lecture, 3 lab)**

Advanced electrical instruction and skill building in installation and servicing of air conditioning and refrigeration equipment including detailed instruction in motors and power distribution, motors, motor controls, and application of solid state devices.

## HART 2334 ADVANCED A/C CONTROLS

**Prerequisite/Corequisite: HART 1303**
**Credit: 3 (2 lecture, 3 lab)**

Theory and application of electrical control devices, electromechanical controls, direct digital controls and/or pneumatic controls.

## HART 2336 AIR CONDITIONING TROUBLESHOOTING

**Prerequisite/Corequisite: HART 2349**
**Credit: 3 (2 lecture, 3 lab)**

An advanced course in application of troubleshooting principles and use of test instruments to diagnose air conditioning and refrigeration components and system problems including conducting performance tests.

## HART 2338 AIR CONDITIONING INSTALLATION AND STARTUP

**Credit: 3 (2 lecture, 3 lab)**

A study of air conditioning system installation, refrigerant piping, condensate disposal, and air cleaning equipment with emphasis on startup and performance testing.

## HART 2341 COMMERCIAL AIR CONDITIONING

**Prerequisite/Corequisite: HART 2342**
**Credit: 3 (2 lecture, 3 lab)**

A study of components, applications, and installation of air conditioning systems with capacities of 25 tons or less.

## HART 2342 COMMERCIAL REFRIGERATION

**Prerequisite: HART 1307**
**Credit: 3 (2 lecture, 3 lab)**

Theory of and practical application in the maintenance of commercial refrigeration; medium and low temperature applications and ice machines.

## HART 2345 RESIDENTIAL AIR CONDITIONING SYSTEM DESIGN

**Credit: 3 (2 lecture, 3 lab)**

Study of the properties of air and results of cooling, heating, humidifying or dehumidifying; heat gain and heat loss calculations including equipment selection and balancing the air system.

## HART 2349 HEAT PUMPS

**Prerequisite/Corequisite: HART 1341**
**Credit: 3 (2 lecture, 3 lab)**

A study of heat pumps, heat pump control circuits, defrost controls, auxiliary heat, air flow, and other topics related to heat pump systems.

## HART 2357 SPECIALIZED COMMERCIAL REFRIGERATION

**Credit: 3 (2 lecture, 3 lab)**

An advanced course covering the components, accessories, and service of specialized refrigeration units such as ice machines, soft-serve machines, cryogenics, and cascade systems.

## HART 2368 PRACTICUM (OR FIELD EXPERIENCE) HEATING, AIR CONDITIONING, AND REFRIGERATION

**Prerequisite: Department Approval**
**Credit: 3 (21 lab)**

Practical general training and experiences in the workplace. The college, with the employer, develops and documents an individualized plan for the student, which relates the workplace training and experiences to the student's general and technical course of study. The guided external experiences may be paid or unpaid. This course may be repeated if topics and learning outcomes vary.

## HART 2380 COOPERATIVE EDUCATION - HEATING, AIR CONDITIONING, AND REFRIGERATION TECHNOLOGIES/ TECHNICIANS

**Prerequisite: Department Approval**
**Credit: 3 (1 lecture per week and 20 hours per week external learning experience)**

Career related activities encountered in the student's area of specialization are offered through a cooperative agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines classroom learning with work experience.

## HECO 1322 BASIC NUTRITION
## SEE BIOL 1322

## HIST 1301 UNITED STATES HISTORY TO 1877
**Prerequisites: Must be placed into college-level reading and college-level writing.**
**Credit: 3 (3 lecture)**
The American nation from the English colonization to the close of the Civil War through Reconstruction. Core Curriculum Course.

## HIST 1302 UNITED STATES HISTORY AFTER 1877
**Prerequisites: Must be placed into college-level reading and college-level writing.**
**Credit: 3 (3 lecture)**
The American nation from the end of the Reconstruction Era to the present. Core Curriculum Course.

## HIST 2301 HISTORY OF TEXAS
**Prerequisites: Must be placed into college-level reading and college-level writing.**
**Credit: 3 (3 lecture)**
A survey of the political, economic, social, cultural, and intellectual development of Texas from the period of Spanish discovery to the present. History of Texas may be substituted for either HIST 1301 or HIST 1302. Core Curriculum Course.

## HIST 2311 WESTERN CIVILIZATION I
**Prerequisites: Must be placed into college-level reading and college-level writing.**
**Credit: 3 (3 lecture)**
Development of ancient, medieval, and early modern civilizations to 1660.

## HIST 2312 WESTERN CIVILIZATION II
**Prerequisites: Must be placed into college-level reading and college-level writing.**
**Credit: 3 (3 lecture)**
Development of modern western civilization from 1660 to 1945.

## HIST 2321 THE ORIGINS AND DEVELOPMENT OF WORLD CIVILIZATIONS
**Prerequisites: Must be placed into college-level reading and college-level writing.**
**Credit: 3 (3 lecture)**
A survey of the major western and non-western civilizations which developed from Sumeria to the end of the Middle Ages. Centered around a series of themes, particular emphasis is placed on the commonality of the human experience as illustrated in Europe, the Middle East, Asia and Sub-Saharan Africa. Core Curriculum Course.

## HIST 2322 MODERN WORLD CIVILIZATIONS: 1500 - PRESENT
**Prerequisites: Must be placed into college-level reading and college-level writing.**
**Credit: 3 (3 lecture)**
This course analyzes the effect on the world of the changing relationship between the West and the non-West over the past 500 years. Emphasis will be placed on the social, political and economic dynamics of this interchange. Core Curriculum Course.

## HIST 2328 MEXICAN-AMERICAN HISTORY
**Prerequisites: Must be placed into college-level reading and college-level writing.**
**Credit: 3 (3 lecture)**
A survey of the role of the Mexican-American in United States history. Emphasis will be placed on economic, social, and cultural development with particular focus on contributions to American society.

## HIST 2381 AFRO-AMERICAN HISTORY
**Prerequisites: Must be placed into college-level reading and college-level writing.**
**Credit: 3 (3 lecture)**
A survey of the role of the Afro-American in United States history. Emphasis will be placed on economic, social, and cultural development with particular focus on contributions to American society.

## HIST 2389 ACADEMIC COOPERATIVE IN HISTORY
**Prerequisite: Prerequisites: Must be placed into college-level reading and college-level writing.**
**Credit: 3 (3 lecture, 0 lab)**
An experiential-learning instruction program designed to integrate textbook and classroom knowledge with practical hands-on experience in an applied area of history. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of human social behavior and/or social institutions.

## HITT 1166 HEALTH INFORMATION PRACTICUM I
**Prerequisite: Department Approval**
**Credit: 1 (8 lab)**
Practical general training and experiences in the workplace. The college with the employer develops and documents an individualized plan for the student. The plan relates the workplace training and experiences to the student's general and technical course of study.

## HITT 1167 HEALTH INFORMATION PRACTICUM II
**Prerequisite: Department Approval**
**Credit: 1 (8 Lab)**
Practical general training and experiences in the workplace. The college, with the employer, develops and documents an individualized plan for the student. The plan relates the workplace training and experiences to the student's general and technical course of study. The guided external experiences may be paid or unpaid. This course may be repeated if topics and learning outcomes vary.

## HITT 1291 SPECIAL TOPICS IN HEALTH INFORMATION - CURRENT ASPECTS OF HEALTH INFORMATION
**Credit: 2 (2 lecture)**
This course will study and research current trends in the management of Health Information. Topics may include the electronic patient record, management information systems and coding and classification systems.

## HITT 1301 HEALTH DATA CONTENT AND STRUCTURE
**Credit: 3 (2 lecture, 2 lab)**
Introduction to system and processes for collecting, maintaining and disseminating primary and secondary health related information. Introduction in delivery and organizational structure to include content of health record, documentation requirements, registries, indices, licensing, regulatory agencies, forms, and screens.

## HITT 1305 MEDICAL TERMINOLOGYI
**Credit: 3 (2 lecture, 4 lab)**
Student of word origin and structure through the introduction of prefixes, suffixes, root words, plurals, abbreviations and symbols, surgical procedures, medical specialties, and diagnostic procedures.

## HITT 1311 COMPUTERS IN HEALTH CARE
**Prerequisite: POFI 1301 or ITSC 1309**
**Credit: 3 (2 lecture, 3 lab)**
Introduction to the concepts of computer technology related to health care and the tools and techniques for collecting, storing, and retrieving health care data.

## HITT 1341 CODING AND CLASSIFICATION SYSTEMS
**Prerequisite: HPRS 2301, HITT 1349**
**Credit: 3 (2 lecture, 4 lab)**
Application of basic coding rules, principles, guidelines, and conventions.

## HITT 1349 PHARMACOLOGY
**Prerequisite: HITT 1305, HITT 1445, BIOL 2402**
**Credit: 3 (3 lecture)**
Overview of the basic concepts of the pharmacological treatment of various diseases affecting major body systems.

## HITT 1353 LEGAL AND ETHICAL ASPECTS OF HEALTH INFORMATION
**Credit: 3 (3 lecture)**
Concepts of confidentiality, ethics, health care legislation, and regulations relating to the maintenance and use of health information.

## HITT 1355 HEALTH CARE STATISTICS
**Credit: 3 (2 lecture, 2 lab)**
General principles of health care statistics with emphasis in hospital statistics. Skill development in computation and calculation of health data with overview of guidelines for Texas Department of Health Vital Statistics and Studies.

## HITT 1445 HEALTHCARE DELIVERY SYSTEMS
**Prerequisite: HITT 1301**
**Credit: 4 (4 lecture)**
Introduction to organization, financing and delivery of health care services, accreditation, licensure and regulatory agencies.

## HITT 2167 HEALTH INFORMATION PRACTICUM III

**Prerequisite: Department Approval**
**Credit: 1 (8 lab)**

Practical general training and experiences in the workplace. The college, along with the employer, develops and documents an individualized plan for the student. The plan relates the workplace training and experiences to the student's general and technical courses of study. The guided external experiences may be paid or unpaid. This course may be repeated if topics and learning outcomes vary.

## HITT 2249 RHIT COMPETENCY REVIEW

**Prerequisite: Department Approval**
**Credit: 2 (l lecture, 3 lab)**

Review of HIT competencies, skills, and knowledge base pertinent to the technology and relevant to the professional development of the student.

## HITT 2267 PRACTICUM (OR FIELD EXPERIENCE) - HEALTH INFORMATION/MEDICAL RECORDS TECHNOLOGY/TECHNICIAN

**Prerequisite: Department Approval**
**Credit: 2 (15 lab)**

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## HITT 2339 HEALTH INFORMATION ORGANIZATION AND SUPERVISION

**Prerequisite: Department Approval**
**Credit: 3 (3 lecture)**

Principles of organization and supervision of human, fiscal and capital resources.

## HITT 2340 ADVANCED MEDICAL BILLING AND REIMBURSEMENT

**Credit: 3 (2 lecture, 2 lab)**

Health insurance and reimbursement in various health care settings. Includes application of coding skills to prepare insurance forms for submission to third party payers.

## HITT 2435 CODING AND REIMBURSEMENT METHODOLOGIES

**Prerequisite: HITT 1341**
**Credit: 4 (3 lecture, 3 lab)**

Development of advanced coding techniques with emphasis on case studies, health records and federal regulations regarding perspective payment systems and methods or reimbursement.

## HITT 2443 QUALITY ASSURANCE AND PERFORMANCE IMPROVEMENT

**Prerequisite: Department Approval**
**Credit: 4 (4 lecture)**

Study of the many facets of quality standards and methodologies in the health information management environment. Topics include licensing, accreditation, computation and presentation of data in statistical formats, quality improvement functions, quality tools, utilization management, risk management, and medical staff data quality issues.

## HLAB 1401 INTRODUCTION TO HISTOTECHNOLOGY

**Credit: 4 (4 lecture)**

Introduction to the healthcare environment and the histology laboratory. Includes laboratory safety and infection control; healthcare professionals; medical terminology; basic anatomy and physiology; laboratory mathematics; communication; and ethics, legal, and professional issues.

## HLAB 1402 HISTOTECHNOLOGY I

**Prerequisite: HLAB 1401**
**Credit: 4 (3 lecture, 3 lab)**

Introduction to the basic theories and practices of histotechnology. Includes laboratory safety, fixation, tissue processing, embedding, microtomy and cryotomy, and routine staining.

## HLAB 1405 FUNCTIONAL HISTOLOGY I

**Prerequisite: HLAB 1401**
**Credit: 4 (4 lecture)**

Recognition, composition, and function of cells, cell life cycles, blood, and basic tissue types.

## HLAB 1443 HISTOTECHNOLOGY II

**Prerequisite: HLAB 1402**
**Credit: 4 (3 lecture, 3 lab)**

A continuation of Histotechnology I. Introduces both theory and practice of common histochemical staining techniques. Topics include laboratory safety; laboratory mathematics and reagent preparation; basic tissue/dye bonding; differentiation and quality control; and nuclear, connective tissue, and carbohydrate staining techniques.

## HLAB 1446 FUNCTIONAL HISTOLOGY II

**Prerequisite: HLAB 1405**
**Credit: 4 (4 lecture)**

A continuation of Functional Histology I. Emphasis on the recognition, composition, and function of organ systems. Includes skeletal tissues, central nervous system, circulatory system, endocrine glands, and reproductive system.

## HLAB 1460 CLINICAL-HISTOTECHNOLOGY I

**Corequisite: HLAB 1472**
**Credit: 4 (16 lab)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## HLAB 1461 CLINICAL-HISTOTECHNOLOGY II

**Prerequisite: HLAB 1460 (I)**
**Credit: 4 (16 lab)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## HLAB 1462 CLINICAL-HISTOTECHNOLOGY III

**Prerequisite: HLAB 1461 (II)**
**Credit: 4 (16 lab)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## HLAB 2341 REGISTRY REVIEW

**Prerequisite: Department Approval**
**Credit: 3 (3 lecture)**

Review of the major theoretical/practical applications in histotechnology. Includes fixation, processing, embedding, microtomy, frozen cryotomy, routine and special stains, tissue identification, immunohistochemistry, enzyme histochemistry, and electron microscopy. Emphasis on employment skills, review of ethical and legal behavior, and professional development.

## HLAB 2434 HISTOTECHNOLOGY III

**Prerequisite: HLAB 1443**
**Credit: 4 (3 lecture, 3 lab)**

A continuation of Histotechnology II. Further introduces theory and practice of routine histochemical staining techniques. Techniques include microorganisms, tissue pigments and minerals, and neural tissue. Includes specialized techniques such as electron microscopy, immunohistochemistry, and muscle enzyme histochemistry.

## HPRS 1106 MEDICAL TERMINOLOGY

**Credit: 1 (1 lecture)**

A study of common medical terminology, word origin, structure, and application.

## HPRS 1201 INTRODUCTION TO HEALTH PROFESSIONS

**Credit: 2 (2 lecture, 1 lab)**

An overview of roles of various members of the health care system, educational requirements, and issues affecting the delivery of health care.

## HPRS 2301 PATHOPHYSIOLOGY

**Prerequisite: BIOL 2402**
**Credit: 3 (2 lecture, 2 lab)**

Study of the pathology and general health management of diseases and injuries across the life span. Topics include etiology, symptoms, and the physical and psychological reaction to diseases and injuries.

## HPRS 2332 HEALTHCARE COMMUNICATIONS

**Prerequisites: PTHA 1305, PTHA 1413, PTHA 1229, PTHA 1201, HPRS 1106**
**Credit: 3 (3 lecture, 1 lab)**

Application of oral, written, and technological methods of communication with clients, client support groups, health care professionals, and external agencies.

## HRPO 1302 HUMAN RESOURCE TRAINING AND DEVELOPMENT

**Credit: 3 (3 lecture)**

An overview of the human resource development function specifically concentrating on the training and development component. Topics include training as related to organizational mission and goals; budgeting; assessment; design, delivery, evaluation, and justification of training. Included are new trends in training, including distance and virtual education.

## HRPO 1305 MANAGEMENT AND LABOR RELATIONS

**Credit: 3 (3 lecture)**

The development and structure of the labor movement including labor legislation, collective bargaining, societal impact, labor/management relationships and international aspects.

## HRPO 1311 HUMAN RELATIONS

**Credit: 3 (3 lecture)**

Practical application of the principles and concepts of the behavioral sciences to interpersonal relationships in the business and industrial environment.

## HRPO 2301 HUMAN RESOURCES MANAGEMENT

**Credit: 3 (3 lecture)**

Behavioral and legal approaches to the management of human resources in organizations.

## HRPO 2307 ORGANIZATIONAL BEHAVIOR

**Credit: 3 (3 lecture)**

The analysis and application of organizational theory, group dynamics, motivation theory, leadership concepts and the integration of interdisciplinary concepts from the behavioral sciences.

## HRPO 2371 RECRUITING, INTERVIEWING AND PLACEMENT OF HUMAN RESOURCES

**Credit: 3 (3 lecture)**

A study of the concepts, techniques and regulations that apply to employment, recruitment, interviewing, selection and placement of human resources.

## HRPO 2372 WAGE AND SALARY ADMINISTRATION

**Credit: 3 (3 lecture)**

A study of contemporary business payroll problems emphasizing wage and benefits plans. Concepts of salary determinants, incentive pay systems, merit and seniority payments and wage and salary control systems are taught.

## HUMA 1301 INTRODUCTION TO HUMANITIES

**Prerequisite: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit: 3 (3 lecture)**

An introduction to the arts and humanities. The course investigates the relationship between individual human lives and works of imagination and thought. Core Curriculum Course

## HUMA 1305  INTRODUCTION TO MEXICAN AMERICAN STUDIES

**Prerequisite:  must be placed into college level reading (or take GUST 0342 as a co-requisite) and be placed into college level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit: 3 (3 lecture)**

The main goal of this course is to provide students with a basic foundation in the Mexican-American/Chicano Studies discipline by offering insight into historical, social sciences, demographics, socio cultural, political, economic, linguistics, educational, and cultural themes that are relevant to the experience of Mexican-Americans in the U.S.  Core curriculum course

## HUMA 2319 THE MINORITY EXPERIENCE IN THE US

**Prerequisite: ENGL 1301 or higher.**

**Credit: 3 (3 lecture)**

The study of the historical, economic, social, and cultural development of minorities in the U.S. It may include African-American, Mexican-American, Asian-American, and Native-American issues.  Core curriculum course

## HUMA 2323 WORLD CULTURES

**Credit: 3 (3 lecture)**

**Prerequisite:  ENGL 1301or higher**

Study of human beings, their antecedents and related primates and their cultural behavior and  institutions. Introduces the major sub-fields: physical and cultural anthropology, archealogy, linguistic,  and ethnology.

## HYDR 1309 BASIC FLUID POWER I (HYDRAULICS)

**Credit: 3 (3 lecture)**

Introduction to the basic principles of hydraulic pressure flow and system components including system controls, symbols, and circuits. Emphasis on good maintenance procedures, troubleshooting techniques, and safety practices.

## HYDR 1315 BASIC FLUID POWER II (PNEUMATICS)

**Credit: 3 (3 lecture)**

Introduction to the basic principles of pneumatic pressure, flow, and system components including manual and electro-mechanical controls, symbols, and circuits. Emphasis on troubleshooting techniques, good maintenance procedures, and safety practices.

## IBUS 1301 PRINCIPLES OF EXPORTS

**Credit: 3 (3 lecture)**

Export management processes and procedures. Includes governmental controls and compliance, licensing of products, documentation, commercial invoices, and traffic procedures. Emphasizes human and public relations, management of personnel, finance, and accounting procedures.

## IBUS 1302 PRINCIPLES OF IMPORTS

**Credit: 3 (3 lecture)**

Practices and processes of import management operations. Includes government controls and compliance. Emphasizes the preparation and understanding of import documents such as customs invoices, packing lists, and commercial invoices.

## IBUS 1305 INTRODUCTION TO INTERNATIONAL BUSINESS AND TRADE

**Credit: 3 (3 lecture)**

The techniques for entering the international marketplace. Emphasis on the impact and dynamics of sociocultural, demographic, economic, technological, and political-legal factors in the foreign trade environment. Topics include patterns of world trade, internationalization of the firm, and operating procedures of the multinational enterprise.

## IBUS 1341 GLOBAL SUPPLY CHAIN MANAGEMENT

**Credit: 3 (3 lecture)**

International purchasing or sourcing. Includes the advantages and the barriers of purchasing internationally, global sourcing, procurement technology, and purchasing processes. Emphasizes issues of contract administration, location, and evaluation of foreign suppliers, total cost approach, exchange fluctuations, customs procedures, and related topics.

## IBUS 1354 INTERNATIONAL MARKETING MANAGEMENT

**Credit: 3 (3 lecture)**

Analysis of international marketing strategies using market trends, costs, forecasting, pricing, sourcing and distribution factors. Development of an international export/import marketing plan.

## IBUS 1370 ECONOMIC GEOGRAPHY

**Credit: 3 (3 lecture)**

A study of material management, government regulations and distribution systems throughout the world as related to economic factors regarding agriculture, manufacturing, and materials utilization.

## IBUS 2335 INTERNATIONAL BUSINESS LAW

**Credit: 3 (3 lecture)**

A course in law as it applies to international business transactions in the global political-legal environment. Study of inter-relationships among laws of different countries and the legal effects on individuals and business organizations. Topics include agency agreements, international contracts and administrations, regulations of exports and imports, technology transfers, regional transactions, intellectual property, product liability, and legal organization.

## IBUS 2339 INTERNATIONAL BANKING AND FINANCE

**Credit: 3 (3 lecture)**

A course in international monetary systems, financial markets, flow of capital, foreign exchange, and financial institutions. Topics include export-import payments and financing the preparation of letters of credit, related shipping documentation, and electronic transfers. An introduction to multinational financial decisions, such as financing foreign investment or working capital.

## IBUS 2341 INTERCULTURAL MANAGEMENT

**Credit: 3 (3 lecture)**

Cross-cultural comparisons of management and communications processes. Emphasizes cultural geographic distinctions and  antecedents that affect individual, group, and organizational behavior. May include sociocultural demographics, economics, technology, political-legal issues,  negotiations, and processes of decision making in the international cultural environment.

## IMED 1301 INTRODUCTION TO MULTIMEDIA

**Corequisite: ARTC 1325**

**Credit: 3 (2 lecture, 4 lab)**

A survey of theories, elements and hardware/software components of multimedia. Topics include digital image editing, digital components of multimedia, sound and video editing, animation, web development, and interactive presentations. Emphasis on conceptualizing,

producing, and developing effective multimedia presentations. Upon completion of this course, the student will be prepared to make choices based on particular interests. This course introduces many software packages used in multimedia production.

### IMED 1316 WEB PAGE DESIGN I
**Corequisite: ARTC 1325**
**Credit: 3 (2 lecture, 4 lab)**
Instruction in Internet web page design and related graphic design issues including markup languages, web sites and browsers.

### IMED 1341 INTERFACE DESIGN
**Prerequisite: ARTC 1325 or**
**Department Approval**
**Credit: 3 (2 lecture, 4 lab)**
Skill development in the interface design process including selecting interfaces that are meaningful to users and relative to a project's content and delivery system. Emphasis on aesthetic issues such as iconography, screen composition, colors, and typography.

### IMED 1345 INTERACTIVE MULTIMEDIA I
**Prerequisite: ARTC 1325, ARTC 1302, or**
**Department Approval**
**Credit: 3 (2 lecture, 4 lab)**
Exploration of the use of graphics and sound to create interactive multimedia animations using industry standard authoring software.

### IMED 1375 WRITING FOR THE WEB
**Prerequisites: ETWR 1371**
**Credit: 3 (2 lecture, 4 lab)**
Exploration of methods of gathering information and writing it for publication on the Internet. Course includes interviewing in person, via email and via Internet chat; writing styles to accommodate the reading habits of general Internet audiences; using ethical practices when interacting with Internet sources and consumers. Writing for optimum search engine results is also covered.

### IMED 2301 INSTRUCTIONAL DESIGN
**Prerequisite: ARTC 1325 or**
**Department Approval**
**Credit: 3 (2 lecture, 4 lab)**
An in-depth study of the instructional design process based on learning theories including evaluation of models and design examples. Designed to provide teachers with experience in the use of computers and computer based teaching for instruction, presentation, and administration.

### IMED 2309 INTERNET COMMERCE
**Prerequisite or Corequisite: IMED 1316 or**
**Department Approval**
**Credit: 3 (2 lecture, 4 lab)**
An overview of the Internet as a marketing and sales tool with emphasis on developing a prototype for electronic commerce. Topics include database technology, creating web sites in order to collect information, performing on-line transactions, and generating dynamic content.

### IMED 2313 PROJECT ANALYSIS AND DESIGN
**Prerequisite: Department Approval**
**Credit: 3 (2 lecture, 4 lab)**
Introduction to the planning process for multimedia, including costing, preparation, production, legal issues, and guideline for pre-production preparation and creation of a comprehensive design document including target audience analysis, purpose and goals, objectives, content outline, flow charts and story boards. Emphasis on teamwork, content design, and production management.

### IMED 2315 WEB PAGE DESIGN II
**Prerequisite: ARTC 1325 and ITSE 2313 or**
**Department Approval**
**Credit: 3 (2 lecture, 4 lab)**
A study of mark-up language advanced layout techniques for creating web pages. Emphasis on identifying the target audience and producing web sites according to accessibility standards, cultural appearance, and legal issues.

### IMED 2345 INTERACTIVE MULTIMEDIA II
**Prerequisite: IMED 1345 or Department Approval**
**Credit: 3 (2 lecture, 4 lab)**
Instruction in the use of scripting language to create interactive multimedia projects. Topics include building a user interface, writing script, testing, and debugging.

### IMED 2349 INTERNET COMMUNICATIONS
**Corequisite: IMED 2309 or Department Approval**
**Credit: 3 (2 lecture, 4 lab)**
Advanced seminar in web server design and maintenance. Topics include scripting, web site planning, testing, security, production and marketing.

### IMED 2351 MULTIMEDIA PROGRAMMING
**Prerequisite: IMED 1316 or**
**Department Approval**
**Credit: 3 (2 lecture, 4 lab)**
Advanced topics in multimedia programming including custom scripts for data tracking. Emphasis on developing multimedia programs customized to the client's needs.

### IMED 2388 INTERNSHIP - DIGITAL COMMUNICATION AND MEDIA/MULTIMEDIA
**Prerequisite: Department Approval**
**Credit: 3 (13 lab)**
A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

### INCR 1302 PHYSICS OF INSTRUMENTATION
**Prerequisite/Corequisite: ELPT 1311**
**Credit: 3 (2 lecture, 2 lab)**
An introduction to a simple pneumatic control loop. Introduction to pressure, temperature, level, and flow transmitters and the various transducers used in the detection of changes in process variables. This course is designed to familiarize the student with the instrumentation devices utilized in industrial automation and process control environments.

### INDS 1291 SPECIAL TOPICS IN INTERIOR DESIGN
**Credit: 2 (2 lecture)**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

### INDS 1301 BASIC ELEMENTS OF DESIGN
**Credit: 3 (2 lecture, 3 lab)**
A study of basic design concepts with projects in shape, line, value, texture, pattern, spatial illusion, and form.

### INDS 1311 FUNDAMENTALS OF INTERIOR DESIGN
**Credit: 3 (3 lecture, 1 lab)**
An introduction to the elements and principles of design, the interior design profession, and the interior design problem-solving process.

### INDS 1315 MATERIALS, METHODS AND ESTIMATING
**Credit: 3 (2 lecture, 3 lab)**
A study of materials, methods or construction and installation, and estimating for interior design applications.

### INDS 1319 TECHNICAL DRAWING FOR INTERIOR DESIGNERS
**Credit: 3 (2 lecture, 4 lab)**
An introduction to reading and preparing technical construction drawings for interior design, including plans, elevations, details, schedules, dimensions and lettering.

### INDS 1341 COLOR THEORY AND APPLICATION
**Credit: 3 (2 lecture, 3 lab)**
A study of color theory and its application to interior design.

### INDS 1345 COMMERCIAL DESIGN I
**Prerequisites: INDS 2313**
**Credit: 3 (2 lecture, 4 lab)**
A study of design principles applied to furniture layout and space planning for commercial interiors.

### INDS 1349 FUNDAMENTALS OF SPACE PLANNING
**Prerequisite: INDS 1301, INDS 1319 and**
**INDS 1311 or Department Approval**
**Credit: 3 (2 lecture, 3 lab)**
The study of residential and light commercial spaces, including programming, codes, standards, space planning, drawings and presentations.

### INDS 1351 HISTORY OF INTERIORS I

**Credit: 3 (3 lecture, 1 lab)**

An in-depth historical survey of design in architecture, interiors, furnishings, and decorative elements from the ancient cultures through the Italian Renaissance time period.

### INDS 1352 HISTORY OF INTERIORS II

**Credit: 3 (3 lecture, 1 lab)**

A multi-cultural historical survey of design in architecture, interiors, furnishings, and decorative elements from the post-Renaissance period to present time.

### INDS 1391 SPECIAL TOPICS IN INTERIOR DESIGN

**Prerequisite: Associate Degree in Interior Design or Department Approval**

**Credit: 3 (2 lecture, 4 lab)**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation, relevant to the professional development of the student.

### INDS 2305 INTERIOR DESIGN GRAPHICS

**Prerequisite: INDS 1319 or Department Approval**

**Credit: 3 (2 lecture, 4 lab)**

Skill development in computer-generated graphics and technical drawings for interior design applications.

### INDS 2307 TEXTILES FOR INTERIOR DESIGN

**Credit: 3 (2 lecture, 3 lab)**

The study of interior design textiles including characteristics, care, codes, and applications.

### INDS 2311 INTERIOR ENVIRONMENTAL FACTORS

**Prerequisite: Associate Degree in Interior Design or Department Approval**

**Credit: 3 (2 lecture, 4 lab)**

A study of human factors affecting the interior environment, including proxemics, ergonomics, and universal design.

### INDS 2313 RESIDENTIAL DESIGN I

**Prerequisite: INDS 1311, INDS 1341, INDS 1349, INDS 2330 and INDS 2317**

**Credit: 3 (2 lecture, 4 lab)**

The study of residential spaces, including the identification of clients needs, programming, standards, space planning, drawings, and presentations.

### INDS 2315 LIGHTING FOR INTERIOR DESIGN

**Prerequisite: INDS 1319 or Department Approval**

**Credit: 3 (2 lecture, 3 lab)**

Fundamentals of lighting design, including lamps, luminaries, lighting techniques, and applications for residential and commercial projects.

### INDS 2317 RENDERING TECHNIQUES

**Prerequisite: INDS 2321**

**Credit: 3 (2 lecture, 3 lab)**

A study of rendering techniques for formal interior design presentation, using a variety of media.

### INDS 2321 PRESENTATION DRAWING

**Credit: 3 (2 lecture, 3 lab)**

An introduction to two-and three-dimensional presentations, including drawings with one- and two-point perspectives, plans, and elevations.

### INDS 2325 PROFESSIONAL PRACTICES FOR INTERIOR DESIGNERS

**Credit: 3 (3 lecture, 1 lab)**

A study of business practices and procedures for interior designers, including professional ethics, project management, marketing, and legal issues.

### INDS 2330 INTERIOR DESIGN BUILDING SYSTEMS

**Prerequisite: INDS 1319**

**Credit: 3 (2 lecture, 4 lab)**

An overview of building materials, mechanical systems, and construction techniques as applied to interior design. Discussion of codes, project sequencing and the interpretation of detailed working drawings.

### INDS 2331 COMMERCIAL DESIGN II

**Prerequisite: Associate Degree in Interior Design or Department Approval**

**Credit: 3 (2 lecture, 4 lab)**

Advanced concepts of specialized commercial interior design projects, including hospitality, corporate, retail, health care, institutional or other specialized commercial design projects.

### INDS 2335 RESIDENTIAL DESIGN II

**Prerequisite: Associate Degree in Interior Design or Department Approval**

**Credit: 3 (2 lecture, 4 lab)**

A comprehensive study of complex residential interior design problems, including advanced space planning, specifications, budgets, and presentation renderings.

### INDS 2337 PORTFOLIO PRESENTATION

**Prerequisite: Approval of course instructor or Department Approval**

**Credit: 3 (2 lecture, 3 lab)**

A course in the preparation and presentation of a comprehensive interior design portfolio, including resume preparation, employment interview skills, and goal setting.

### INDS 2386 INTERNSHIP-INTERIOR DESIGN

**Prerequisite: Internship is done the final semester upon completion of the program. Consent of program advisor is required.**

**Credit: 3 (1 lecture, 17 lab)**

An experience external to the college for an advanced student in the specialized field involving a written agreement between the educational institution and a business or industry. Mentored and supervised by a workplace employee, the student achieves objectives that are developed and documented by the college and that are directly related to specific occupational outcomes. This may be a paid or unpaid experience. This course may be repeated if topics and learning outcomes vary.

### INDS 2387 INTERNSHIP- INTERIOR DESIGN

**Prerequisite: Associate Degree in Interior Design or Department Approval**

**Credit: 3 (1 Lecture, 0 Lab, 17 Ext Hours)**

An experience external to the college for an advanced student in a specialized field involving a written agreement between the educational institution and a business or industry. Mentored and supervised by a workplace employee, the student achieves objectives that are developed and documented by the college and that are directly related to specific occupational outcomes. This may be a paid or unpaid experience. This course may be repeated if topics and learning outcomes vary.

### INEW 1340 ASP.NET PROGRAMMING

**Prerequisite: ITSE 1432 or ITSE 1356**

**Credit: 3 (2 lecture, 4 lab)**

Theory of server side web programming concepts to implement solutions for common web programming tasks. Includes Basic ASP.Net web controls, user management and authentication, state management, and development of database-driven web applications.

### INEW 2438 ADVANCED JAVA PROGRAMMING

**Prerequisite: ITSE 2417 and ITSE 1356**

**Credit: 4 (3 lecture, 3 lab)**

A continuation of advanced JAVA programming techniques such as servlets, and advanced graphical functions.

### INMT 1240 COMPUTER-INTEGRATED MANUFACTURING (SHORT COURSE)

**Prerequisite/Corequisite: INMT1248Credit: 2 (2 lecture)**

A study of the principles and application of computer-integrated manufacturing. Employs all aspects of a system including, but not limited to, integration of material handling, manufacturing, and computer hardware and programming.

### INMT 1241 COMPUTER-INTEGRATED MANUFACTURING (SHORT COURSE)

**Prerequisite/Corequisite: INMT 1240**

**Credit: 2 (2 lecture)**

A study of the principles and application of computer integrated manufacturing. Employs all aspects of a system including but not limited to integration of material handling, manufacturing, and computer hardware and programming.

### INMT 1242 COMPUTER AIDED DESIGN/COMPUTER AIDED MANUFACTURING (CAD/CAM) (SHORT COURSE)

**Prerequisite/Corequisite: INMT 1248**

**Credit: 2 (2 lecture)**

Computer-assisted applications in integrating engineering graphics and manufacturing. Emphasis on the conversion of a working drawing using computer aided design/computer aided manufacturing (CAD/CAM) software and related input and output devices to translate into machine code.

### INMT 1243 COMPUTER AIDED DESIGN/COMPUTER AIDED MANUFACTURING (CAD/CAM) (SHORT COURSE)

**Prerequisite/Corequisite: INMT 1242**
**Credit: 2 (1 lecture, 3 lab)**
Computer-assisted applications in integrating engineering graphics and manufacturing. Emphasis on the conversion of a working drawing using computer aided design/computer aided manufacturing (CAD/CAM) software and related input and output devices to translate into machine code.

### INMT 1244 COMPUTER NUMERICAL CONTROLS (SHORT COURSE)

**Prerequisite/Corequisite: INMT 1248**
**Credit: 2 (2 lecture)**
A study of numerical controlled machine operations. Emphasis on standard and computer numerical controlled (CNC) procedures for planning, preparing, and operating a computer-assisted program.

### INMT 1245 COMPUTER NUMERICAL CONTROLS (SHORT COURSE)

**Prerequisite/Corequisite: INMT 1244**
**Credit: 2 (2 lecture)**
A study of numerical controlled machine operations. Emphasis on standard and computer numerical controlled (CNC) procedures for planning, preparing, and operating a computer-assisted program.

### INMT 1248 MANUFACTURING PROCESSES (SHORT COURSE)

**Corequisite: INMT 1249**
**Credit: 2 (2 lecture)**
Exploration of a variety of methods used in manufacturing. Theory and application of processes including but not limited to metal forming, welding, machining, heat treating, plating, assembly procedures, and process control considerations, casting and injection molding.

### INMT 1249 MANUFACTURING PROCESSES (SHORT COURSE)

**Prerequisite/Corequisite: INMT 1248**
**Credit: 2 (1 lecture, 3 lab)**
Exploration of a variety of methods used in manufacturing. Theory and application of processes including but not limited to metal forming, welding, machining, heat treating, plating, assembly procedures, and process control considerations, casting and injection molding.

### INMT 1291 SPECIAL TOPICS - CNC MILL OPERATION

**Prerequisite/Corequisite: INMT 1245**
**Credit: 2 (1 lecture, 3 lab)**
This course covers the typing, loading, and saving machine part program on computer diskette and/or CNC machine. This will include loading program, tooling, setup, and operating of Computer Numerical Control drilling and milling machines. Checking of parts, editing the program, and related theory are also included

### INMT 1317 INDUSTRIAL AUTOMATION

**Credit: 3 (2 lecture, 2 lab)**
A study of the applications of industrial automation systems including identification of system requirements, equipment integration, motors, controllers, and sensors. Coverage of set-up, maintenance, and testing of the automated system.

### INMT 1380 COOPERATIVE EDUCATION- INDUSTRIAL/ MANUFACTURING TECHNOLOGY/ TECHNICIAN

**Prerequisite: Department Approval**
**Credit: 3 (1 lecture, 20 lab)**
Career related activities encountered in the student's area of specialization offered through a cooperative agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

### INMT 1391 SPECIAL TOPICS - PRINCIPLES OF TOOL DESIGN

**Prerequisite/Corequisite: INMT 1249**
**Credit: 3 (3 lecture)**
This course covers the type and functions of jigs and fixtures, supporting and locating, clamping and work holding, basic construction, tool drawings, tool materials, specific tool design studies, cutting tools, blanking and forming dies.

### INMT 1391 SPECIAL TOPICS - PLANT LAYOUT

**Prerequisite/Corequisite: INMT 1249**
**Credit: 3 (3 lecture)**
This course is designed to equip the student on the perspectives concerning the relationship of timing material flow and its interface to operation to minimize in-house material time frames. Factory design and equipment changes.

### INMT 1391 SPECIAL TOPICS - TIME AND MOTION STUDY

**Prerequisite/Corequisite: INMT 1249**
**Credit: 3 (3 lecture)**
The student will be trained to evaluate the basic methods applied to product manufacturing processes. Methods and operational time data are developed to ensure the proper application of manufacturing techniques.

### INMT 2334 NC/CNC PROGRAMMING

**Credit: 3 (3 lecture)**
A study of the principles and concepts of numerical control through computer applications, specifically in the area of programming for the control of machine tools in CIM.

### INTC 1305 INTRODUCTION TO ELECTRONIC INSTRUMENTATION

**Prerequisite: MATH 1314**
**Credit: 3 (3 lecture)**
A survey of the instrumentation field and the professional requirements of the instrumentation technician, including an introduction to computer and calculator applications involved in basic electronic circuit analysis.

### INTC 1312 INTRODUCTION TO INSTRUMENTATION AND SAFETY TECHNOLOGY

**Credit: 3 (3 lecture)**
An overview of industries employing instrument technicians. Course also covers instrument safety techniques and practices as applied to the instrumentation field.

### INTC 1343 APPLICATION OF INDUSTRIAL AUTOMATIC CONTROL

**Prerequisite: INTC 1441**
**Credit: 3 (3 lecture)**
A study of automatic process control including measuring devices, analog and digital instrumentation, signal transmitters, recorders, alarms, controllers, control valves, and process and instrument drawings. Includes connection and troubleshooting of loops.

### INTC 1401 PRINCIPLES OF INDUSTRIAL MEASUREMENTS

**Prerequisite: INTC 1312**
**Credit: 4 (2 lecture, 4 lab)**
A study of the principles and devices for the measurement of control variables such as temperature, pressure, flow, level, and basic control functions.

### INTC 1441 PRINCIPLES OF AUTOMATIC CONTROL

**Prerequisite: INTC 1312, INTC 1456, Math 1314**
**Credit: 4 (2 lecture, 4 lab)**
A study of the theory of basic measurements, automatic control systems and design, closed loop systems, recorders, controllers, feedback, control modes and control configurations.

### INTC 1450 DIGITAL MEASUREMENT AND CONTROLS

**Prerequisite: INTC 1305, INTC 1441**
**Credit: 4 (2 lecture, 4 lab)**
Topics address a review of basic digital concepts including a study of the movement of digital data through common systems employing parallel and serial transfers using wire lines, fiber optics systems, and radio methods of transfer.

### INTC 1456 INSTRUMENTATION CALIBRATION

**Credit: 4 (2 lecture, 4 lab)**
A study of techniques for calibrating electronic and pneumatic transmitters, controllers, recorders, valves, and valve positioners including tear down, assembly, alignment, and calibration of equipment.

### INTC 1491 SPECIAL TOPICS IN INSTRUMENTATION TECHNOLOGY/ TECHNICIAN

**Prerequisite: INTC 1441**
**Credit: 4 (2 lecture, 4 lab)**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

## INTC 2330 TROUBLESHOOTING
**Prerequisite: INTC 1441**
**Credit: 3 (2 lecture, 4 lab)**
In depth coverage of the techniques of troubleshooting in a complex instrumented environment. Laboratory exercises require troubleshooting upsets in chemical processes.

## INTC 2339 CRITIQUE OF INSTRUMENT AND CONTROL
**Prerequisite: INTC 1441**
**Credit: 3 (3 lecture)**
An overview of instruments and control stressing preparation for industry employment testing and either the National Institute of Engineering Technologist Certification (Level 2) or the Instrumentation Systems and Automation Certified Control Systems Technician Level 1 Certificate (ISA CCST).

## INTC 2436 DISTRIBUTED CONTROL AND PROGRAMMABLE LOGIC
**Prerequisite: ELPT 2419**
**Credit: 4 (2 lecture, 4 lab)**
An overview of distributed control systems including configuration of programmable logic controllers, smart transmitters, and field communicators. Functions of digital systems in a process control environment.

## ITCC 1309 CISCO VOICE AND DATA CABLING
**Credit: 3 (2 Lecture, 4 Lab)**
Introduces the physical aspects of CISCO voice and data network cabling and installation; skills development in reading network design documentations, part list setup and purchase, pulling and mounting cable, cable management, choosing wiring closets and patch panel installation and termination, installing jacks and testing cable.

## ITCC 1402 CCNA 1: NETWORKING BASICS
**Prerequisite: CPMT 1403 or Department Approval**
**Credit: 4 (3 lecture, 3 lab)**
A course introducing the basics of networking. Includes network terminology, local area networks (LAN) and wide area networks (WAN). Also covers network protocols such as TCP/IP, Open System Interconnection (OSI) models, cabling, routers, and subnetting.

## ITCC 1406 CCNA 2: ROUTER AND ROUTING BASICS
**Prerequisite: ITCC 1402 or ITMC 1341 or Department Approval**
**Credit: 4 (3 lecture, 3 lab)**
An introduction to basic Cisco router configuration for local area networks. Topics include initial router configuration for TCP/IP, management of Cisco IOS and router configuration files, routing protocols, and access control lists.

## ITCC 1442 CCNA 3: SWITCHING BASIC AND INTERMEDIATE ROUTING
**Prerequisite: ITCC 1406**
**Credit: 4 (3 lecture, 3 lab)**
A course focusing on advanced topics including IP addressing techniques, intermediate routing protocols, Command Line Interface (CLI), configuration of switches, Ethernet switching, VLANs, Spanning Tree Protocol, and VLAN Trunking Protocol.

## ITCC 1446 CCNA 4: WIDE AREA NETWORK (WAN) TECHNOLOGIES
**Prerequisite: ITCC 1442**
**Credit: 4 (3 lecture, 3 lab)**
This course focuses on advanced IP addressing techniques (Network Address Translation [NAT], Port Address Translation [PAT], and Dynamic Host Configuration Protocol (DHCP), WAN technology and terminology, Point to Point protocol (PPP), Integrated Services Digital Network (ISDN), Dial on Demand Routing (DDR), Frame Relay, network management and introduction to optical networking. In addition, the student will prepare for the CCNA exam.

## ITCC 2407 FUNDAMENTALS OF UNIX
**Prerequisite: CPMT 1403 or Department Approval**
**Credit: 4 (3 lecture, 2 lab)**
This course provides the student with the fundamental command-line features of the UNIX environment including file system navigation, file permissions, the vi text editor, command shells, and basic network use.

## ITCC 2432 CCNP 1: ADVANCED ROUTING
**Prerequisite: ITCC 1446**
**Credit: 4 (3 lecture, 3 lab)**
A study of advanced network deployment issues and methods used to configure Cisco routers for effective LAN and WAN traffic management. Topics include designing scalable internetworks, managing traffic, configuring OSPF in single and multiple areas, configuring EIGRP, configuring and using interior and border gateway routing protocols, and techniques used for route filtering and route redirection.

## ITCC 2436 CCNP 2: REMOTE ACCESS
**Prerequisite: ITCC 2432**
**Credit: 4 (3 lecture, 3 lab)**
Designing and building remote access networks with Cisco products. Includes assembling and cabling WAN components, configuring network connections via asynchronous modem, ISDN, X.25, broadband, Virtual Private Network (VPN), and frame relay architectures and associated protocols.

## ITCC 2440 CCNP 3: MULTILAYER SWITCHING
**Prerequisite: ITCC 2436**
**Credit: 4 (3 lecture, 3 lab)**
This course introduces students about the deployment of the state-of-the-art campus LANs. The course focuses on the selection and implementation of the appropriate Cisco IOS services to build reliable scalable multilayer-switched LANs. Students will develop skills with VLANs, VTP, STP, inter-VLAN routing, multilayer switching, redundancy, Cisco AVVID solutions, Quality of Service (QoS) issues, campus LAN security, and emerging transparent LAN services. Key course stresses the design, implementation, operation, and troubleshooting of switched and routed environments.

## ITCC 2444 CCNP 4: INTERNETWORK TROUBLESHOOTING
**Prerequisite: ITCC 2440**
**Credit: 4 (3 Lecture, 3 Lab)**
This course focuses on documenting and baselining networks and Layer 1 through 4 troubleshooting. Topics include Cisco Troubleshooting Tools, diagnosing and correcting problems within TCP/IP, Frame Relay, and ISDN network connections.

## ITMT 1300 IMPLEMENTING AND SUPPORTING MICROSOFT WINDOWS XP PROFESSIONAL
**Prerequisite: ITNW 1358 or Department Approval**
**Credit: 3 (2 lecture, 4 lab)**
Addresses the implementation and desktop support needs of customers that are planning to deploy and support Microsoft Windows XP Professional in a variety of stand-alone and network operating system environments. In-depth, hands-on training for Information Technology (IT) professionals responsible for the planning, implementation, management, and support of Windows XP Professional.

## ITMT 1340 MANAGING AND MAINTAINING A MICROSOFT WINDOWS SERVER 2003 ENVIRONMENT
**Prerequisite: ITMT 1300**
**Credit: 3 (2 lecture, 4 lab)**
Managing accounts and resources, maintaining server resources, monitoring server performance, and safeguarding data in a Microsoft Windows Server 2003 environment.

## ITMT 1350 IMPLEMENTING, MANAGING, AND MAINTAINING A MICROSOFT WINDOWS SERVER 2003 NETWORK INFRASTRUCTURE: NETWORK SERVICES
**Prerequisite: ITMT 1300**
**Credit: 3 (2 lecture, 4 lab)**
Implementing routing; implementing, managing, and maintaining Dynamic Host Configuration Protocol (DHCP), Domain Name System (DNS), and Windows Internet Name Service (WINS); securing Internet Protocol (IP) traffic with Internet Protocol security (IPSec) and certificates; implementing a network access infrastructure by configuring the connections for remote access clients; and managing and monitoring network access.

## ITMT 2300 PLANNING, IMPLEMENTING, AND MAINTAINING A MICROSOFT WINDOWS SERVER 2003 ACTIVE DIRECTORY INFRASTRUCTURE
**Prerequisite: ITMT 1300**
**Credit: 3 (2 lecture, 4 lab)**
Windows Server 2003 directory service environment. Includes forest and domain structure; Domain Name System (DNS); site topology and replication; organizational unit structure and delegation of administration; Group Policy; and user, group, and computer account strategies

## ITMT 2330 DESIGNING A MICROSOFT WINDOWS SERVER 2003 ACTIVE DIRECTORY AND NETWORK INFRASTRUCTURE
**Prerequisite: ITMT 1300**
**Credit: 3 (2 lecture, 4 lab)**
Designing a Microsoft Active Directory service and network infrastructure for a Microsoft Windows Server 2003 environment. Intended for systems engineers who are responsible for designing directory service and/or network infrastructures.

## ITNW 1337 INTRODUCTION TO THE INTERNET

**Prerequisite: ITSC 1301, ITSC 1309**
**Credit: 3 (2 Lecture, 2 Lab)**
Introduction to the Internet with emphasis on using the World Wide Web to locate, transfer, and publish information. Survey of emerging technologies on the Internet.

## ITNW 1351 FUNDAMENTALS OF WIRELESS LANS

**Credit: 3 (2 Lecture, 4 Lab)**
Designing, planning, implementing, operating, and troubleshooting wireless LANs (WLANs). Includes WLAN design, installation, and configuration; and WLAN security issues and vendor interoperability strategies.

## ITNW 1358 NETWORK+

**Prerequisite: ITNW 1425 or Department Approval**
**Corequisite: MATH 1314**
**Credit: 3 (2 lecture, 4 lab)**
Prepares individuals for a career as a Network Engineer in the Information Technology support industry. Includes the various responsibilities and tasks required for service engineer to successfully perform in a specific environment. Prepares individuals to pass the Computing Technology Industry Association (CompTIA) Network+ certification exam.

## ITNW 1380 COOPERATIVE EDUCATION - COMPUTER SYSTEMS NETWORKING AND TELECOMMUNICATIONS

**Prerequisite: Completion of 12 semester hours of course work within the major and Department Approval.**
**Credit: 3 (1 lecture, 20 lab)**
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## ITNW 1425 FUNDAMENTALS OF NETWORKING TECHNOLOGIES

**Prerequisite: College ready for English and math (i.e. no remediation needed) and high school computer literacy or equivalent**
**Credit: 4 (3 lecture, 3 lab)**
Instruction in networking technologies and their implementation. Topics include the OSI reference model, network protocols, transmission media, and networking hardware and software.

## ITNW 2432 UNIX NETWORK INTEGRATION

**Prerequisite: ITSC 1458**
**Credit: 4 (3 lecture, 3 lab)**
Installation, configuration, management, and support of a network infrastructure in a large computing environment that uses a version of the UNIX server operating system. Includes connectivity requirements, network services, and applications including file, print, database, messaging, proxy server, firewall, Dynamic Host Configuration Protocol, Network Time Protocol, Domain Name Service, and Internet Protocol Version 6 configuration and use.

## ITSC 1301 INTRODUCTION TO COMPUTERS

**Credit: 3 (2 lecture, 2 lab)**
Overview of computer information systems. Introduces computer hardware, software, procedures, and human resources.

## ITSC 1302 COMPUTER CONTROL LANGUAGE

**Prerequisite: ITSC 1370**
**Credit: 3 (2 lecture, 4 lab)**
Skill development in the use of system control language on mid-range/mainframe computers. Topics include command formats, file management, job scheduling, resource management, and utilities.

## ITSC 1307 UNIX OPERATING SYSTEM I

**Prerequisite/Corequisite: COSC 1436 or ITSE 1302**
**Credit: 3 (2 lecture, 4 lab)**
A study of the UNIX operating system including multi-user concepts, terminal emulation, use of system editor, basic UNIX commands, and writing script files. Topics include introductory systems management concepts.

## ITSC 1309 INTEGRATED SOFTWARE APPLICATIONS I

**Credit: 3 (2 lecture, 2 lab)**
Integration of applications from popular business productivity software suites. Instruction in embedding data, linking and combining documents using word processing, spreadsheets, databases, and/or presentation media software. Emphasis is on developing end-user proficiency skills for the workplace.

## ITSC 1316 LINUS INSTALLATION AND CONFIGURATION

**Prerequisite: Department Approval**
**Credit: 3 (2 lecture, 4 lab)**
Open-source Linux operating system. Includes Linux installation, basic administration, utilities and commands, upgrading, networking, security, and application development. Emphasizes hands-on setup, administration, and management of Linux. Also covers maintaining and securing reliable Linux systems.

## ITSC 1321 INTERMEDIATE PC OPERATING SYSTEMS

**Prerequisites: ITNW 1425, (BCIS 1405 or ITSC 1309), MATH 1314 and ENGL 1301**
**Credit: 3 (2 lecture, 4 lab)**
Continued study in advanced installation and configuration troubleshooting, advanced file management, memory and storage management. Update peripheral device drivers, and use of utilities to increase system performance.

## ITSC 1342 SHELL PROGRAMMING

**Prerequisite: ITSC 1307**
**Credit: 3 (2 lecture, 4 lab)**
Reading, writing, and debugging shell scripts. Includes development of simple scripts to automate frequently executed sequences of commands. Also covers conditional logic, user interaction, loops, and menus to enhance the productivity and effectiveness of the user. Intended for programmers who are famliar with operating environments and reading and writing various shell scripts.

## ITSC 1370 INTRODUCTION TO ENTERPRISE SERVERS

**Prerequisit: ITSC 1301**
**Credit: 3 (2 lecture, 4 lab)**
Learn the base elements, optional features, and servers provided in IBM z/OS platform. Investigate the major software base elements involved in the management of jobs, tasks, storage, data, and program and system failures.

## ITSC 1380 COOPERATIVE EDUCATION– COMPUTER AND INFORMATION SCIENCES, GENERAL

**Prerequisites: Completion of 12 hours of course work within the major and Department Approval**
**Credit: 3 (1 lecture, 20 lab)**
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## ITSC 1447 UNIX SYSTEM ADMINISTRATION II

**Prerequisite: ITSC 1458**
**Credit: 4 (3 lecture, 3 lab)**
Provides students with the necessary skills to administer UNIX workstations in a network environment. System security features will be presented.

## ITSC 1458 UNIX SYSTEM ADMINISTRATION I

**Prerequisite: ITSC 1307**
**Credit: 4 (3 lecture, 3 lab)**
Provide new system administrators the basics of administering UNIX workstations. Students will perform basic system administration tasks, such as installing a standalone system, adding users, backing up and restoring file systems, and adding new printer support. Emphasis on the procedures needed to perform these system administration tasks. Introduces the concept of the system and disk management.

## ITSC 2321 INTEGRATED SOFTWARE APPLICATIONS II (ADVANCED WORD)

**Prerequisite: ITSC 1309 or BCIS 1405 or Department Approval**
**Credit: 3 (2 lecture, 2 lab)**
Continued study of computer applications from business productivity software suites. Instruction in embedding data and linking and combining documents using word processing, spreadsheets, databases, and/or presentation media software.

## ITSE 1301 WEB DESIGN TOOLS

**Credit: 3 (2 lecture, 4 lab)**
Designing and publishing Web documents. Includes graphic design issues and exploration of tools available for creating and editing Web documents.

### ITSE 1306 COMPUTER PROGRAMMING USING HYPERTEXT PREPROCESSOR (PHP)
**Prerequisites: IMED 2309, IMED 2351**
**Credit: 3 (2 lecture, 4 lab**
Hypertext preprocessor (PHP). Includes the basics of PHP, design of web-based applications, arrays, strings, regular expressions, file I/O, e-mail and database interfaces, stream and network programming, debugging, and security. Emphsizes hands-on programming skills necessary to develop secure and reliable PHP-based web applications.

### ITSE 1345 INTRODUCTION TO ORACLE SQL
**Prerequisites: COSC 1436, ENGL 1301, and MATH 1314**
**Credit: 3 (2 lecture, 4 lab)**
An introduction to the design and creation of relational databases using Oracle. Topics include storing, retrieving, updating, and displaying data using Structured Query Language (SQL).

### ITSE 1346 DATABASE THEORY AND DESIGN
**Credit: 3 (2 lecture, 4 lab)**
Introduction to the analysis and utilization of data requirements and organization intro normalized tables using the four normal forms of database design.

### ITSE 1350 SYSTEM ANALYSIS AND DESIGN
**Prerequisite: COSC1436 or Department Approval**
**Credit: 3 (2 lecture, 2 lab)**
Comprehensive introduction to the planning, design, and construction of computer information systems using the systems development life cycle and other appropriate design tools.

### ITSE 1356 EXTENSIBLE MARKUP LANGUAGE (XML)
**Prerequisite: BCIS 1405**
**Credit: 3 (2 lecture, 2 lab)**
Introduction of skills and practices related to Extensible Markup Language (XML). Includes Document Type Definition (DTD), well-formed and valid XML documents, XML schemes, and Extensible Style Language (XSL).

### ITSE 1380 COOPERATIVE EDUCATION- COMPUTER PROGRAMMING/PROGRAMMER, GENERAL
**Prerequisites: Completion of 12 hours of course work within the major and Department Approval**
**Credit: 3 (1 lecture, 20 lab)**
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

### ITSE 1391 ORACLE 10G NEW FEATURES
**Prerequisite: ITSE 1345**
**Credit: 3 (2 lecture, 4 lab)**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

### ITSE 1402 COMPUTER PROGRAMMING
**Prerequisite: MATH 0312**
**Credit: 4 (3 lecture, 3 lab)**
Introduction to computer programming with emphasis on the fundamentals of structured design, development, testing, implementation, and documentation. Includes language syntax, data and file structures, input/output devices, and files.

### ITSE 1430 INTRODUCTION TO C# PROGRAMMING
**Prerequisite: COSC 1437 or Department Approval**
**Credit: 4 (3 lecture, 3 lab)**
Data types, control structures, functions, syntax, and semantics of the language, classes, class relationships, and exception handling.

### ITSE 1432 INTRODUCTION TO VISUAL BASIC.NET PROGRAMMING
**Prerequisite: COSC 1437 or Department Approval Corequisite: ITSE 1346**
**Credit: 4 (3 lecture, 3 lab)**
Data types, control structures, functions, syntax and semantics of the language, classes, class relationships, and exception handling.

### ITSE 1447 PROGRAMMING WITH VISUAL BASIC.NET
**Prerequisite: ITSE 1432**
**Credit: 4 (3 lecture, 3 lab)**
Designing and developing enterprise applications using Microsoft Visual Basic.Net in the Microsoft. Net Framework. Includes reference types, class relationships, polymorphism, operators overloading, and creating and handling exceptions

### ITSE 2302 INTERMEDIATE WEB PROGRAMMING (J2EE)
**Prerequisites: ITSE 1356 and ITSE 2417**
**Credit: 3 (2 lecture, 4 lab)**
Intermediate applications for web authoring. Topics may include server side include (SSI), Perl, HTML, Java, Javascript, and/or ASP.

### ITSE 2313 WEB AUTHORING
**Prerequisites: ARTC 1325, IMED 1316**
**Credit: 3 (2 lecture, 4 lab)**
Instruction in designing and developing web pages that incorporate text, graphics, and other supporting elements using current technologies and authoring tools.

### ITSE 2337 ASSEMBLY LANGUAGE PROGRAMMING
**Credit: 3 (2 lecture, 4 lab)**
Comprehensive coverage of low-level computer operations and architecture. Includes design, development, testing, implementation, and documentation of programs; language syntax; data manipulation; input/output devices and operations; and file access.

### ITSE 2346 ORACLE: APPLICATIONS I
**Prerequisites: ITSE 1345, COSC 1437 and ITSE 1346**
**Credit: 3 (2 lecture, 4 lab)**
Forms in a Developer environment. Topics include the use of Object Navigator and Virtual Graphics System (VGS), Layout Editor and Menu options.

### ITSE 2348 ORACLE: APPLICATIONS II
**Prerequisite: ITSE 2346**
**Credit: 3 (2 lecture, 4 lab)**
A continuation of Oracle Forms: Application I and an introduction to Reports. Topics include creating multiple form applications, managing multiple transactions across modules, and enhancing applications with custom menus, reports, and charts.

### ITSE 2354 ADVANCED ORACLE PL/SQL
**Prerequisite: ITSE 1402 or COSC 1436 and ITSE 1346**
**Credit: 3 (2 lecture, 4 lab)**
A continuation of Oracle SQL. Topics include hierarchical queries, set based queries, correlated subqueries, scripting, and scripting generation.

### ITSE 2417 JAVA PROGRAMMING
**Prerequisites: COSC 1437 and ITSW 1307**
**Credit: 4 (3 lecture, 3 lab)**
Introduction to Java programming with object-orientation. Emphasis is on the fundamental syntax and semantics of Java for applications and web applets.

### ITSE 2421 OBJECT-ORIENTED PROGRAMMING
**Prerequisite: ITSE 1447**
**Credit: 3 (3 lecture, 3 lab)**
Introduction to object-oriented programming. Emphasis on the fundamentals of structured design with classes, including development, testing, implementation, and documentation. Includes object-oriented programming techniques, classes, and objects.

### ITSE 2444 ORACLE DATABASE STRUCTURE AND DATA WAREHOUSING
**Prerequisite: ITSE 2456 Credit: 4 (3 lecture, 3 lab)**
A practical application course for modeling and designing an Oracle data warehouse using case studies.

### ITSE 2450 MASTERING ENTERPRISE DEVELOPMENT USING MICROSOFT VISUAL BASIC
**Prerequisite: ITSE 1447 Credit: 4 (3 lecture, 3 lab)**
In-depth development of client/server solutions using component object modeling (COM).

## ITSE 2453 ADVANCED C# PROGRAMMING

**Prerequisite: ITSE 1430 and ITSE 1356**
**Credit: 4 (3 lecture, 3 lab)**
Windows Forms, ADO.NET, XML, Data Bound Controls, DataSet, Assemblies, Attributes, Reflection, Marshalling and Remoting, Threads and Synchronization, Streams, Deployment, Generics, Partial Classes, Application Blocks, and data encryption. Emphasizes using the more advanced features of the .NET Framework Class Library.

## ITSE 2456 ORACLE DATABASE ADMINISTRATION I (10G)

**Prerequisite: ITSE 1345 Corequisite: ITSC 1307  Credit: 4 (3 lecture, 3 lab)**
Fundamentals of the tasks and functions required of a database administrator using Oracle.

## ITSE 2458 ORACLE DATABASE ADMINISTRATION II (10G)

**Prerequisite: ITSE 2456**
**Credit: 4 (3 lecture, 3 lab)**
A continuation of Oracle Database Administration I. Topics include recovery procedures, logical backups, standby database capabilities, and performance tuning of the Oracle Server. Common performance problems and the use of diagnostic tools to troubleshoot and optimize throughput will be discussed.

## ITSW 1307 INTRODUCTION TO DATABASE

**Prerequisites: (COSC 1436 or ITSE 1402) and MATH 1314 and ENGL 1301 and (BCIS 1405 or ITSC 1309)**
**Credit: 3 (2 lecture, 4 lab)**
Introduction to database theory and the practical applications of a database.

## ITSW 2334 ADVANCED SPREADSHEETS

**Prerequisites: ITSC 1309 or BCIS 1405, and MATH 1314 and ENGL 1301**
**Credit: 3 (2 lecture, 2 lab)**
Designed to provide an understanding of advanced functionality of electronic spreadsheets.

## ITSW 2337 ADVANCED DATABASE

**Prerequisites: ITSC 1309 or BCIS 1405, and MATH 1314 and  ENGL 1301**
**Credit: 3 (2 lecture, 2 lab)**
Designed to provide an understanding of advanced functionality of databases.

## ITSY 1300 FUNDAMENTALS OF INFORMATION SECURITY

**Credit: 3 (2 lecture, 4 lab)**
Basic information security goals of availability, integrity, accuracy, and confidentiality. Vocabulary and terminology specific to the field of information security are discussed. Identification of exposures and vulnerabilities and appropriate countermeasures are addressed. The importance of appropriate planning and administrative controls is also discussed.

## ITSY 1342 INFORMATION TECHNOLOGY SECURITY

**Credit: 3 (2 lecture, 4 lab)**
**Prerequisites: ITMT 1350 and ITMT 1340**
Instruction in security for network hardware, software, and data, including physical security; backup procedures; relevant tools; encryption; and protection from viruses.

## ITSY 1417 WIRELESS FOUNDATIONS

**Credit: 4 (3 lecture, 2 lab)**
Planning, design, implementation, operation, and troubleshooting for wireless and cellular telephony systems. Includes call processing, hand-off, site analyses, overview of RF antenna, testing, maintenance, access protocols, security, and vendor interoperability.

## ITSY 1427 TELECOMMUNICATIONS MEDIA: PHYSICAL LAYER IMPLEMENTATION

**Credit: 4 (3 lecture, 2 lab)**
Fundamentals of telecommunications media. Emphasizes installation, testing, certifying, maintenance, documentation, and troubleshooting. Also includes connectorization of Unshielded Twisted Pair and Fiber Optic cables, TIA 568A & TIA 569 compliance, media characteristics, and appropriate installation procedures.

## ITSY 2401 FIREWALLS AND NETWORK SECURITY

**Prerequisite: ITSY 1300 Credit: 4 (3 lecture, 3 lab)**
Identify elements of firewall design, types of security threats and responses to security attacks. Use best practices to design, implement, and monitor a network security plan. Examine security incident postmortem reporting and ongoing network security activities.

## ITSY 2417 WIRELESS SECURITY DEVELOPMENT

**Prerequisite: ITCC 1402 or CPMT 1449**
**Credit: 4 (3 lecture, 2 lab)**
Developing information security policies, standards, and guidelines for an organization. Includes DMZ, antivirus, Virtual Private Network (VPN), wireless communications, remote access, and other critical administrative and operational security policies. Identification of exposures and vulnerabilities and appropriate countermeasures are addressed. Emphasizes wireless security goals of availability, integrity, accuracy, and confidentiality in the design, planning, implementing, operating, and troubleshooting of wireless LAN along with appropriate planning and administrative controls.

## JAPN 1300 BEGINNING JAPANESE CONVERSATION I

**Credit: 3 (3 lecture)**
An introductory Japanese course that emphasizes listening comprehension and speaking skills. Reading and writing may be done as reinforcement to oral communication skills. The course is slower-paced and less comprehensive than Japanese 1411. It is highly recommended for students without previous experience in the Japanese language. This course is not open to students whose first language is Japanese. Generally, does not transfer as foreign language credit, but may transfer as elective credit.

## JAPN 1310 BEGINNING JAPANESE CONVERSATION II

**Prerequisite: JAPN 1300 or equivalent**
**Credit: 3 (3 lecture)**
Continuation of JAPN 1300. Emphasizes oral communication skills. Generally, does not transfer as foreign language credit, but may transfer as elective credit. Students who continue the study of Japanese following this course must take JAPN 1411.

## JAPN 1411 BEGINNING JAPANESE I

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 4 (3 lecture, 2 lab)**
Introduction to Japanese language and culture. Development of basic skills in listening comprehension, speaking, reading, writing, and cultural awareness. Course includes vocabulary building, conversation and grammar. Transfers as foreign language credit. Core Curriculum Course.

## JAPN 1412 BEGINNING JAPANESE II

**Prerequisite: JAPN 1411 or satisfactory score on an advanced placement examination or at least 2 years of high school Japanese within the last two years**
**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 4 (3 lecture, 2 lab)**
Continuation of JAPN 1411. Further development of listening comprehension, speaking, reading, and writing skills, and cultural awareness. More advanced grammar. Transfers as foreign language credit. Core Curriculum Course.

## JAPN 2311 INTERMEDIATE JAPANESE I

**Prerequisite: JAPN 1412 or equivalent**
**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (3 lecture)**
In-depth study of Japanese grammar. Oral practice based on selected readings on culture and current events. Continuing practice in reading and writing in Hiragana and Katakana, as well as in Kanji (Chinese five characters). Core Curriculum Course.

## JAPN 2312 INTERMEDIATE JAPANESE II

**Prerequisite: JAPN 2311 or equivalent**
**Credit: 3 (3 lecture)**
Continuation of JAPN 2311. Extensive practice in conversation and composition with emphasis on reading and writing in Kanji. Core Curriculum Course.

## KORE 1411 BEGINNING KOREAN I

**Prerequisite: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 4 (3 lecture, 2 lab)**
Fundamental skills in listening comprehension, speaking, reading, and writing.  Includes basic vocabulary, grammatical structures, and culture. Core Curriculum course.

## KORE 1412 BEGINNING KOREAN II

**Prerequisite: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 4 (3 lecture, 2 lab)**

Continuation of fundamental skills in listening comprehension, speaking, reading, and writing. Includes basic vocabulary, grammatical structures, and culture. Core Curriculum course.

## KORE 2311 INTERMEDIATE KOREAN I

**Prerequisite: KORE 1412 or equivalent. Must also be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 3 (3 lecture)**

In-depth study of Korean grammar. Oral practice based on selected readings on culture and current events. Continuing practice in reading and writing in Korean. Core Curriculum Course.

## KORE 2312 INTERMEDIATE KOREAN II

**Prerequisite: KORE 2311 or equivalent**

**Credit: 3 (3 lecture)**

Continuation of KORE 2311. Extensive practice in conversation and composition with emphasis on reading and writing in Korean. Core Curriculum Course.

## LGLA 1303 LEGAL RESEARCH

**Credit: 3 (3 lecture)**

This course provides a working knowledge of the fundamentals of effective legal research. Topics include law library techniques, computer assisted legal research, citation forms, briefs, and court opinion discussions.

## LGLA 1305 LEGAL WRITING

**Prerequisite: LGLA 1303 Credit: 3 (3 lecture)**

This course provides a working knowledge of the fundamentals of effective legal writing. Topics include briefs, legal memoranda, case and fact analysis, citation forms, and legal writing styles.

## LGLA 1344 TEXAS CIVIL LITIGATION

**Credit: 3 (3 lecture)**

Fundamental concepts and procedures of Texas civil litigation with emphasis on the paralegal's role.

## LGLA 1345 CIVIL LITIGATION

**Prerequisite: LGLA 1344**

**Credit: 3 (3 lecture)**

This course presents fundamental concepts and procedures of civil litigation with emphasis on the paralegal's role. Topics include pretrial, trial, and post trial phases of litigation.

## LGLA 1351 CONTRACTS

**Credit: 3 (3 lecture)**

This course presents fundamental concepts of contract law with emphasis on the paralegal's role. Topics include formation, performance, and enforcement of contracts under the common law and the Uniform Commercial Code.

## LGLA 1353 WILLS, TRUSTS AND PROBATE ADMINISTRATION

**Credit: 3 (3 lecture)**

This course presents fundamental concepts of the law of wills, trusts, and probate administration with emphasis on the paralegal's role.

## LGLA 1355 FAMILY LAW

**Credit: 3 (3 lecture)**

This course presents fundamental concepts of family law with emphasis on the paralegal role. Topics include formal and informal marriages, divorce, annulment, marital property, and the parent-child relationship

## LGLA 1370 PRO DOC FOR PARALEGALS

**Prerequisite: LGLA 1303**

**Credit: 3 (3 lecture)**

The Pro Doc class in Paralegal Technology will include instruction using the automated legal document assembly computer software. The software generates a finished work product for Texas Legal Practitioners. Pro Doc certification is also available for students after passing an exam offered by Pro Doc.

## LGLA 2303 TORTS AND PERSONAL INJURY LAW

**Credit: 3 (3 lecture)**

This course presents fundamental concepts of tort law with emphasis on the paralegal role. Topics include intentional torts, negligence, and strict liability.

## LGLA 2307 LAW OFFICE MANAGEMENT

**Credit: 3 (3 lecture)**

This course presents the fundamentals of law office management and organization including basic principles and structure of management, administrative and substantive systems in the law office, and law practice technology.

## LGLA 2309 REAL PROPERTY

**Credit: 3 (3 lecture)**

This course presents fundamental concepts of real property law with emphasis on the paralegal's role. Topics include the nature of real property, rights and duties of ownership, land use, voluntary and involuntary conveyances, and the recording of and searching for real estate documents.

## LGLA 2311 BUSINESS ORGANIZATIONS

**Credit: 3 (3 lecture)**

This course presents basic concepts of business organizations with emphasis on the paralegal's role. Topics include law of agency, sole proprietorships, forms of partnerships, corporations, and other emerging business entities.

## LGLA 2313 CRIMINAL LAW AND PROCEDURE

**Credit: 3 (3 lecture)**

This course introduces the criminal justice system including procedures from arrest to final disposition, principles of federal and state law, and the preparation of pleadings and motions.

## LGLA 2315 OIL AND GAS LAW

**Credit: 3 (3 lecture)**

This course presents fundamental concepts of oil and gas law including the relationship between landowners and oil and gas operators, government regulation, and documents used in the industry.

## LGLA 2381 COOPERATIVE EDUCATION - LEGAL ASSISTANT/PARALEGAL

**Prerequisite: LGLA 1303, LGLA 1305, LGLA 1346, LGLA 1347, or Department Approval**

**Credit: 3 (1 lecture, 19 lab)**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## LMGT 1319 INTRODUCTION TO BUSINESS LOGISTICS

**Credit: 3 (3 lecture)**

A systems approach to managing activities associated with traffic, transportation, inventory management and control, warehousing, packaging, order processing, and materials handling.

## LMGT 1321 INTRODUCTION TO MATERIALS HANDLING

**Credit: 3 (3 lecture)**

Introduces the concepts and principles of materials management to include inventory control and forecasting activities.

## LMGT 1323 DOMESTIC AND INTERNATIONAL TRANSPORTATION MANAGEMENT

**Credit: 3 (3 lecture)**

An overview of the principles and practices of transportation and its role in the distribution process. Emphasis on the physical transportation systems involved in the United States as well as on global distribution systems. Topics include carrier responsibilities and services, freight classifications, rates, tariffs, and public policy and regulations. Also includes logistical geography and the development of skills to solve logistical transportation problems and issues.

## LMGT 1325 WAREHOUSE AND DISTRIBUTION CENTER MANAGEMENT

**Credit: 3 (3 lecture)**

Emphasis on physical distribution and total supply chain management. Includes warehouse operations management, hardware and software operations, bar codes, organizational effectiveness, just-in-time manufacturing, continuous replenishment, and third party.

## LMGT 1345 ECONOMICS OF TRANSPORTATION AND DISTRIBUTION

**Credit: 3 (3 lecture)**

A study of the basic economic principles and concepts applicable to transportation and distribution.

## LMGT 1349 MATERIALS REQUIREMENT PLANNING

**Credit: 3 (3 lecture)**

A study of materials requirement planning that includes net change versus regenerative systems, lot sizing, and the time sharing of dependent demand.

## LMGT 1393 SPECIAL TOPICS IN LOGISTICS AND MATERIALS MANAGEMENT-STRATEGIC INTERMODAL TRANSPORTATION

**Prerequisite: Department Approval**

**Credit: 3 (3 lecture)**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

## LMGT 2334 PRINCIPLES OF TRAFFIC MANAGEMENT

**Credit: 3 (3 lecture)**

A study of the role and functions of a transportation traffic manager within a commercial or public enterprise. Includes training in rate negotiation, carrier and mode selection, carrier service evaluation, quality control, traffic pattern analysis, documentation for domestic and international shipments, claims, hazardous materials movement, and the state, federal, and international environments of transportation.

## MATH 0101 DEVELOPMENTAL MATH

**Credit: 1 (1 lecture)**

An individualized curriculum intended for students who have completed the college developmental math sequence through MATH 0312, but have yet to demonstrate achievement of the appropriate standard or department chair. Counselor's approval required.

## MATH 0102 BASIC MATHEMATICS

**Prerequisite: Appropriate assessment score or Counselor's or department chair approval required**

**Credit: 1 (1 lecture)**

Designed for students who have tested below MATH 0306 and require a self-paced presentation of the basic operations in whole numbers.

## MATH 0106 FUNDAMENTALS OF MATH I BRIDGE

**Prerequisite: Credit: 1 (1 lecture)**

Intensive help and preparatory course for those who have not successfully passed MATH 0306.

## MATH 0108 FUNDAMENTALS OF MATH II BRIDGE

**Prerequisite: Credit: 1 (1 lecture)**

Intensive help and preparatory course for those who have not successfully passed MATH 0308.

## MATH 0112 INTERMEDIATE ALGEBRA BRIDGE

**Credit: 1 (1 lecture)**

Intensive help and preparatory course for those who have not successfully passed MATH 0312.

## MATH 0306 FUNDAMENTALS OF MATHEMATICS I

**Prerequisites: Must be placed into MATH 0306 (or higher).**

**Credit: 3 (3 lecture)**

Topics include fundamental operations in whole numbers, fractions and decimals, percents, ratios, and proportion, descriptive statistics, and an introduction to the real numbers. All students who enroll in this course are expected to complete Math 0308, and Math 0312 in the following consecutive semesters before attempting their first college-level mathematics course (usually Math 1314 College Algebra). A departmental final examination must be passed in order to pass the course.

## MATH 0308 FUNDAMENTALS OF MATHEMATICS II

**Prerequisites: Must be placed into MATH 0308 (or higher) or completion of MATH 0306.**

**Credit: 3 (3 lecture)**

Topics include real numbers, basic geometry, polynomials, factoring, linear equations, and inequalities quadratic equations, and rational expressions. A departmental final examination must be passed in order to pass the course.

## MATH 0312 INTERMEDIATE ALGEBRA

**Prerequisites: Must be placed into MATH 0312 (or higher) or completion of MATH 0308.**

**Credit: 3 (3 lecture, 1 lab)**

Topics include factoring techniques, radicals, algebraic fractions, complex numbers, graphing linear equations and inequalities, quadratic equations, system of equations, graphing quadratic equations, and an introduction to functions. Emphasis is placed on algebraic techniques in order to successfully complete Math 1314 College Algebra. A departmental final examination must be passed in order to pass this course.

## MATH 1314 COLLEGE ALGEBRA

**Prerequisite: Prerequisites: Must be placed into college-level mathematics or completion of MATH 0312. Credit: 3 (3 lecture)**

Topics include quadratics, polynomial, rational, logarithmic and exponential functions, system of equations, progression, sequences and series, matrices and determinants. A departmental final examination will be given in this course. Core Curriculum Course.

## MATH 1316 PLANE TRIGONOMETRY

**Prerequisite: MATH 1314; Must be placed into college-level mathematics.**

**Credit: 3 (3 lecture)**

Topics include solutions of triangles, Euler identity, graphing of trigonometric and inverse trigonometric functions, identities, trigonometric equations and an introduction to vector analysis. Core Curriculum Course.

## MATH 1324 FINITE MATHEMATICS WITH APPLICATIONS

**Prerequisite: MATH 1314; Must be placed into college-level mathematics.**

**Credit: 3 (3 lecture)**

A survey of finite mathematics and its application to problems of business and the natural and social sciences. Topics include set theory, probability, an introduction to matrices, linear programming, and an introduction to statistics. Core Curriculum Course.

## MATH 1325 ELEMENTS OF CALCULUS WITH APPLICATIONS

**Prerequisite: MATH 1314; Must be placed into college-level mathematics.**

**Credit: 3 (3 lecture)**

A survey of differential and integral calculus including the study of functions and graphs from a calculus viewpoint as applied to problems in business and the natural and social sciences. Core Curriculum Course.

## MATH 1332 MATHEMATICS FOR LIBERAL ARTS

**Prerequisite: Must be placed into college-level mathematics or completion of MATH 0312.**

**Credit: 3 (3 lecture)**

Mathematics for Liberal Arts is a course designed for liberal and fine arts, non-mathematics, non-science, and non-business majors. The course provides students with an appreciation of the history, art, beauty of mathematics in the world around us. Topics include an examination of sets with applications, probability, and statistics, financial management, mathematical modeling, and fundamentals of geometry and its application Core Curriculum Course.

## MATH 1342 STATISTICS

**Prerequisite: MATH 1314; Must be placed into college-level mathematics.**

**Credit: 3 (3 lecture)**

Topics include histograms, probability, binomial and normal distributions and their applications, correlation and prediction, and tests of statistical hypotheses. Core Curriculum Course.

## MATH 1350 MATHEMATICS FOR ELEMENTARY TEACHERS I

**Prerequisite: Math 1314 or equivalent; Must be placed into college-level mathematics.**

**Credit: 3 (3 lecture)**

Concepts of sets, functions, numeration systems, number theory, and properties of the natural numbers, integers, rational, and real numbers systems with an emphasis on problem-solving and critical thinking. Field of Study Course.

## MATH 1351 MATHEMATICS FOR ELEMENTARY TEACHERS II

**Prerequisite: MATH 1314 or equivalent; Must be placed into college-level mathematics.**

**Credit: 3 (3 lecture)**

Concepts of geometry, probability, and statistics, as well as applications of the algebraic properties of real numbers to concepts of measurement with an emphasis on problem solving and critical thinking. Field of Study Course.

## MATH 2305 DISCRETE MATHEMATICS

**Prerequisite: MATH 2318**
**Credit: 3 (3 lecture)**
Topics selected from logic, set theory, combinatories and graph theory. Core Curriculum Course.

## MATH 2318 LINEAR ALGEBRA

**Prerequisite: MATH 2413**
**Credit: 3 (3 lecture)**
Topics include systems of linear equations, vector spaces, matrices, linear mappings, and determinants. Core Curriculum Course.

## MATH 2320 ORDINARY DIFFERENTIAL EQUATIONS

**Prerequisite: MATH 2414**
**Credit: 3 (3 lecture)**
Topics include initial value problems for first order and linear second order equations, Picard iteration, series solutions, boundary value problems, Laplace transforms and numerical methods. Core Curriculum Course.

## MATH 2412 PRECALCULUS

**Prerequisite: MATH 1314 and MATH 1316 or Department Approval**
**Credit: 4 (4 lecture)**
Topics include elementary theory of functions and equations, analytic geometry, vectors, introductory logic, mathematical induction, sequences and finite series. Core Curriculum Course.

## MATH 2413 CALCULUS I

**Prerequisite: MATH 2412 or consent of the Department Chair**
**Credit: 4 (4 lecture)**
An integrated study of differential calculus with analytic geometry including the study of functions, limits, continuity, differentiation, and an introduction to integration. Core Curriculum Course.

## MATH 2414 CALCULUS II

**Prerequisite: MATH 2413**
**Credit: 4 (4 lecture)**
Integral calculus including discussions of transcendental functions, applications of integration, techniques and improper integrals, infinite series, Taylor series, plane curves, and polar coordinates. Core Curriculum Course.

## MATH 2415 CALCULUS III

**Prerequisite: MATH 2414**
**Credit: 4 (4 lecture)**
A survey of advanced topics in calculus including vectors and vector-valued functions, partial differentiation, Lagrange multipliers, multiple integrals, Jacobians, divergence and Stoke's theorems. Core Curriculum Course.

## MCHN 1201 BEGINNING MACHINE SHOP

**Credit: 2 (1 lecture, 2 lab)**
Fundamental machine shop safety, math, measurement, and theory of saws and drill presses.

## MCHN 1211 BASIC LATHE I

**Prerequisite/Corequisite: MCHN 1201**
**Credit: 2 (1 lecture, 2 lab)**
Introduction to the common types of lathes. Emphasis on basic parts, nomenclature, lathe operations, safety, machine mathematics, blueprint reading, and theory.

## MCHN 1214 MILLING MACHINE I

**Prerequisite/Corequisite: MCHN 1201**
**Credit: 2 (1 lecture, 2 lab)**
Introduction to the common types of milling machines, basic parts, safety, and nomenclature of basic machine operations and procedures. Includes an introduction to machine mathematics, blueprint reading, and theory.

## MCHN 1217 MACHINING I

**Prerequisite/Corequisite: MCHN 1201**
**Credit: 2 (1 lecture, 2 lab)**
Introductory course that assists the student in understanding the machinist occupation in industry. Machine terminology, theory, math, part layout, and bench work using common measuring tools is included. Emphasis on shop safety, housekeeping, and preventative maintenance.

## MCHN 1220 BASIC LATHE II

**Prerequisite/Corequisite: MCHN 1211**
**Credit: 2 (1 lecture, 2 lab)**
Continuation to the introduction of common types of lathes. Emphasis on basic parts, nomenclature, lathe operations, safety, machine mathematics, blueprint reading, and theory.

## MCHN 1221 MILLING MACHINE II

**Prerequisite/Corequisite: MCHN 1214**
**Credit: 2 (1 lecture, 2 lab)**
Continuation of the common types of milling machines, basic parts, safety, and nomenclature of basic machine operations and procedures. Includes introduction to machine mathematics, blueprint reading, and theory.

## MCHN 1230 STATISTICAL PROCESS CONTROL (SPC) FOR MACHINIST

**Credit: 2 (2 lecture)**
An introduction to statistical process control, used by machinist and machine operators. Analysis of data collected from work pieces. The student will identify the basic tools required for data collection, list the most common charts used to measure variations, demonstrate the use of measuring tools used for data collection, analyze the variances of data gathered, distinguish different charts for various applications and calculate random sampling by using the proper formulas.

## MCHN 1291 SPECIAL TOPICS IN MACHINIST/MACHINE TECHNOLOGIST

**Prerequisite/Corequisite: MCHN 1221**
**Credit: 2 (1 lecture, 3 lab)**
This course reviews the use of manual industrial manufacturing equipment. This includes the operation of grinders, drill presses, turnings, and milling machines to manufacture a final project.

## MCHN 1391 SPECIAL TOPICS IN MACHINIST/MACHINE TECHNOLOGIST

**Credit: 3 (3 lecture)**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. Learning outcomes/objectives are determined by local occupational need and business and industry trends.

## MCHN 1453 SHEET METAL III

**Credit: 4 (3 lecture, 2 lab)**
An introduction to the principles of air flow as applied to HVAC air distribution systems in addition to the components of HVAC and the basic refrigeration cycle. Introduction to welding, brazing, and field measurements. Application of extensive triangulation layout and fabrication and fiberglass duct work.

## MCHN 2230 MILLING MACHINE III

**Prerequisite/Corequisite: MCHN 1221**
**Credit: 2 (1 lecture, 2 lab)**
Advanced study of milling machine operations. Use of milling cutters and support tooling including end mills, slab mills, face mills, involute cutters, rotary tables, and indexing heads with a review of related math and machine theory.

## MCHN 2231 ADVANCED ENGINE LATHE I

**Prerequisite/Corequisite: MCHN 1220**
**Credit: 2 (1 lecture, 2 lab)**
Advanced study of lathe operations. Use of special cutting tools and support tooling, such as form tools, carbide inserts, taper attachments, follower, and steady rest. Close tolerance machining required.

## MCHN 2234 TOOLS AND FIXTURES I

**Prerequisite/Corequisite: MCHN 1201**
**Credit: 2 (1 lecture, 2 lab)**
Advanced course in the designing and building of special tools, such as jigs, fixtures, punch press dies, and molds.

## MCHN 2235 ADVANCED ENGINE LATHE II

**Prerequisite/Corequisite: MCHN 2231**
**Credit: 2 (1 lecture, 2 lab)**
Continuation in the advanced study of lathe operations. Use of special cutting tools and support tooling, such as form tools, carbide inserts, taper attachments, follower, and steady rest. Close tolerance machining required.

## MCHN 2238 MILLING MACHINE IV

**Prerequisite/Corequisite: MCHN 2230**
**Credit: 2 (1 lecture, 2 lab)**
Continuation of the advanced study of milling machine operations. Use of milling cutters and support tooling including end mills, slab mills, face mills, involute cutters, rotary tables, and indexing heads with a review of related math and machine theory.

## MCHN 2239 TOOLS AND FIXTURES II

**Prerequisite/Corequisite: MCHN 2234**
**Credit: 2 (1 lecture, 2 lab)**
Machining and assembling of a production tool, using conventional machine shop equipment. Application of production tool theory, care, and maintenance.

## MDCA 1213 MEDICAL TERMINOLOGY
**Credit: 2 (2 lecture)**
A study and practical application of a medical vocabulary system. Includes structure, recognition, analysis, definition, spelling, pronunciation, and combination of medical terms from prefixes, suffixes, roots, and combining forms.

## MDCA 1254 CERTIFIED MEDICAL ASSISTING EXAM REVIEW
**Corequisite: MDCA 1360 or Department Approval**
**Credit: 1 (1 lecture, 2 lab))**
A preparation for the Certified Medical Assisting Exam, including a review of all three components of the CMA exam. Presents an explanation of how the exam is scored and provides opportunities to take practice exams.

## MDCA 1305 MEDICAL LAW AND ETHICS
**Credit: 3 (3 lecture)**
Instruction in principles, procedures, and regulations involving legal and ethical relationships among physicians, patients, and medical assistants. Includes current ethical issues and risk management as they relate to the practice of medicine and fiduciary responsibilities.

## MDCA 1313 MEDICAL TERMINOLOGY
**Credit: 3 (3 lecture)**
A study and practical application of a medical vocabulary system. Includes structure, recognition, analysis, definition, spelling, pronunciation, and combination of medical terms from prefixes, suffixes, roots, and combining forms.

## MDCA 1321 ADMINISTRATIVE PROCEDURES
**Credit: 3 (2 lecture, 3 lab)**
Medical office procedures including appointment scheduling, medical records creation and maintenance, phone communications, financial processes, coding, billing, collecting, third party reimbursement, credit arrangements, and computer use in the medical office.

## MDCA 1343 MEDICAL INSURANCE
**Credit: 3 (2 lecture, 2 lab)**
Emphasizes accurate ICD-9 and CPT coding of office procedures for payment/ reimbursement by patient or third party and prevention of insurance fraud. Additional topics may include managed care or medical economics.

## MDCA 1352 MEDICAL ASSISTANT LABORATORY PROCEDURES
**Credit: 3 (2 lecture, 4 lab)**
Procedures depicted in the Current Clinical Laboratory Improvement Act (CLIA). Includes blood collection, specimen handling, basic urinalysis, identification of normal ranges, quality assurance, and quality control. May include electrocardiography.

## MDCA 1360 CLINICAL- MEDICAL/ CLINICAL ASSISTANT
**Prerequisites: Successful completion of core courses and Department Chair approval**
**Credit: 3 (18 hours externship per week)**
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## MDCA 1391 SPECIAL TOPIC: MEDICAL ASSISTANT- COMMUNICATION SKILLS IN AMBULATORY CARE
**Prerequisite: Department Approval**
**Credit: 3 (3 lecture)**
Topics in this course address basic psychological principles and procedures for self-understanding and social adaptability in interpersonal communications with patients, and co-workers in the ambulatory care setting.

## MDCA 1391 SPECIAL TOPIC: MEDICAL ASSISTANT- AMBULATORY CARE EMERGENCY PROCEDURES
**Prerequisite: Department Approval**
**Credit: 3 (2 lecture, 3 lab)**
Topics in this course address current procedures and protocols for management of emergency situations in ambulatory care settings including CPR for adult, infant and youth, visual and auditory screening techniques.

## MDCA 1409 ANATOMY AND PHYSIOLOGY FOR MEDICAL ASSISTANTS
**Credit: 4 (4 lecture)**
Emphasis on normal human anatomy and physiology of cells, tissues, organs, and systems with overview of common pathophysiology.

## MDCA 1417 PROCEDURES IN A CLINICAL SETTING
**Credit: 4 (3 lecture, 3 lab)**
Emphasis on patient-centered assessment, examination, intervention, and treatment as directed by physician. Includes vital signs, collection and documentation of patient information, asepsis, minor surgical procedures, and other treatments as appropriate for the medical office.

## MDCA 1448 PHARMACOLOGY AND ADMINISTRATION OF MEDICATIONS
**Credit: 4 (2 lecture, 4 lab)**
Instruction in concepts and application of pharmacological principles. Focuses on drug classifications, principles and procedures of medication administration, mathematical systems and conversions, calculation of drug problems, and medicolegal responsibilities of the medical assistant.

## MLAB 1166 PRACTICUM I (OR FIELD EXPERIENCE)- CLINICAL/MEDICAL LABORATORY TECHNICIAN (HEMATOLOGY)
**Prerequisite: Department Approval**
**Credit: 1 (10 lab)**
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## MLAB 1167 PRACTICUM II (OR FIELD EXPERIENCE) - CLINICAL/ MEDICAL LABORATORY TECHNICIAN (BLOOD BANKING)
**Prerequisite: Department Approval**
**Credit: 1 (10 lab)**
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## MLAB 1201 INTRODUCTION TO CLINICAL LABORATORY SCIENCE
**Credit: 2 (1 lecture, 3 lab)**
An introduction to clinical laboratory science, including quality control, laboratory math, safety, basic laboratory equipment, laboratory settings, accreditation, certification, professionalism, and ethics.

## MLAB 1211 URINALYSIS AND BODY FLUIDS
**Credit: 2 (1 lecture, 4 lab)**
An introduction to urinalysis and body fluid analysis, including the anatomy and physiology of the kidney, and physical, chemical and microscopic examination of urine, cerebrospinal fluid, and other body fluids..

## MLAB 1227 COAGULATION
**Credit: 2 (1 lecture, 4 lab)**
A course in coagulation theory, procedures, and practical applications. Includes laboratory exercises which rely on commonly performed manual and semiautomatic methods.

## MLAB 1231 PARASITOLOGY/ MYCOLOGY
**Credit: 2 (1 lecture, 4 lab)**
A study of the taxonomy, morphology, and pathogenesis of human parasites and fungi, including the practical application of laboratory procedures.

## MLAB 1235 IMMUNOLOGY/ SEROLOGY
**Credit: 2 (1 lecture, 4 lab)**
An introduction to the theory and application of basic immunology, including the immune response, principles of antigen-antibody reactions, and the principles of serological procedures.

## MLAB 1266 PRACTICUM III (OR FIELD EXPERIENCE) - CLINICAL/ MEDICAL LABORATORY TECHNICIAN (CHEMISTRY, URINALYSIS/BODY FLUIDS)
**Prerequisite: Department Approval**
**Credit: 2 (15 lab)**
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## MLAB 1267 PRACTICUM IV (OR FIELD EXPERIENCE) CLINICAL/ MEDICAL LABORATORY TECHNICIAN (MICROBIOLOGY/ PARASITOLOGY)
**Prerequisite: Department Approval**
**Credit: 2 (15 lab)**
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## MLAB 1270 HEMATOLOGY I
**Credit: 2 (1 lecture, 4 lab)**
Introduction to the theory and practical application of routine and special hematology procedures, both manual and automated, red blood cells and white blood cells maturation sequences, and normal and abnormal morphology and associated diseases. This course is the first part of a two-part course and concentrates on red cell disorders

## MLAB 1271 HEMATOLOGY II
**Prerequisite: MLAB 1270**
**Credit: 2 (1 lecture, 4 lab)**
Introduction to the theory and practical application of routine and special hematology procedures, both manual and automated, red blood cells and white blood cells maturation sequences, and normal and abnormal morphology and associated diseases. This course is the first part of a two-part course and concentrates on white blood cell disorders.

## MLAB 1371 REGISTRY REVIEW
**Credit: 3 (3 lecture)**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student

## MLAB 2264 PRACTICUM V (OR FIELD EXPERIENCE) CLINICAL/MEDICAL LABORATORY TECHNICIAN
**Prerequisite: Department Approval**
**Credit: 2 (14 lab)**
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## MLAB 2270 CLINICAL CHEMISTRY I
**Credit: 2 (1 lecture, 4 lab)**
An introduction to the principles and procedures of various tests performed on Clinical Chemistry. Presents the physiological basis for the test, the principle and procedure for the test, and the clinical significance of the test results, including quality control and normal values. Also includes basic chemical laboratory technique, chemical laboratory safety, electrolytes and acid-base balance, proteins, carbohydrates, lipids and NPNs.

## MLAB 2271 CLINICAL CHEMISTRY II
**Prerequisite: MLAB 2270**
**Credit: 2 (1 lecture, 4 lab)**
An introduction to the principles and procedures of various tests performed in Clinical Chemistry. Presents the physiological basis for the test, the principle and procedure for the test, and the clinical significance of the test results, including quality control and normal values. Also includes basic chemical laboratory technique, chemical laboratory safety, electrolytes and acid-base balance, enzymes, cardiac, pancreatic, and liver function, vitamins and endocrinology.

## MLAB 2431 IMMUNOHEMATOLOGY
**Prerequisite: MLAB 1235**
**Credit: 4 (3 lecture, 4 lab)**
A study of blood antigens and antibodies. Performance of routine blood banking procedures, including blood group and Rh typing, antibody screens, antibody identification, cross matching, elution, and absorption techniques.

## MLAB 2434 (CLINICAL) MICROBIOLOGY
**Prerequisite: BIOL 2420**
**Credit: 4 (3 lecture, 4 lab)**
Instruction in the theory, practical application, and pathogenesis of clinical microbiology, including collection, setup, identification, susceptibility testing, and reporting procedures.

## MRKG 1302 PRINCIPLES OF RETAILING
**Credit: 3 (3 lecture)**
Introduction to the retailing environment and its relationship to consumer demographics, trends, and traditional/nontraditional retailing markets. The employment of retailing techniques and the factors that influence modern retailing.

## MRKG 1311 PRINCIPLES OF MARKETING
**Credit: 3 (3 lecture)**
Introduction to the marketing functions: identification of consumer and organizational needs; explanation of economic, psychological, sociological, and global issues; and description and analysis of the importance of marketing research.

## MRKG 1313 PUBLIC RELATIONS
**Credit: 3 (3 lecture)**
Exploration of theories, techniques, and processes of public relations including means of influencing methods of building good will, analysis of media, obtaining publicity, and implementation of public relations programs.

## MRKG 1391 SPECIAL TOPICS IN BUSINESS MARKETING/MARKETING MANAGEMENT
**Credit: 3 (3 lecture)**
Topic addresses recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

## MRKG 2312 E-COMMERCE
**Credit: 3 (3 lecture)**
Explore electronic tools utilized in marketing; focus on marketing communications in developing customer relationships.

## MRKG 2333 PRINCIPLES OF SELLING
**Credit: 3 (3 lecture)**
Overview of the selling process. Identification of the elements of the communication process between buyers and sellers. Examination of the legal and ethical issues of organizations which affect salespeople.

## MRKG 2348 MARKETING RESEARCH AND STRATEGIES
**Credit: 3 (3 lecture)**
A simulated marketing environment for epxerience in marketing decision-making. Provides practical experiences in analyzing marketing cases. Includes dynamic interrelationships among marketing price, channels of distribution, promotion, and product responsibility.

## MRKG 2349 ADVERTISING AND SALES PROMOTION
**Credit: 3 (3 lecture)**
Integrated marketing communications. Includes advertising principles and practices. Emphasizes multi-media of persuasive communication including buyer behavior, budgeting, and regulatory constraints.

## MRKG 2371 SERVICES MARKETING
**Credit: 3 (3 lecture)**
An analysis of the principles, methods and problems of marketing for both professional and consumer services. A study of competition, customer service, services design, pricing, services promotion and distribution strategies.

## MRKG 2372 CONSUMER BEHAVIOR
**Credit: 3 (3 lecture)**
A study of buyer motives, reference groups, social class, culture, and family and social interrelationships are examined.

## MRKG 2373 SERVICES PROMOTION
**Credit: 3 (3 lecture)**
Principles and practices of services promotion including public relations, image advertising, proposal writings, sales presentation design, media planning, public relations campaign planning, lobbying, crisis management, positioning, services selling and event planning are discussed.

## MRKG 2374 MARKETING CASE STUDIES
**Credit: 3 (3 lecture)**
A study of marketing problems and challenges through the use of case histories and actual marketing situations involving advertising, prices, distribution, product selection, client or consumer behavior, marketing training, market segmentation and international marketing.

## MRKG 2380 COOPERATIVE EDUCATION-BUSINESS MARKETING/MARKETING MANAGEMENT
**Prerequisite: Department Approval**
**Credit: 3 (1 lecture, 20 lab)**
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## MRKG 2381 COOPERATIVE EDUCATION-BUSINESS MARKETING/MARKETING MANAGEMENT
**Prerequisite: Department Approval**
**Credit: 3 (1 lecture, 20 lab)**
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## MRMT 1307 MEDICAL TRANSCRIPTION I
**Prerequisites: MDCA 1313, POFT 1329**
**Credit: 3 (2 lecture, 3 lab)**
Fundamentals of medical transcription with hands-on experience in transcribing physician dictation including basic reports such as history and physicals, discharge summaries, consultations, operative reports, and other medical reports. Utilizes transcribing and information processing equipment compatible with industry standards. Designed to develop speed and accuracy.

## MUAP COURSES NUMBERED 11XX, 12XX, ARE FRESHMAN LEVEL, ONE-HALF HOUR LESSON AND ONE-HOUR LESSONS PER WEEK, RESPECTIVELY.
Half-hour lessons require six practice hours per week; hour lessons, ten practice hours per week. Hour lessons may be divided into two 30-minute lessons per week by mutual consent of the student and the instructor. Lessons may be repeated (maximum 7 times in any combination) with permission of the respective department heads and are required of appropriate majors(s). Juries are required. Students provide all instruments but piano and percussion equipment. A MUSI co-requisite is required. Private instruction is offered to music majors only. Half-hour lessons earn 1 credit (1 lecture). Hour lessons earn 2 credits (2 lecture).

## MUAP COURSES NUMBERED 21XX, 22XX, ARE SOPHOMORE LEVEL, ONE-HALF HOUR AND ONE-HOUR LESSONS PER WEEK RESPECTIVELY.
Half-hour lessons require six practice hours per week; hour lessons, ten practice hours per week. Hour lessons may be divided into two 30-minute lessons per week by mutual consent of the student and the instructor. Lessons may be repeated (maximum 7 times in any combination) with permission of the respective department heads and are required of appropriate majors(s). Juries are required. Students provide all instruments but piano and percussion equipment. A MUSI co-requisite is required. Private instruction is offered to music majors only. Half-hour lessons earn 1 credit (1 lecture). Hour lessons earn 2 credits (2 lecture).

MUAP 1101, 1201, 2101, 2201. Violin.
MUAP 1105, 1205, 2105, 2205. Viola.
MUAP 1109, 1209, 2109, 2209. Cello.
MUAP 1113, 1213, 2113, 2213. Bass.
MUAP 1115, 1215, 2115, 2215. Electric Bass.
MUAP 1117, 1217, 2117, 2217. Flute/Piccolo.
MUAP 1121, 1221, 2121, 2221. Oboe, English Horn.

MUAP 1125, 1225, 2125, 2225. Bassoon.
MUAP 1129, 1229, 2129, 2229. Clarinet.
MUAP 1133, 1233, 2133, 2233. Saxophone.
MUAP 1137, 1237, 2137, 2237. Trumpet/Cornet.
MUAP 1141, 1241, 2141, 2241. French Horn.
MUAP 1145, 1245, 2145, 2245. Trombone.
MUAP 1149, 1249, 2149, 2249. Euphonium/Baritone.
MUAP 1153, 1253, 2153, 2253. Tuba.
MUAP 1157, 1257, 2157, 2257. Percussion.
MUAP 1161, 1261, 2161, 2261. Guitar
MUAP 1165, 1265, 2165, 2265. Organ.
MUAP 1169, 1269, 2169, 2269. Piano.
MUAP 1173, 1273, 2173, 2273. Electronic Keyboard.
MUAP 1177, 1277, 2177, 2277. Harp.
MUAP 1181, 1281, 2181, 2281. Voice.
MUAP 1185, 1285, 2185, 2285. Improvisation.
MUAP 1187, 1287, 2187, 2287. Special Topics - Strings.
MUAP 1188, 1288, 2188, 2288. Special Topics - Percussion.
MUAP 1189, 1289, 2189, 2289. Special Topics - Keyboard.
MUAP 1190, 1290, 2190, 2290 Special Topics - Voice.
MUAP 1292, 2292. Arranging and Composition.

## MUSB 1191 SPECIAL TOPICS IN MUSIC BUSINESS MANAGEMENT AND MERCHANDISING
**Credit: 1 (1 lecture)**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. Learning outcomes/objectives are determined by local occupational need, and business and industry trends.

## MUSB 1305 SURVEY OF THE MUSIC BUSINESS
**Credit: 3 (3 lecture)**
An overview of the music industry including song writing, live performance, the record industry, music merchandising, contracts and licenses, and career opportunities.

## MUSB 1341 CONCERT PROMOTION AND VENUE MANAGEMENT
**Suggested Prerequisite: MUSB 1305**
**Credit: 3 (3 lecture)**
A course in the basics of concert promotion and venue management including considerations in purchasing a club; concert promotion and advertising; talent buying; city codes; insurance; Texas Alcoholic Beverage Commission Regulation; American Society of Composers, Arrangers, and Publishers (ASCAP/BMI) licenses; personnel management; and concert production and administration.

## MUSB 1391 SPECIAL TOPICS IN MUSIC BUSINESS MANAGEMENT AND MERCHANDISING
**Suggested Prerequisite: MUSB 1305**
**Credit: 3 (3 lecture)**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

## MUSB 2301 MUSIC MARKETING AND MERCHANDISING
**Suggested Prerequisite: MUSB 1305**
**Credit: 3 (3 lecture)**
A study of the methods of distribution, retailing, and wholesaling. Topics include the basics of purchasing, inventory control, shipping and receiving, returns, pricing and cost analysis, merchandising, retail display, sales promotion, advertising, security and shrinkage, personnel management, and relationships between retailers and distributors.

## MUSB 2305 MUSIC PUBLISHING
**Suggested Prerequisite: MUSB 1305**
**Credit: 3 (3 lecture)**
A study of the administrative and marketing aspects of music publishing including the application of current copyright law, developing song writers, rights exploration, and royalty collection.

## MUSB 2309 THE RECORD INDUSTRY
**Suggested Prerequisite: MUSB 1305**
**Credit: 3 (3 lecture)**
Overview of the record industry and the organization of large and small record companies. Emphasizes record company functions such as artist and repertoire (A & R), promotion, marketing, business affairs, and administration and distribution including Internet-based distribution.

## MUSB 2345 LIVE MUSIC AND TALENT MANAGEMET
**Suggested Prerequisite: MUSB 1305**
**Credit: 3 (3 lecture)**
An examination of the role, scope, and activities of the talent manager including establishing the artist/manager relationship; planning the artist's career; and developing goals, strategies, and tactics with an overall view of the live music business.

## MUSB 2355 LEGAL ASPECTS OF THE ENTERTAINMENT INDUSTRY
**Credit: 3 (3 lecture)**
Copyright law and the various agreements used in the entertainment industry. Emphasizes contracts used by music publishers, record companies, artist managers, record producers, film and television producers, and booking agencies.

## MUSB 2380 COOPERATIVE EDUCATION - MUSIC BUSINESS MANAGEMENT AND MERCHANDISING
**Suggested Prerequisite: 12 hrs. of MUSB and Department Approval**
**Credit: 3 (1 lecture, 20 lab)**
Career related activities encountered in the student's area of specialization are offered through an individualized agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## MUSB 2381 COOPERATIVE EDUCATION - MUSIC MANAGEMENT AND MERCHANDISING

**Suggested Prerequisite: 12 hrs. of MUSB and Department Approval**
**Credit: 3 (1 lecture 20 lab)**

Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## MUSC 1249 APPLIED MUSIC: CONDUCTING

**Suggested Prerequisite: Commercial Music Theory I and II**
**Credit: 2 (1 lecture, 4 lab)**

Private lessons in conducting. Development of technique through the practice of basic beat patterns, beginning beats, gesturing, and cueing. Emphasis on score reading and knowledge of musical terminology.

## MUSC 1309 CONDUCTING CLASS

**Suggested Prerequisite: MUSC 1217**
**Credit: 3 (2 lecture, 2 lab)**

Introduction to the art of conducting including regular and irregular beat patterns, subdivision, and beat pattern varieties applied to musical literature and practical experience.

## MUSC 1321 SONGWRITING

**Credit: 3 (3 lecture)**

Introduction to techniques of writing marketable songs including the writing of lyrics and melodies, setting lyrics to music, developing lyrical and musical 'hooks,' analyzing the marketplace, and developing a production plan for a song demo.

## MUSC 1323 AUDIO ELECTRONICS

**Credit: 3 (2 lecture, 4 lab)**

Basic concepts in electricity, Ohm's Law, circuit analysis and troubleshooting audio problems. Topics include soldering techniques, audio electronic alignment procedures for tape machines, console maintenance, and sound reinforcement equipment maintenance.

## MUSC 1330 COMPUTER MUSIC NOTATION I

**Suggested Prerequisite: MUSC 1215 and basic computer skills**
**Credit: 3 (1 lecture, 4 lab)**

Survey of music notation software and applications with skill development in computer music notation.

## MUSC 1331 MIDI I

**Credit: 3 (2 lecture, 4 lab)**

An overview of the Musical Instrument Digital Interface (MIDI) system and applications. Topics include the history and evolution of MIDI, hardware requirements, computer numbering systems, channels and modes, the MIDI language, and typical implementation of MIDI applications in the studio environment using software-based sequencing programs. Students are required to attend additional lab hours outside of class.

## MUSC 1392 SPECIAL TOPICS IN MUSIC HISTORY AND LITERATURE

**Credit: 3 (3 lecture)**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relative to the professional development of the student.

## MUSC 1427 AUDIO ENGINEERING I

**Credit: 4 (3 lecture, 4 lab)**

Overview of the recording studio. Topics include basic studio electronics and acoustic principles, waveform analysis, microphone design and placement techniques, studio set up and signal flow, recording console theory, signal processing concepts, tape machine principles and operation, and an overview of mixing and editing. Students are required to attend additional lab hours outside of class.

## MUSC 2141 FORUM/RECITAL

**Credit: 1 (1 lecture)**

Stylistic analysis of commercial music performances presented by students, faculty, and guest artists.

## MUSC 2201 AUDIO ENGINEERING PRACTICES

**Corequisite: MUSC 2448, 2457 or 2458**
**Prerequisite: MUSC 2447, RTVB 2232**
**Credit: 2 (1 lecture, 4 lab)**

Application of the concepts and techniques presented in Audio Engineering I and II. (May be repeated three times for credit. Students are required to attend additional lab hours outside of class.)

## MUSC 2214 IMPROVISATION THEORY I

**Credit: 2 (2 lecture, 1 lab)**

A study of the chordal structures of jazz, rock, country, and fusion with emphasis on extemporaneous performance.

## MUSC 2230 COMMERCIAL MUSIC ARRANGING AND COMPOSITION

**Suggested Prerequisite: MUSC 2213 and MUSC 1321**
**Credit: 2 (1 lecture, 4 lab)**

Presentation of arranging and composition for projects in industry recognized genres including song writing, show writing, video, and film.

## MUSC 2234 IMPROVISATION THEORY II

**Suggested Prerequisite: MUSC 2214**
**Credit: 2 (2 lecture, 1 lab)**

A continuation of the study of chordal structures of jazz, rock, country, and fusion with emphasis on extemporaneous performance.

## MUSC 2249 APPLIED MUSIC: CONDUCTING II

**Suggested Prerequisite: MUSC 1249**
**Credit: 2 (1 lecture, 4 lab)**

Advanced private lessons in conducting. Continues development of conducting techniques, score reading abilities, and study of musical terminology.

## MUSC 2319 ORCHESTRATION

**Credit: (3 lecture)**

Exploration of writing for voices and instruments to include ranges, transportation, and idiosyncrasies of each instrument with emphasis on commercial music chord voicings.

## MUSC 2345 SYNTHESIS II

**Prerequisite: MUSC 1331**
**Credit: 3 (2 lecture, 4 lab)**

Course emphasizes technology that integrates MIDI sequencing with digital audio. Topics include computer based hard disk recording systems, MIDI machine control, advanced techniques in synthesizer editing, digital transfers of audio data and CD mastering. The student will demonstrate advanced skill in FM and hybrid synthesis techniques; explain and utilize digital sampling; complete projects using advanced synthesis techniques; and edit samples and synthesizer voices. Students are required to attend additional lab hours outside of class.

## MUSC 2350 COMPUTER MUSIC NOTATION II

**Suggested Prerequisite: MUSC 1330**
**Credit: 3 (1 lecture, 4 lab)**

Study and practices in music notation software at a professional level, including large score notation.

## MUSC 2351 AUDIO FOR VIDEO

**Prerequisites: RTVB 2430, RTVB 2355**
**Credit: 3 (2 lecture, 4 lab)**

This course explores the technology, techniques and requirements for adding additional audio soundtracks to raw video and film footage. The course also strengthens skills in advanced audio production techniques for video production. Topics include synchronization, SMPTE time code, automated mixdown, audio post production for video, nonlinear and traditional editing techniques, sound design, Foley stage work, sound effects and dialog sweetening or replacement.

## MUSC 2355 MIDI II

**Prerequisite: MUSC 1331**
**Credit: 3 (2 lecture, 4 lab)**

A continuation of MIDI I with emphasis on advanced sequencer operation, and SMPTE-based synchronization in the interaction of multiple recording and playback systems.

## MUSC 2427 AUDIO ENGINEERING II

**Prerequisite: MUSC 1427 and MUSC 1331**
**Credit: 4 (3 lecture, 2 lab)**

Major topics include the recording process, microphones and placement techniques, audio console operation, multitrack recording and signal processors. Audio software includes Pro Tools and Digital Performer, Spark and Peak audio editors, Toast and Jam CD editors, Acid looping software. Students learn basic tracking techniques, studio set up and break down and participate in 32 hours of recording sessions. Students are required to attend additional lab hours outside of class.

## MUSC 2433 SCORING FOR VIDEO AND FILM

**Credit: 4 (3 lecture, 4 lab)**

Using Digital Performer and a variety of digital mixers, samplers, sound modules and synthesizers, students learn to integrate MIDI sequencing and digital audio with video productions.

## MUSC 2447 AUDIO ENGINEERING III

**Prerequisite: MUSC 2427, RTVB 1240 and MUSC 2355**

**Credit: 4 (3 lecture, 4 lab)**

Procedures and techniques in recording and mixing audio. Topics include I/O style console operation, hard disk based digital audio editing, modular digital multitrack recording, and engineering project completions. Principles of acoustics, sound in recording, and sound reinforcement. Topics include acoustical properties of studios, live performance facilities, resonance, and electronic and acoustic control. Students complete their own project during recording sessions through out the semester. Students are required to attend additional lab hours outside of class.

## MUSC 2448 AUDIO ENGINEERING IV

**Credit: 4 (3 lecture, 3 lab)**

Examination of the role of the producer including recording, mixing, arranging, analyzing projects, session planning, communications, budgeting, business aspects, technical consideration, and music markets. Students are required to attend additional lab hours outside of class.

## MUSC 2457 AUDIO ENGINEERING V

**Prerequisite: MUSC 2448, 2201, 2355**

**Credit: 4 (3 lecture, 4 lab)**

Analysis and practice of the operation of a large format, computer-automated analog mixing console. Includes console's signal flow and operation as they pertain to tracking.

## MUSC 2458 AUDIO ENGINEERING VI

**Prerequisite: MUSC 2457, 2201**

**Credit: 4 (3 lecture, 4 lab)**

Analysis and practice in the operation of a large format, computer-automated analog mixing console. Includes console's signal flow and operation as they pertain to mixing.

## MUSI 1131 SPECIAL TOPICS ENSEMBLE I

**Credit: 1 (0 lecture, 3 lab)**

Group master class for piano, voice, or instruments. Open to all students. May serve as corequisite for MUAP courses.

## MUSI 1135 JAZZ ENSEMBLE I

**Prerequisite: Department Approval**

**Credit: 1 (0 lecture, 3 lab)**

Small ensemble specializing in jazz improvisation and performance.

## MUSI 1139 CHAMBER MUSIC I

**Prerequisite: Department Approval**

**Credit: 1 (0 lecture, 3 lab)**

Small ensemble concentrating on vocal and/or instrumental chamber music.

## MUSI 1140 MUSIC FORUM I

**Credit: 1 (1 lecture)**

Emphasis on faculty and student recitals, stylistic interpretation of commercial music forms. Seminar discussions, lectures and demonstrations by music industry representatives and artists.

## MUSI 1159 MUSICAL THEATRE I

**Credit: 1 (0 lecture, 4 lab)**

Study and performance of literature from musical theatre, including operetta, reviews and musical comedy, basic vocal and movement skills. Performance and rehearsals required. Open to all students by audition.

## MUSI 1160 ITALIAN DICTION FOR SINGERS

**Credit: 2 (1 lecture, 1 lab)**

Study of Italian phonetic sounds to promote ability to sing the language. Open to all vocal students. May be repeated.

## MUSI 1161 ENGLISH DICTION FOR SINGERS

**Credit: 2 (1 lecture, 1 lab)**

Study of phonetic sounds of English to promote ability to sing the language. Open to all vocal students. May be repeated.

## MUSI 1163/1164 IMPROVISATION I & II

**Credit: 1 (0 lecture, 3 lab)**

A study of the chordal structures of jazz with emphasis on extemporaneous performance (improvisation). Some emphasis on the development of a repertory of standard jazz harmonic patterns. Open to all students with Department Approval.

## MUSI 1166 INSTRUMENT CLASS: WOODWIND

**Credit: 1 (0 lecture, 3 lab)**

Class instruction in woodwind instruments. A skills course. May be repeated. Open to all students.

## MUSI 1168 INSTRUMENT CLASS: BRASS

**Credit: 1 (0 lecture, 3 lab)**

Class instruction in brass instruments. A skills course. May be repeated. Open to all students.

## MUSI 1172 INSTRUMENT CLASS: STRINGS SEE MUSI 1190)

## MUSI 1181 PIANO CLASS I

**Prerequisite: MUSI 1101 or Department Approval**

**Credit: 1 (0 lecture, 3 lab)**

Class instruction in the fundamentals of keyboard technique for beginning piano students only. A skills course. May be repeated. Required of majors. Open to non-majors.

## MUSI 1182 PIANO CLASS II

**Credit: 1 (0 lecture, 3 lab)**

Continuation of MUSI 1181. May be repeated. Required of majors. Open to non-majors.

## MUSI 1183 VOICE CLASS I

**Credit: 1 (0 lecture, 3 lab)**

Class instruction in fundamentals of singing: tone production, breath production, diction and standard music repertoire. Designed for students with little or no previous vocal training.

## MUSI 1184 VOICE CLASS II

**Credit: 1 (0 lecture, 3 lab)**

Continuation of MUSI 1183.

## MUSI 1188 INSTRUMENT CLASS: PERCUSSION

**Credit: 1 (0 lecture, 3 lab)**

Class instruction in percussion instruments. A skills course. May be repeated. Open to all students.

## MUSI 1190 INSTRUMENT CLASS: STRINGS

**Credit: 1 (0 lecture, 3 lab)**

Class instruction in strings. A skills course. May be repeated. Open to all students.

## MUSI 1192 GUITAR CLASS I

**Credit: 1 (0 lecture, 3 lab)**

This class is designed to provide students the fundamentals of guitar, aiding them as they learn or improve their reading of music. Consult with instructor concerning instrument availability. A knowledge of music is not required, but helpful. Open to all students.

## MUSI 1211 THEORY I

**Prerequisite: MUSI 1301 or Department Approval; Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.**

**Corequisite: MUSI 1216**

**Credit: 2 (2 lecture, 1 lab)**

Basic music theory with emphasis on part writing of figured bass and melody harmonization requiring all diatonic triads, dominant and supertonic seventh chords, and non-harmonic tones. Keyboard study of harmonic progressions and melodic harmonizations requiring diatonic triads. Required of majors.

## MUSI 1212 THEORY II

**Prerequisite: MUSI 1211 or Department Approval; Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.**

**Corequisite: MUSI 1217**

**Credit: 2 (2 lecture, 1 lab)**

A continuation of MUSI 1211. Required of majors.

## MUSI 1216 ELEMENTARY EAR TRAINING I

**Prerequisite: MUSI 1171 or Department Approval; Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.**

**Credit: 2 (2 lecture, 1 lab)**

Singing tonal music in treble, bass, alto and tenor clefs. Aural study (including dictation) of rhythm, melody and diatonic harmony.

## MUSI 1217 EAR TRAINING/SIGHT-SIGNING II

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.**

**Credit: 2 (2 lecture, 1 lab)**

Singing tonal music in treble, bass, alto and tenor clefs. Aural study (including dictation) of rhythm, melody and diatonic harmony.

## MUSI 1223 STUDIO ORCHESTRA I

**Credit: 2 (1 lecture, 3 lab)**

Major ensemble performing contemporary styles. Open to all students with consent of director. Performances required.

## MUSI 1226/2266 SYMPHONY ORCHESTRA

**Credit: 2 (1 lecture, 2 lab)**

Performance and study of chamber, symphonic and string orchestra literature. Solo opportunities for advanced performers. For experienced string players and selected woodwind, brass and percussion players. Previous orchestra experience preferred but not required.

## MUSI 1227 COMMUNITY COLLEGE BAND

**Credit: 2 (1 lecture, 2 lab)**

This class is designed for full or part-time students who desire to improve their performance levels on band instruments, observe rehearsal methods and techniques, and learn band organizational strategies. Performance required.

## MUSI 1229 HARP ENSEMBLE

**Credit: 2 (1 lecture, 2 lab)**

This class is designed for full or part-time students who desired to improve their harp ensemble performance levels, observe rehearsal methods and techniques, and learn harp ensemble organizational strategies. Performances required.

## MUSI 1239 CHAMBER ENSEMBLE I

**Credit: 2 (1 lecture, 2 lab)**

Small instrumental ensembles: wind, string, brass, percussion, piano. Designed to provide ensemble experience for instrumental majors. Open to all qualified students. Placement audition required.

## MUSI 1254 CHAMBER VOCAL ENSEMBLE

**Credit: 2 (1 lecture, 2 lab)**

Madrigal or other small vocal ensemble. Open to non-majors. Performances required.

## MUSI 1301 MUSIC FUNDAMENTALS

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing. Credit: 3 (3 lecture)**

An introduction to the elements of music, including study of clefs, staff, key signatures, notation, meter, and rhythm, sight singing, major and minor chords, ear training, basic keyboard harmony. Open to all students. Core Curriculum Course.

## MUSI 1306 MUSIC APPRECIATION

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.**

**Credit: 3 (3 lecture)**

A foundation course in understanding and enjoyment of music through the use of recorded music and song literature. Elements of music and analysis of music form and how they relate to compositional technique are explored. Open to all students. Core Curriculum Course.

## MUSI 1308 MUSIC LITERATURE I

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.**

**Credit: 3 (3 lecture)**

An introductory survey of the historical development of music as an art with emphasis on listening. Open to non-majors. Core Curriculum Course.

## MUSI 1309 MUSIC LITERATURE II

**Prerequisite: MUSI 1308 or Department Approval Prerequisites: Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.**

**Credit: 3 (3 lecture)**

Continuation of MUSI 1308. Required of majors. Open to non-majors. Core Curriculum Course.

## MUSI 1310 HISTORY AND LITERATURE OF RECORDED MUSIC IN AMERICA

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.**

**Credit: 3 (3 lecture)**

Survey of recorded music in the United States from the earliest recordings to the present, with emphasis on commercial successes. Includes discussion of the technological evolution in sound recording and of record lists. Open to all students.

## MUSI 1386 ARRANGING AND COMPOSITION I

**Prerequisite: MUSI 1211 or Department Approval**

**Credit: 3 (3 lecture)**

Discussion and practical applications in arranging and composing for various types of musical ensembles and styles. Further study in orchestration.

## MUSI 2135 JAZZ ENSEMBLE II

**Prerequisite: MUSI 1135**

**Credit: 1 (0 lecture, 3 lab)**

Small ensemble specializing in jazz improvisation and performance. May be repeated for credit.

## MUSI 2139 CHAMBER MUSIC II

**Prerequisite: MUSI 1139 or Department Approval**

**Credit: 1 (0 lecture, 3 lab)**

Small ensemble concentrating on chamber music. May be repeated for credit.

## MUSI 2140 MUSIC FORUM II

**Credit: 1 (1 lecture)**

Emphasis on faculty and student recitals, stylistic interpretation of commercial music forms. Seminar discussions, lectures and demonstrations by music industry representatives and artists. May be repeated for credit.

## MUSI 2159 MUSICAL THEATRE II

**Credit: 1 (0 lecture, 4 lab)**

Study and performance of literature from musical theatre, including operetta, reviews and musical comedy, basic vocal and movement skills. Performance and rehearsals required. Open to all students by audition.

## MUSI 2160 GERMAN DICTION FOR SINGERS

**Credit: 1 (1 lecture, 1 lab)**

Study of phonetic sounds of German to promote ability to sing the language. Open to all vocal students. May be repeated.

## MUSI 2161 FRENCH DICTION FOR SINGERS

**Credit: 1 (1 lecture, 1 lab)**

Study of phonetic sounds of French to promote ability to sing the language. Open to all vocal students. May be repeated.

## MUSI 2163/2164 IMPROVISATION III AND IV

**Prerequisite: MUSI 1164**

**Credit: 1 (0 lecture, 3 lab)**

A study of the chordal structures of jazz with emphasis on extemporaneous performance (improvisation). Some emphasis on the development of a repertory of standard jazz harmonic patterns.

## MUSI 2181 PIANO CLASS III

**Credit: 1 (0 lecture, 3 lab)**

Continuation of MUSI 1182. May be repeated. Required of majors. Open to non-majors.

## MUSI 2182 PIANO CLASS IV

**Credit: 1 (0 lecture, 3 lab)**

Continuation of MUSI 2181. May be repeated. Required of majors. Open to non-majors.

## MUSI 2211 THEORY III

**Prerequisite: MUSI 1212 or Department Approval Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.**

**Corequisite: MUSI 2216**

**Credit: 2 (2 lecture, 1 lab)**

Emphasis on part-writing, figured bass, and melody harmonization and compositional techniques using all diatonic chords, modulations, instrumental and choral styles, two- and three-part forms. Keyboard study of harmonic progressions, melody harmonizations and modulations to closely related keys. Required of majors.

## MUSI 2212 THEORY IV

**Prerequisite: MUSI 2211 or Department Approval Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.**
**Corequisite: MUSI 2217**
**Credit: 2 (2 lecture, 1 lab)**
Continuation of MUSI 2211. Required of majors.

## MUSI 2216 EAR TRAINING/SIGHT-SINGING III

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.**
**Credit: 2 (2 lecture, 1 lab)**
Singing more difficult tonal music, including modal, ethnic and 20th century materials. Drills in sight-singing and ear training. Aural study (including dictation) of more complex rhythm, melody, chromatic harmony and extending tertian structures.

## MUSI 2217 EAR TRAINING/SIGHT-SINGING IV

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and be placed into MATH 0308 (or higher) and be placed into ENGL 0310/0349 (or higher) in writing.**
**Credit: 2 (2 lecture, 1 lab)**
Singing more difficult tonal music, including modal ethnic and 20th century materials. Drills in sight-singing and ear training. Aural study (including dictation) of more complex rhythm, melody, chromatic harmony and extended tertian structures.

## MUSI 2223 STUDIO ORCHESTRA II

**Prerequisite: MUSI 1223**
**Credit: 2 (1 lecture, 3 lab)**
Major ensemble performing contemporary styles. Open to all students with consent of director. Performances required. May be repeated for credit.

## MUSI 2227 COMMUNITY COLLEGE BAND II

**Prerequisite: MUSI 1227 or Department Approval**
**Credit: 2 (1 lecture, 2 lab)**
This class is designed for full or part-time students who desire to improve their performance levels on band instruments, observe rehearsal methods and techniques, and learn band organizational strategies. Performance required. May be repeated for credit.

## MUSI 2229 HARP ENSEMBLE

**Prerequisite: MUSI 1229**
**Credit: 2 (1 lecture, 2 lab)**
This class is designed for full or part-time students who desire to improve their harp ensemble performance levels, observe rehearsal methods and techniques, and learn harp organizational strategies. Performance required. May be repeated for credit.

## MUSI 2239 CHAMBER ENSEMBLE II

**Credit: 2 (1 lecture, 2 lab)**
A continuation of MUSI 1239. Open to all qualified students. Audition required.

## MUSI 2241 COMMUNITY COLLEGE CHORUS

**Credit: 2 (1 lecture, 2 lab)**
This class is designed for full or part-time students who desire to improve their voice ensemble performance levels, observe rehearsal methods and techniques, and learn choir organizational strategies. Performances required. May be repeated for credit.

## MUSI 2258 OPERA WORKSHOP

**Prerequisite: audition or Department Approval.**
**Credit: 2 (1 lecture, 2 lab)**
Designed to provide young singers practical operatic experience in the entire operas or operatic excerpts. May fulfill ensemble requirement for degree. May be repeated. Performance required.

## MUSI 2386 ARRANGING AND COMPOSITION II

**Prerequisite: MUSI 1386**
**Credit: 3 (3 lecture)**
Arranging and composition projects including composition and copying. Composition techniques using sound synthesis, mid-sequencing and sampling techniques. Additional projects may include song writing, show writing, jingles, video and film.

## MUSP 1201 APPLIED COMMERCIAL MUSIC: ARRANGING AND COMPOSITION

**Credit: 2 (1 lecture, 4 lab)**
Private instruction in arranging and composition with goals related to jazz or commercial music. The student will demonstrate proficiency in commercial music repertoire and technique; develop a professional, disciplined approach to performance skills; and present a juried performance for faculty.

## MUSP 1203 APPLIED COMMERCIAL MUSIC: ACOUSTIC BASS

**Credit: 2 (1 lecture, 4 lab)**
Private instruction in acoustic bass with goals related to jazz or commercial music.

## MUSP 1204 APPLIED COMMERCIAL MUSIC: BASS GUITAR

**Credit: 2 (1 lecture, 4 lab)**
Private instruction in bass guitar with goals related to jazz or commercial music.

## MUSP 1205 APPLIED COMMERCIAL MUSIC: COMMERCIAL GUITAR

**Credit: 2 (1 lecture, 4 lab)**
Private instruction in commercial guitar with goals related to jazz or commercial music.

## MUSP 1206 APPLIED COMMERCIAL MUSIC: DOBRO GUITAR

**Credit: 2 (1 lecture, 4 lab)**
Private instruction in Dobro guitar with goals related to jazz or commercial music.

## MUSP 1207 APPLIED COMMERCIAL MUSIC: ELECTRIC GUITAR

**Credit: 2 (1 lecture, 4 lab)**
Private instruction in electric guitar with goals related to jazz or commercial music.

## MUSP 1210 APPLIED COMMERCIAL MUSIC: PIANO

**Credit: 2 (1 lecture, 4 lab)**
Private instruction in piano with goals related to jazz or commercial music.

## MUSP 1211 APPLIED COMMERCIAL MUSIC: FIDDLE

**Credit: 2 (1 lecture, 4 lab)**
Private instruction in fiddle with goals related to jazz or commercial music.

## MUSP 1215 APPLIED COMMERCIAL MUSIC: MANDOLIN

**Credit: 2 (1 lecture, 4 lab)**
Private instruction in mandolin with goals related to jazz or commercial music.

## MUSP 1217 APPLIED COMMERCIAL MUSIC: PERCUSSION

**Credit: 2 (1 lecture, 4 lab)**
Private instruction in percussion with goals related to jazz or commercial music.

## MUSP 1221 APPLIED COMMERCIAL MUSIC: STEEL GUITAR

**Credit: 2 (1 lecture, 4 lab)**
Private instruction in steel guitar with goals related to jazz or commercial music.

## MUSP 1223 APPLIED COMMERCIAL MUSIC: SYNTHESIZER

**Credit: 2 (1 lecture, 4 lab)**
Private instruction in the synthesizer with goals related to jazz or commercial music.

## MUSP 1225 APPLIED COMMERCIAL MUSIC: TRUMPET

**Credit: 2 (1 lecture, 4 lab)**
Private instruction in the trumpet with goals related to jazz or commercial music.

## MUSP 1227 APPLIED COMMERCIAL MUSIC: VOICE

**Credit: 2 (1 lecture, 4 lab)**
Private instruction in voice with goals related to jazz or commercial music.

## MUSP 1240 LARGE COMMERCIAL MUSIC ENSEMBLE: BAND

**Credit: 2 (1 lecture, 2 lab)**
Participation in a large band concentrating on commercial music performance styles.

## MUSP 1241 LARGE COMMERCIAL MUSIC ENSEMBLE: SYMPHONY ORCHESTRA

**Credit: 2 (1 lecture, 2 lab)**
Participation in a large symphony orchestra concentrating on commercial music performance styles.

## MUSP 1242 SMALL COMMERCIAL MUSIC ENSEMBLE

**Credit: 2 (1 lecture, 2 lab)**
Participation in a small commercial music ensemble concentrating on commercial music performance styles.

## MUSP 1245 SMALL COMMERCIAL

**MUSIC ENSEMBLE: CHAMBER**
**Credit: 2 (1 lecture, 2 lab)**
Participation in a chamber ensemble concentrating on commercial music performance styles.

**MUSP 1250 SMALL COMMERCIAL MUSIC ENSEMBLE: JAZZ**
**Credit: 2 (1 lecture, 2 lab)**
Participation in a jazz ensemble concentrating on commercial music performance styles.

**MUSP 1255 SMALL COMMERCIAL MUSIC ENSEMBLE: STUDIO ORCHESTRA**
**Credit: 2 (1 lecture, 2 lab)**
Participation in a studio orchestra concentrating on commercial music performance styles.

**MUSP 1292 SPECIAL TOPICS IN MUSIC - PIANO AND ORGAN PERFORMANCE**
**Credit: 2 (1 lecture, 2 lab)**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

**MUSP 1293 SPECIAL TOPICS IN MUSIC - VOICE AND CHORAL/ OPERA PERFORMANCE**
**Credit: 2 (1 lecture, 2 lab)**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

**MUSP 1308 MUSIC THEATER I**
**Suggested Prerequisite: Approval of director**
**Credit: 3 (1 lecture, 8 lab)**
Presentation of literature from the musical theater including operetta, revues, and musical comedy with emphasis on vocal and movement skills.

**MUSP 1329 LIVE PERFORMANCE PRESENTATION**
**Credit: 3 (2 lecture, 2 lab)**
A study of the presentation of music to the public including development of image and stagecraft, production elements, and effective presentation programming.

**MUSP 2203 COMMERCIAL CLASS PIANO**
**Suggested Prerequisite: college-level piano skills**
**Credit: 2 (2 lecture, 1 lab)**
Development of keyboard skills for commercial music majors including blues progressions and scales, model harmony, and extensive use of the ii-V7-I progression with appropriate keyboard voicing.

**MUSP 2206 COMMERCIAL VOCAL ENSEMBLE: GENERAL**
**Credit: 2 (1 lecture, 2 lab)**
Participation in a vocal ensemble concentrating on commercial vocal music performance styles.

**MUSP 2207 COMMERCIAL VOCAL ENSEMBLE: JAZZ**
**Credit: 2 (1 lecture, 2 lab)**
Participation in a vocal ensemble concentrating on commercial vocal jazz performance styles.

**MUSP 2231 APPLIED COMMERCIAL MUSIC: ARRANGING AND COMPOSITION**
**Credit: 2 (1 lecture, 4 lab)**
Private instruction in arranging and composition with goals related to jazz or commercial music.

**MUSP 2304 PIANO  STUDIO I**
**Suggested Prerequisite: college-level piano performance**
**Credit: 3 (3 lecture, 1 lab)**
Presentation of keyboard, theoretical, and aural instructional strategies. Survey of beginning methods; series, solo, and technique books; basic techniques of improvisation, and professional affiliations.

**MUSP 2308 OPERA WORKSHOP I**
**Suggested Prerequisite: MUSP 1227**
**Credit: 3 (1 lecture, 8 lab)**
Skill development in staged performances of operatic literature for singers.

**MUSP 2338 MUSIC THEATER II**
**Suggested Prerequisite: MUSP 1308**
**Credit: 3 (1 lecture, 8 lab)**
Advanced presentation of literature from the musical theater including operetta, revues, and/or musical comedy with emphasis on high level vocal and movement skills and an advanced leadership role in a production.

**MUSP 2339 OPERA WORKSHOP II**
**Suggested Prerequisite: MUSC 2308**
**Credit: 3 (1 lecture, 8 lab)**
Advanced skill development in staged performances of operatic literature for singers including the leadership role.

**MUSP 2344 PIANO  STUDIO II**
**Suggested Prerequisite: MUSC 2304**
**Credit: 3 (3 lecture, 1 lab)**
A course in advanced keyboard, theoretical, and aural instructional strategies. Survey of intermediate to advanced methods; series, solo and technique books; techniques of improvisation; professional affiliations; and piano studio operations. Emphasis on style and performance.

**NMTT 1167  PRACTICUM I– NUCLEAR MEDICINE TECHNOLOGY**
**Prerequisite: Department Approval**
**Credit: 1 (7 lab)**
Practical general workplace training supported by an individualized learning plan developed by the employer, college and student.

**NMTT 1266 PRACTICUM II - NUCLEAR MEDICINE TECHNOLOGY**
**Prerequisite: NMTT 1167**
**Credit: 2 (14 lab)**
Practical general workplace training supported by an individualized learning plan developed by the employer, college and student.

**NMTT 1311 NUCLEAR MEDICINE PATIENT CARE**
**Credit: 3 (2 lecture, 3 lab)**
Includes medical terminology, an introduction to the health care team, and ethical and legal issues for health care professionals; and patient assessment, transport procedures, infection control procedures, emergency and safety procedures, communication and patient interaction skills, and phlebotomy and injection procedures.

**NMTT 1313 NUCLEAR MEDICINE PHYSICS**
**Credit: 3 (3 lecture)**
Provides a comprehensive study of the physical principles associated with nuclear medicine.

**NMTT 1401 INTRODUCTION TO NUCLEAR MEDICINE**
**Credit: 4 (3 lecture, 3 lab)**
Introduction to the field of nuclear medicine with emphasis on the principles of radiation safety, health physics, and the various studies performed in a nuclear medicine area.

**NMTT 1409 NUCLEAR MEDICINE INSTRUMENTATION**
**Prerequisite: NMTT 1313**
**Credit: 4 (3 lecture, 4 lab)**
Theory and application of electronic instrumentation used in the measurement and analysis of ionizing radiation with special emphasis on gamma spectrometry and quality assurance relevant to nuclear medicine instruments.

**NMTT 2167 PRACTICUM III - NUCLEAR MEDICINE TECHNOLOGY**
**Prerequisite: NMTT 1266**
**Credit: 1 (10 lab)**
Practical general workplace training supported by an individualized learning plan developed by the employer, college and student.

**NMTT 2266 PRACTICUM IV - NUCLEAR MEDICINE TECHNOLOGY**
**Prerequisite: NMTT 2167**
**Credit: 2 (14 lab)**
Practical general workplace training supported by an individualized learning plan developed by the employer, college and student.

**NMTT 2267 PRACTICUM V - NUCLEAR MEDICINE TECHNOLOGY**
**Prerequisite: NMTT 2266**
**Credit: 2 (14 lab)**
Practical general workplace training supported by an individualized learning plan developed by the employer, college and student.

**NMTT 2309 NUCLEAR MEDICINE METHODOLOGY II**
**Prerequisites: NMTT 1409, BIOL 2401, BIOL 2402**
**Credit: 3 (2 lecture, 3 lab)**
Basic principles involved in all diagnostic and therapeutic tests and procedures normally found in a nuclear medicine facility. Emphasizes anatomy, physiology, pathology, radiopharmaceuticals, instrumentation, and data analysis.  Includes the cardiovascular, genitourinary, respiratory systems and miscellaneous procedures.

## NMTT 2313 NUCLEAR MEDICINE METHODOLOGY III

**Prerequisites: NMTT 1409, BIOL 2401, BIOL 2402**

**Credit: 3 (2 lecture, 3 lab)**

Focus on the basic principles involved in all diagnostic and therapeutic tests and procedures normally found in a nuclear medicine facility with emphasis on anatomy, physiology, pathology, radiopharmaceuticals, instrumentation, data analysis, and diagnostic value. Includes the gastrointestinal, central nervous, skeletal systems and tumor and inflammation processes.

## NMTT 2333 ADVANCED POSITRON EMISSION TOMOGRAPHY (PET) AND FUSION TECHNOLOGY

**Credit: 3 (3 lecture)**

In-depth study into the field of positron emission tomography and fusion technology.

## NMTT 2335 NUCLEAR MEDICINE TECHNOLOGY SEMINAR

**Prerequisites: all NMTT courses**
**Corequisite: NMTT 2366**
**Credit: 3 (2 lecture, 2 lab)**

A capstone course focusing on the synthesis of professional knowledge, skills and attitudes in preparation for professional employment and lifelong learning.

## NMTT 2366 PRACTICUM VI - NUCLEAR MEDICINE TECHNOLOGY

**Prerequisite: NMTT 2267**
**Credit: 3 (21 lab)**

Practical general workplace training supported by an individualized learning plan developed by the employer, college and student.

## NMTT 2401 RADIOCHEMISTRY AND RADIOPHARMACY

**Prerequisites: CHEM 1405, NMTT 1409**
**Credit: 4 (3 lecture, 3 lab)**

Radiochemistry and radiopharmacy including radioactive decay and production of various radionuclides. Emphasis on radiopharmaceuticals and their ideal characteristics, biodistribution, and clinical applications. Includes the various dosage forms in which they may be dispensed, quality control tests, and their formation and dispensing.

## NMTT 2405 NUCLEAR MEDICINE METHODOLOGY I

**Prerequisites: CHEM 1405, NMTT 1313**
**Credit: 4 (3 lecture, 3 lab)**

Principles involved in all diagnostic and therapeutic tests and procedures normally found in a nuclear medicine facility. Emphasizes anatomy, physiology, pathology, radiopharmaceuticals, instrumentation, data analysis, and diagnostic value. Includes hematopoietic, lymphatic, and endocrine systems. Also covers radioimmuno and non-imaging studies.

## OTHA 1301 INTRODUCTION TO OCCUPATIONAL THERAPY

**Credit: 3 (2 lecture, 4 lab)**

Introduction to the historical development and philosophy of the profession of occupational therapy. Emphasis on the roles and functions of the occupational therapy assistant in current health care environments including moral, legal, and ethical issues.

## OTHA 1305 PRINCIPLES OF OCCUPATIONAL THERAPY

**Credit: 3 (2 lecture, 4 lab)**

Introduction to occupational therapy including the historical development and philosophy. Emphasis on the roles of the occupational therapy assistant. Topics include occupation in daily life; education and functions; occupational therapy personnel; current health care environment; and moral, legal and ethical issues.

## OTHA 1309 HUMAN STRUCTURE AND FUNCTION IN OCCUPATIONAL THERAPY

**Credit: 3 (2 lecture, 4 lab)**

Study of biomechanics of human motion. Emphasis on the musculoskeletal system including skeletal structure, muscles and nerves, and biomechanical assessment procedures.

## OTHA 1311 OCCUPATIONAL PERFORMANCE THROUGHOUT THE LIFESPAN

**Credit: 3 (3 lecture, 1 lab)**

General principles of occupational performance throughout the lifespan.

## OTHA 1315 THERAPEUTIC USE OF OCCUPATIONS OR ACTIVITIES I

**Credit: 3 (2 lecture, 4 lab)**

Various occupations or activities used as therapeutic interventions in occupational therapy. Emphasis on awareness of activity demands, contexts, adapting, grading, and safe implementation of occupations or activities.

## OTHA 1319 THERAPEUTIC INTERVENTIONS I

**Credit: 3 (2 lecture, 4 lab)**

Concepts, techniques, and assessments leading to proficiency in skills and activities used as treatment interventions in occupational therapy (OT). Emphasizes the Occupational Therapy Assistant's role in the OT process.

## OTHA 2160 CLINICAL - OCCUPATIONAL THERAPIST ASSISTANT (INTERMEDIATE)

**Prerequisite: All first semester OTHA courses**
**Credit: 1 (3 lab)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## OTHA 2161 CLINICAL-OCCUPATIONAL THERAPIST ASSISTANT (INTERMEDIATE)

**Prerequisite: All first semester OTHA courses**
**Credit: 1 (3 lab)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## OTHA 2301 PATHOPHYSIOLOGY IN OCCUPATIONAL THERAPY

**Prerequisites: OTHA 1301, OTHA 1305, OTHA 1309**

**Credit: 3 (3 lecture, 1 lab)**

Pathology and general health management of diseases and injuries across the lifespan encountered in occupational therapy treatment settings. Includes etiology, symptoms, and the client's physical and psychological reactions to disease and injury.

## OTHA 2302 THERAPEUTIC USE OF OCCUPATIONS OR ACTIVITIES II

**Prerequisite: All first semester OTHA courses**

**Credit: 3 (2 lecture, 4 lab)**

Continuation of OTHA 1315/1415: Therapeutic Use of Occupations or Activities I. Emphasis on advanced techniques and applications used in traditional and non-traditional practice settings.

## OTHA 2305 THERAPEUTIC INTERVENTIONS II

**Prerequisite: All first semester OTHA courses**

**Credit: 3 (2 lecture, 4 lab)**

Continuation of Therapeutic Interventions I. Emphasis on current rehabilitative interventions.

## OTHA 2309 MENTAL HEALTH IN OCCUPATIONAL THERAPY

**Prerequisites: OTHA 1301, OTHA 1311**
**Credit: 3 (2 lecture, 4 lab)**

Promotion of mental health through occupational therapy. Emphasis on theory and intervention strategies to enhance occupational performance.

## OTHA 2311 ABNORMAL PSYCHOLOGY IN OCCUPATIONAL THERAPY

**Prerequisites: OTHA 1301, OTHA 1311**
**Credit: 3 (3 lecture, 1 lab)**

Fundamental principles and techniques of psychological diagnosis with emphasis on mental health issues including theories, etiology, and treatment intervention.

## OTHA 2330 WORKPLACE SKILLS FOR THE OCCUPATIONAL THERAPY ASSISTANT

**Prerequisite: All OTHA courses - simultaneous with Clinical II courses**
**Credit: 3 (3 lecture)**

Seminar-based course designed to complement Level II fieldwork by creating a discussion forum addressing events, skills, knowledge, and/or behaviors related to the practice environment. Application of didactic coursework to the clinic and test-taking strategies for certification exams.

## OTHA 2331 PHYSICAL FUNCTION IN OCCUPATIONAL THERAPY

**Prerequisites: OTHA 1301, 1305 and 1309**
**Credit: 3 (2 lecture, 4 lab)**

Physical function to promote occupational performance. Includes frames of reference, assessment/evaluation tools and techniques, patient/client education, and intervention strategies.

### OTHA 2360 CLINICAL - ADVANCED
**Prerequisites: All OTHA first and second semester courses**
**Credit: 3 (18 lab)**
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

### OTHA 2361 CLINICAL - ADVANCED
**Prerequisite: All OTHA first and second semester courses**
**Credit: 3 (18 lab)**
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

### PBAD 1321 PUBLIC ADMINISTRATION
**Credit: 3 (3 lecture)**
An introduction to the organization and management of the public sector. Topics include intergovernmental relations, overview of different levels of government program management, and management of non-profit agencies.

### PBAD 1341 GOVERNMENTAL AGENCIES
**Credit: 3 (3 lecture)**
An overview of governmental agencies and their interrelationships; goals and objectives; and organizational structure of each agency. Topics include grants-in-aid, revenue and expenditure patterns, and global influence on governmental agencies.

### PBAD 1392 SPECIAL TOPICS IN PUBLIC ADMINISTRATION
**Prerequisite: Department Approval**
**Credit: 3 (3 lecture)**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

### PBAD 2301 PUBLIC RELATIONS FOR THE PUBLIC SECTOR
**Credit: 3 (3 lecture)**
Skill development in dealing with the public and the media for public sector employees, managers, and public relations specialists. Topics include maintaining positive public image, relating organizational policies to the public interest, and conducting public information programs.

### PBAD 2305 PUBLIC SECTOR MANAGEMENT
**Credit: 3 (3 lecture)**
General principles of public management and strategies of dealing with internal and external systems. Topics include planning, decision-making and leadership models, organizational behavior, and resource management.

### PBAD 2311 PUBLIC SECTOR SUPERVISION
**Credit: 3 (3 lecture)**
Skill development in supervisory techniques in public management. Topics include organizational structure, motivation, planning, control, delegation, and leadership. Instructional techniques may include case studies, role playing, and teamwork.

### PBAD 2331 BUDGETING IN THE PUBLIC SECTOR
**Prerequisite: Department Approval**
**Credit: 3 (3 lecture)**
Examination of revenue-producing activities and sources of funds; construction and implementation of budgets; and basic terminology, concepts, and mechanics as they relate to fiscal factors. Topics include budget cycle, taxation, bonds, indebtedness, and fund accounting

### PBAD 2335 ETHICS IN THE PUBLIC SECTOR
**Prerequisite: Department Approval**
**Credit: 3 (3 lecture)**
Examination of reconciling the practice of public administration with provisions of law. Topics include codes of conduct, financial disclosure, conflict of interest, nepotism, and ethical dilemmas.

### PBAD 2339 HUMAN RESOURCE MANAGEMENT IN THE PUBLIC SECTOR
**Prerequisite:**
**Credit: 3 (3 lecture)**
Examination of human resource management in the public sector with an emphasis on civil service, merit systems, and labor law. Topics include recruiting, selecting, training, compensating, and appraising employees.

### PBAD 2341 LEGAL ASPECTS OF PUBLIC MANAGEMENT
**Prerequisite: Department Approval**
**Credit: 3 (3 lecture)**
A study of the organizational structure of the judicial systems, conducting legal research, and interpreting legal decisions. Topics include administrative law, contract law, civil procedures, and the regulatory process.

### PBAD 2347 URBAN PLANNING
**Prerequisite: Department Approval**
**Credit: 3 (3 lecture)**
Examination of urban and regional planning. Topics include environmental analysis, growth and redevelopment strategies, planning, zoning, and subdividing.

### PBAD 2364 PRACTICUM (OR FIELD EXPERIENCE) - PUBLIC ADMINISTRATION
**Prerequisite: Department Approval**
**Credit: 3 (3 lecture)**
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

### PBAD 2365 PRACTICUM (OR FIELD EXPERIENCE) - PUBLIC ADMINISTRATION
**Prerequisite: Department Approval**
**Credit: 3 (3 lecture)**
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

### PBAD 2380 COOPERATIVE EDUCATION - PUBLIC ADMINISTRATION
**Prerequisite: Department Approval**
**Credit: 3 (1 lecture, 20 lab)**
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

### PBAD 2381 COOPERATIVE EDUCATION - PUBLIC ADMINISTRATION
**Prerequisite: PBAD 2380**
**Credit: 3 (1 lecture, 20 lab)**
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

### PFPB 1313 INTRODUCTION TO THE PLUMBING TRADE
**Credit: 3 (2 lecture, 2 lab)**
Material selection, mathematical calculations applicable to the plumbing trade, hand and power tools, and safety practices.

### PFPB 1321 PLUMBING MAINTENANCE AND REPAIR
**Prerequisite/Corequisite: CNBT 1201**
**Credit: 3 (2 lecture, 3 lab)**
Instruction in the practices and procedures employed by a plumber in the usual and unusual service work in the field of residential plumbing repairs including public relations.

### PHED 1100 JOGGING
**Credit: 1 (1 lecture, 2 activity)**
The student will learn proper and safe walking/jogging/running techniques to begin a cardiovascular training program and will learn the basic physiological principles for distance walking/jogging/running. (formerly PHED 1153)

### PHED 1101 JEET KUNE DO
**Credit: 1 (1 lecture, 2 activity)**
Study Bruce Lee's art of Jun Fan along with the highly effective martial arts of Thailand, China, Japan and the Philippines. The student will learn basic self-defense and martial art skills needed to make good decisions regarding dangerous self-defense situations. (formerly PHED 1154)

### PHED 1102 TAI KWAN DO-MARTIAL ARTS
**Credit: 1 (1 lecture, 2 activity)**
A traditional martial arts class which focuses on mental as well as physical development. The student will learn self-control and defensive techniques. (formerly PHED 1155)

### PHED 1103 GOLF
**Credit: 1 (1 lecture, 2 activity)**
The student will learn the basic fundamental skills of golf and become familiar with the basic rules, tournament play and terminology involved with beginning golf. Off-campus site. (formerly PHED 1156)

### PHED 1104 TENNIS
**Credit: 1 (1 lecture, 2 activity)**
The student will learn the basic fundamental skills of tennis (e.g. forehand and backhand strokes, serve, return of serve and volley) and become familiar with the basic strategies, rules, tournament play and terminology involved with singles and doubles in beginning tennis. (formerly PHED 1157)

### PHED 1105 TAI CHI
**Credit: 1 (1 lecture, 2 activity)**
Emphasis is placed on mastering several styles of Tai Chi. Student will perform such skills as stances, kicks, punches and arm movement. The student will develop greater flexibility, endurance, balance and coordination. (formerly PHED 1159)

### PHED 1106 COUNTRY AND WESTERN DANCE
**Credit: 1 (1 lecture, 2 activity)**
The class will consist of Two Step, Polka, Waltz, East Coast Swing, etc. The student will also gain knowledge in dance floor etiquette, history, rules and specific techniques. (formerly PHED 1160)

### PHED 1111 AEROBICS CONDITIONING
**Credit: 1 (1 lecture, 2 activity)**
Aerobics for beginners. Introduction and practice in fundamental techniques of aerobics. Achievement and maintenance of physical fitness through aerobic exercise. Types of exercise will vary from semester to semester.

### PHED 1113 PHYSICAL FITNESS TRAINING
**Prerequisite: basic swimming skills**
**Credit: 1 (1 lecture, 2 activity)**
Varied class activities designed to increase strength, endurance and flexibility.

### PHED 1114 WATER EXERCISE
**Prerequisite: basic swimming skills**
**Credit: 1 (1 lecture, 2 activity)**
Students are introduced to a variety of water exercises including hydrotone, aerobics, and deep water.

### PHED 1115 AEROBICS II
**Credit: 1 (1 lecture, 2 activity)**
Maintenance of physical fitness through aerobic exercises. Continuation of Aerobics I.

### PHED 1118 YOGA
**Credit: 1 (1 lecture, 2 activity)**
This class will acquaint the student with history, development, branches and practices of yoga with emphasis on physical practice of individual postures, sets of postures, breathing techniques, meditation and relaxation techniques.

### PHED 1131 BASKETBALL
**Credit: 1 (1 lecture, 2 activity)**
Instruction in the rules and techniques of basketball. Students will learn game specific techniques (dribbling, shooting, defense, offense) and become familiar with the basic strategies, rules, tournament play and terminology.

### PHED 1132 VOLLEYBALL
**Credit: 1 (1 lecture, 2 activity)**
Instruction in the rules and techniques of volleyball. Students will learn game specific mntechniques (spiking, blocking, digging) and become familiar with the basic strategies, rules, tournament play and terminology.

### PHED 1133 SOCCER
**Credit: 1 (1 lecture, 2 activity)**
Instruction in the rules and techniques of soccer. Students will learn game specific techniques (dribbling, shooting, defense, offense) and become familiar with the basic strategies, rules, tournament play and terminology. Off campus site

### PHED 1141 TEAM SPORTS
**Credit: 1 (1 lecture, 2 activity)**
Instruction in the rules and techniques of team sports. Specific sports will vary from semester to semester.

### PHED 1143 INDIVIDUAL SPORTS
**Credit: 1 (1 lecture, 2 activity)**
Instruction in the rules and techniques of individual sports. Specific sports will vary from semester to semester.

### PHED 1145 ADVANCED
**Individual Sports**
**Credit: 1 (1 lecture, 2 activity)**
Continuation of advanced terminology, rules, etc. of an individual sport.

### PHED 1146 BEGINNING BOWLING
**Credit: 1 (1 lecture, 2 activity)**
This course includes everything the beginning bowler needs to know about the game of bowling: rules, regulations, and techniques. In addition to the basics of bowling, this course attempts to give each student a better understanding of the elements involved in the game and enhance his or her enjoyment and performance of the number one indoor participant lifetime sport in the United States. Off-campus site.

### PHED 1147 SOFTBALL
**Credit: 1 (1 lecture, 2 activity)**
Instruction in the rules and techniques of softball. Students will learn game specific techniques (batting, bunting, running bases, fielding, etc.) and become familiar with the basic strategies, rules, tournament play and terminology.

### PHED 1150 BEGINNING SWIMMING
**Credit: 1 (1 lecture, 2 activity)**
Basic water safety, breath control, arm/leg movements, treading water, beginning surface strokes. Non-swimmers only.

### PHED 1253 LIFEGUARD TRAINING
**Prerequisite: must pass skills test to remain in class**
**Credit: 2 (1 lecture, 2 activity)**
Provides the necessary training for qualification s a non-surf lifeguard. Includes training in community CPR and first aid. Strong swimming skills are required. Red Cross certification. (formerly PHED 2253)

### PHED 1304 PERSONAL AND COMMUNITY HEALTH
**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (3 lecture)**
This cross-cultural health course offers an opportunity to explore personal health issues on a cultural basis. The focus of this course will address major health issues that impact the health of all individuals and cultures. This course fulfills the cross/multicultural core requirement.

### PHED 1306 FIRST AID
**Credit: 3 (3 lecture)**
Completion of course leads toward First Aid and Community CPR Certification. This course teaches the standard First Aid and CPR skills a person needs to act as the first link in the emergency medical services system.

### PHED 2100 JOGGING II
**Credit: 1 (1 lecture, 2 activity)**
Continuation of Jogging I.

### PHED 2101 MARATHON
**Prerequisite: jogging experience**
**Credit: 1 (1 lecture, 2 activity)**
Successful completion of this course will lead to the ability to complete a full 26.2 mile marathon. In addition to learning the proper and safe techniques of marathon training, the student will develop the ability to complete the GAAC 30k (18.6 miles) at the end of the semester. (formerly PHED 2153)

### PHED 2102 MARTIAL ARTS II
**Prerequisite: basic martial arts skills**
**Credit: 1 (1 lecture, 2 activity)**
The student will become familiar with advanced self-defense and martial arts skills. (formerly PHED 2154)

### PHED 2103 GOLF II
**Credit: 1 (1 lecture, 2 activity)**
The student will learn advanced golf skills and become familiar with the rules, tournament play and terminology involved in advanced golf. (formerly PHED 2156)

### PHED 2104 TENNIS II
**Prerequisite: basic tennis skills**
**Credit: 1 (lecture, 2 activity)**
The course will teach forehand, backhand, serve, volley and lob for advanced players. In addition the more specific tennis strokes, dropshot, spin and slice serves, topspin and slice ground strokes will be taught. The student will become familiar with the specific rules, match and tournament regulations. (formerly PHED 2151)

### PHED 2111 BEGINNING WEIGHT TRAINING AND CONDITIONING
**Credit: 1 (1 lecture, 2 activity)**
Basic fundamental skills and techniques of a strength and conditioning program. Emphasis is placed on correct procedures and use of equipment.

## PHED 2113 INDIVIDUALIZED FITNESS TRAINING

**Credit: 1 (1 lecture, 2 activity)**
Provides opportunity to accomplish fitness objectives at own pace. Some knowledge of concepts of fitness and weight training recommended.

## PHED 2115 WEIGHT TRAINING AND CONDITIONING II

**Prerequisite: weight training experience**
**Credit: 1 (1 lecture, 2 activity)**
Emphasis is placed on acquiring advanced training techniques for improving muscular strength, including competitive lifting skills.

## PHED 2118 YOGA II

**Credit: 1 (1 lecture, 2 activity)**
Continuation of Yoga I.

## PHED 2146 BOWLING II

**Credit: 1 (1 lecture, 2 activity)**
This course includes everything the advanced and competitive bowler needs to know about the game of bowling: rules, regulations, and techniques. In addition to the basics of bowling, this course attempts to give each student a better understanding of the elements involved in competitive bowling.

## PHED 2150 INTERMEDIATE SWIMMING

**Credit: 1 (lecture, 2 activity)**
Continued acquisition of new strokes. Emphasis is placed on increasing stamina and strength. Beginning skills needed. Basic Water Safety Certification available.

## PHED 2255 WATER SAFETY INSTRUCTOR

**Prerequisite: knowledge of Red Cross Community Water Safety course. Must pass written and skills pretest to remain in class. Red Cross Certification**
**Credit: 2 (1 lecture, 2 activity)**
Provides training needed to become certified Red Cross swim instructor. Includes instructor candidate training course.

## PHIL 1301 INTRODUCTION TO PHILOSOPHY

**Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite)**
**Credit: 3 (3 lecture)**
This course is a theoretically diverse introduction to the study of ideas, including arguments and investigations about abstract and real phenomena, particularly in the areas of knowledge, ethics, and religion. Core Curriculum Course

## PHIL 1303 PRINCIPLES OF REASONING

**Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**
**Credit: 3 (3 lecture)**
A general course in logic, emphasizing the methods of correct reasoning and critical thinking, definition, deductive and inductive inferences, fallacies, language analysis, scientific inquiry, and organizing both written and oral arguments.

## PHIL 1304 INTRODUCTION TO WORLD RELIGIONS

**Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).Credit: 3 (3 lecture)**
This course is a diverse survey of world traditions and religions, including African traditions, Native American traditions, Hinduism, Buddhism, Islam, Tao and Chinese Philosophy, Christianity and Judaism. Core Curriculum Course

## PHIL 2289 ACADEMIC COOPERATIVE IN PHILOSOPHY

**Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**
**Credit: 2 (2 lecture)**
An instructional program designed to integrate on-campus study with practical hands-on work experience. In conjunction with class seminars, the student will set specific goals and objectives in the study of philosophy.

## PHIL 2303 INTRODUCTION TO SYMBOLIC LOGIC

**Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**
**Credit: 3 (3 lecture)**
An introduction to symbolic logic, focusing on both propositional and predicate logic, emphasizing the rules of translating language into symbols, the rules of inference and replacement, and the mechanism of reasoning used by computers. Core Curriculum Course.

## PHIL 2306 INTRODUCTION TO ETHICS

**Prerequisites: ENGL 1302 or Department Approval**
**Credit: 3 (3 lecture)**
A philosophical reflection of the basic principles of the moral life, including traditional and contemporary views concerning the nature of goodness, happiness, duty, and freedom as they apply to individual right, business, medicine, and community well-being. Core Curriculm Course.

## PHIL 2307 INTRODUCTION TO SOCIAL AND POLITICAL PHILOSOPHY

**Prerequisites: ENGL 1301 or Department Approval**
**Credit: 3 (3 lecture)**
This course is a critical analysis of political theories and social issues. Consideration will be given to historically significant and contemporary systems, problems, and thinkers. Core Curriculum Course

## PHIL 2316 SURVEY OF ANCIENT AND MEDIEVAL PHILOSOPHY

**Prerequisites: ENGL 1302 or Department Approval**
**Credit: 3 (3 lecture)**
An historic survey of critical and reflective thinking as applied to the basic problems of existence and the meaning of human life and institutions; begins with the Greek and Roman philosophers, continues through the Middle Ages, and ends with the Renaissance; a study of the nature of philosophy as applied to the development of the scientific method, the existence of God, and the political structures of society. Core Curriculum Course

## PHIL 2317 SURVEY OF MODERN/CONTEMPORARY PHILOSOPHY

**Prerequisites: ENGL 1302 or Department Approval**
**Credit: 3 (3 lecture)**
An historic survey of critical and reflective thinking as applied to the basic problems of existence and the meaning of human life and institutions; begins with the Renaissance, continues with the major philosophers of the 16th, 17th, 18th and 19th centuries, and ends with an examination of the analytic and existential philosophers of the 20th century; a study of the nature of philosophy as applied to the development of the scientific method, the existence of god, and the political structures of society. Core Curriculum Course

## PHIL 2321 EXISTENCE AND FAITH

**Prerequisites: ENGL 1301 or Department Approval**
**Credit: 3 (3 lecture)**
A critical investigation of major religious ideas, experiences, and questions that form the basis for a philosopny of religion. Core Curriculum Course.

## PHIL 2389 ACADEMIC COOPERATIVE IN PHILOSOPHY

**Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**
**Credit: 3 (3 lecture)**
An instructional program designed to integrate on-campus study with practical hands-on work experience. In conjunction with class seminars, the student will set specific goals and objectives in the study of philosophy.

## PHRA 1309 PHARMACEUTICAL MATHEMATICS I

**Prerequisite: Admission to the Pharmacy Technician Program**
**Credit: 3 (3 lecture)**
Pharmaceutical mathematics including reading,

interpreting and solving calculation problems encountered in the preparation and distribution of drugs. Conversion of measurements within the apothecary, avoirdupois, and metric systems with emphasis on the metric system of weight and volume. Topics include ratio and proportion, percentage, dilution and concentration, milliequivalent, units, intravenous flow rates, and solving dosage problems.

### PHRA 1313 COMMUNITY PHARMACY PRACTICE
**Prerequisite: Admission into the Pharmacy Technician Program**
**Credit: 3 (2 lecture, 2 lab)**
Introduction to the skills necessary to process, prepare, label, and maintain records of physicians' medication orders and prescriptions in a community pharmacy. Designed to train individuals in supply, inventory, and data entry. Includes customer service, count and pour techniques, prescription calculations, drug selection and preparation, over-the-counter drugs, record keeping, stock level adjustment, data input, editing, and legal parameters.

### PHRA 1345 INTRAVENOUS ADMIXTURE AND STERILE COMPOUNDING
**Prerequisite: Admission into the Pharmacy Technician Program**
**Credit: 3 (2 lecture, 4 lab)**
A study of sterile products, hand washing techniques, pharmaceutical calculations, references, safety techniques, aseptic techniques in parenteral compounding, proper use of equipment, preparation of sterile products, and safe handling of antineoplastic drugs.

### PHRA 1449 INSTITUTIONAL PHARMACY PRACTICE
**Prerequisite: Admission into the Pharmacy Technician Program**
**Credit: 4 (3 lecture, 3 lab)**
Exploration of the unique role and practice of pharmacy technicians in an institutional pharmacy with emphasis on daily pharmacy operation. Topics include hospital pharmacy organization, work flow and personnel, medical and pharmaceutical terminology, safety techniques, data entry, packaging and labeling operations, extemporaneous compounding, inpatient drug distribution systems, unit dose chart fills, quality assurance, drug storage, and inventory control.

### PHRA 1541 PHARMACY DRUG THERAPY AND TREATMENT
**Prerequisite: Admission into the Pharmacy Technician Program**
**Credit: 5 (5 lecture)**
Study of therapeutic agents, their classifications, properties, actions, and effects on the human body and their role in the management of disease. Provides detailed information regarding drug dosages, side effects, interactions, toxicities, and incompatibilities.

### PHRA 2662 CLINICAL - PHARMACY TECHNICIAN/ASSISTANT
**Prerequisite: all PHRA courses**
**Credit: 6 (25 lab)**
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

### PHTC 1311 FUNDAMENTALS OF PHOTOGRAPHY
**Credit: 3 (2 lecture, 4 lab)**
An introduction to camera operation and image production, composition, supplemental lighting, and use of exposure meters and filters.

### PHTC 1353 PORTRAITURE I
**Credit: 3 (2 lecture, 4 lab)**
Photographic principles applied to portrait lighting, posing, and subject rapport.

### PHYS 1305 PHYSICS FOR HEALTH SCIENCES
**Prerequisites: Must be placed into GUST 0341 (or higher) in reading and be placed into MATH 0312 (or take MATH 0308 as a co-requisite).Credit: 3 (2 lecture, 2 lab)**
Topics include physical mechanics applied to the skeletal frame, gravity and blood circulation, friction at body joints, hydrostatic change of blood pressure, heat transfer in humans, thermodynamics of biological systems, principles of electromagnetic radiation with respect to the inner body, and electrical hazards in patient care areas. Core Curriculum Course.

### PHYS 1306 CURRENT TOPICS IN PHYSICS
**Prerequisites: Must be placed into GUST 0341 (or higher) in reading and be placed into MATH 0312 (or take MATH 0308 as a co-requisite).**
**Credit: 3 (3 lecture)**
Non-science majors are introduced to solar power, nuclear fusion, atomic fission power plants, superconductivity, liquid helium relativity, elementary particles and symmetry, electromagnetic radiation, stages of matter, the basic forces in nature, and the dual nature of light. Core Curriculum Course.

### PHYS 1401 COLLEGE PHYSICS I
**Prerequisites: MATH 1314, 1316; Must also be placed into GUST 0341 (or higher) in reading.**
**Credit: 4 (3 lecture, 3 lab)**
Non-calculus based course for medical related majors, architecture majors, technology majors, and other non-engineering and non-science majors. Topics include motion and forces, work and energy, momentum and collision, and the thermal properties of matter. Laboratory exercises include selected related experiments on these topics. Core Curriculum Course.

### PHYS 1402 COLLEGE PHYSICS II
**Prerequisite: PHYS 1401; Must also be placed into GUST 0341 (or higher) in reading.**
**Credit: 4 (3 lecture, 3 lab)**
Continuation of non-Calculus based physics for medical related majors, architecture majors, technology majors and other non-engineering and non-science majors. Topics include wave motion, electricity, magnetism, electromagnetic waves, optics, and topics in modern physics. Laboratory exercises include selected related experiments on these topics. Core Curriculum Course.

### PHYS 2125 PHYSICS LABORATOR
**Prerequisite: Must placed into Math 2414 (or higher).Must also be placed into GUST 0341 (or higher) in reading.**
**Credit: 1 (3 lab)**
Selected laboratory experiments related to topics in PHYS 2325 (University Physics I) for science and engineering majors. Core Curriculum Course.

### PHYS 2126 PHYSICS LABORATORY II
**Prerequisite/Corequisite: PHYS 2326; Must be placed into GUST 0341 (or higher) in reading and be placed into MATH 2414 (or higher).Credit: 1 (3 lab)**
Selected laboratory experiments related to topics in PHYS 2326 (University Physics II) for science and engineering majors. Core Curriculum Course.

### PHYS 2325 UNIVERSITY PHYSICS I
**Prerequisites: Must placed into Math 2414 (or higher).  Must also be placed into GUST 0341 (or higher) in reading.**
**Credit: 3 (3 lecture, 1 lab)**
A calculus-based physics course designed specifically for chemistry, physics, and engineering majors. Topics include principles of mechanics, sound, wave phenomena, kinetic theory, fluid flow, and thermal physics. Core Curriculum Course. (formerly PHYS 2425)

### PHYS 2326 UNIVERSITY PHYSICS II
**Prerequisites: PHYS 2425 or 2325 ; Must also be placed into GUST 0341 (or higher) in reading and be placed into MATH 2414 (or higher).**
**Credit: 3 (3 lecture, 1 lab)**
Continuation of calculus based physics. Course designed specifically for chemistry, physics, and engineering majors. Includes principles of electricity and magnetism, optics, electromagnetic waves, relativity, kinetic theory, introduction to quantum theory, thermal physics, and other physics topics. Core Curriculum Course. (formerly PHYS 2426)

### PLAB 1223 PHLEBOTOMY
**Credit: 2 (1 lecture, 4 lab)**
Skill development in the performance of a variety of blood collection methods using proper techniques and universal precautions. Includes vacuum collection devices, syringes, capillary skin puncture, butterfly needles and blood culture, and specimen collection on adults, children, and infants. Emphasis on infection prevention, proper patient identification, labeling of specimens and quality assurance, specimen handling, processing, and accessioning. Topics include professionalism, ethics, and medical terminology.

## PLTC 1301 INTRODUCTION TO PLASTICS
**Credit: 3 (2 lecture, 3lab)**
A survey course designed to introduce the student to the field of plastics. An overview of thermoplastic and thermoset materials and the major processing methods utilized by industry.

## PLTC 1303 PLASTICS COMPOSITES
**Credit: 3 (2 lecture, 3 lab)**
An introductory course in techniques of combining various types of reinforcing elements with a polymer resin to yield specific characteristics and properties not attainable by either constituent acting alone

## PLTC 1306 PLASTIC QUALITY CONTROL
**Credit: 3 (2 lecture, 3 lab)**
A course in reading and interpreting blueprints for inspection purposes of plastic parts. Emphasis on geometric dimensioning, tolerancing, and hands on setup using modern inspection tools and gages.

## PLTC 1343 MOLDDESIGN AND MAINTENANCE
**Prerequisite: INMT 1248 and INMT 1249**
**Credit: 3 (2 lecture, 3 lab)**
An introductory course in the basic design parameters of plastic injection molds including mold flow, nominal walls projection, depressions, ejector systems, runners, gates, parting lines, and general mold configurations. Emphasis on maintenance techniques on in house molds.

## PLTC 1445 PLASTIC PROCESSES I
**Credit: 3 (3 lecture, 4 lab)**
**Prerequisite: INMT 1248 and INMT 1249**
Identification and examination of thermoplastic processes. Emphasis on safety, selection, and preparation of raw materials, machine functions, mold set up, and the use of auxiliary equipment associated with injection molding.

## POFI 1301 COMPUTER APPLICATIONS I
**Credit: 3 (2 lecture, 3 lab)**
Overview of computer office applications including current terminology and technology. Introduction to computer hardware, software applications, and procedures.

## POFI 1341 COMPUTER APPLICATIONS II
**Prerequisites: POFI 1301 and POFT 1329**
**Credit: 3 (2 lecture, 3 lab)**
Continued study of current computer terminology and technology. Advanced skill development in computer hardware, software applications, and procedures. The student will demonstrate proficiency in commonly used software applications and identify and explain the concepts involved in producing documents using advanced features of software applications. Emphasis is on developing end-user proficiency skills for office environments.

## POFI 1349 SPREADSHEETS
**Prerequisites: POFT 1329 and POFI 1301**
**Credit: 3 (2 lecture, 3 lab)**
Skill development in the use of a spreadsheet software package. Topics include worksheet creation and manipulation functions, templates, macro programming database functions, data-table features, and graphics. The student will identify spreadsheet terminology and concepts, perform shortcut functions, modify worksheets, and insert graphics in worksheets. Study of computer applications from business productivity software suites. Emphasis is on developing end-user proficiency skills for office environments.

## POFI 1380 COOPERATIVE EDUCATION–INFORMATION PROCESSING/DATA ENTRY TECHNICIAN
**Prerequisite: 12 semester hours of business technology courses and program approval**
**Credit: 3 (1 lecture, 20 lab)**
Career related activities encountered in the student's area of specialization are offered through a cooperative agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines classroom learning with work experience. Directly related to a technical discipline, specific learning objectives guide the student through the paid work experience. This course may be repeated if topics and learning outcomes vary.

## POFI 2331 DESKTOP PUBLISHING FOR THE OFFICE
**Prerequisite: POFI 1341, POFI 1349**
**Credit: 3 (2 lecture, 3 lab)**
In-depth coverage of desktop publishing terminology, text editing, and use of POFT 1329 design principles to create publishing material using word processing desktop publishing features. Emphasis on layout techniques, graphics, and multiple page displays with the advanced MOUS (Microsoft Office User Specialist) certification review.

## POFI 2380 COOPERATIVE EDUCATION - INFORMATION PROCESSING/DATA ENTRY TECHNICIAN
**Prerequisite: POFI 1380**
**Credit 3 (1 lecture, 20 lab)**
Career related activities encountered in the student's area of specialization are offered through a cooperative agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines classroom learning with work experience. Directly related to a technical discipline, specific learning objectives guide the student through the paid work experience. This course may be repeated if topics and learning outcomes vary.

## POFL 1305 LEGAL TERMINOLOGY
**Credit: 3 (3 lecture)**
An introduction to legal terminology including spelling, pronunciation, and definition of legal terms and an overview of the law and the professions.

## POFL 1359 LEGAL TRANSCRIPTION
**Prerequisite: POFL 1305**
**Credit: 3 (2 lecture, 3 lab)**
Skill development in comprehensive vocabulary, listening, organizing, and transcribing client-quality documents used in a legal office.

## POFL 2305 LEGAL RESEARCH
**Prerequisite: POFL 1305**
**Credit: 3 (2 lecture, 3 lab)**
Exploration of legal issues utilizing current and emerging research techniques.

## POFM 1300 MEDICAL CODING BASICS
**Prerequisite: MDCA 1313**
**Credit: 3 (2 lecture, 3 lab)**
Presentation and application of basic coding rules, principles, guidelines, and conventions utilizing various coding systems.

## POFM 2333 MEDICAL DOCUMENT PRODUCTION (CODING II)
**Prerequisite: POFM 1353**
**Credit: 3 (2 lecture, 3 lab)**
Study of advanced concepts of medical office activities, practices, and procedures. Topics include advanced medical reports, transcription, coding, billing, insurance activities, and records management. This course is designed to provide practical applications of the linkage of the CPT-4 coding system. Medical references will be used for research and verification. MEDISOFT software applicable.

## POFT 1301 BUSINESS ENGLISH
**Credit: 3 (3 lecture)**
Introduction to a practical application of basic language usage skills with emphasis on fundamentals of writing and editing for business.

## POFT 1307 PROOFREADING AND EDITING
**Prerequisite: ETWR 2301**
**Credit: 3 (2 lecture, 34 lab)**
Instruction in proofreading and editing skills necessary to assure accuracy in written documents and business correspondence. Drill in copy editing for more complex scientific/technical materials. Includes units on newsletter preparation and publication, and on editing book-length manuscripts.

## POFT 1319 RECORDS AND INFORMATION MANAGEMENT I
**Credit: 3 (3 lecture)**
Introduction to basic records and information management. Includes the life cycle of a record, manual and electronic records management, and basic filing procedures and rules. The student will identify the stages in the life cycle of a record; file and retrieve records using alphabetic, numeric, geographic, and subject filing systems, input, index, code, and cross-reference records; use tickler file, requisition, and charge-out procedures; and differentiate between manual and electronic filing.

**POFT 1325 BUSINESS MATH AND MACHINE APPLICATIONS**
**Credit: 3 (3 lecture)**
Skill development in the use of electronic calculators and business mathematical functions. Emphasis on business problem-solving skills using spreadsheet software and/or electronic calculator/keyboard.

**POFT 1329 KEYBOARDING AND DOCUMENT FORMATTING**
Credit: 3 (2 lecture, 3 lab)

Skill development in the operation of the keyboard by touch, applying proper keyboarding techniques. Emphasis on development of acceptable speed and accuracy levels and formatting basic documents.

**POFT 1345 SHORTHAND/ NOTETAKING**
**Credit: 3 (2 lecture, 3 lab)**
An introduction to shorthand/notetaking principles. Mastery of accurate reading and writing of notes to produce mailable documents from dictation.

**POFT 1380 COOPERATIVE EDUCATION I– ADMINISTRATIVE ASSISTANT AND SECRETARIAL SERVICES, GENERAL**
**Prerequisite: Completion of 12 semester hours and Department Approval**
**Credit: 3 (1 lecture/seminar and 20 hours a week employment)**
Career related activities encountered in the student's area of specialization are offered through a cooperative agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines classroom learning with work experience. Directly related to a technical discipline, specific learning objectives guide the student through the paid work experience. This course may be repeated if topics and learning outcomes vary.

**POFT 1392 SPECIAL TOPICS IN ADMINISTRATIVE ASSISTANT - INTRODUCTION TO OFFICE TECHNOLOGY**
**Credit: 3 (3 lecture)**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. An introduction to present and future resources used to facilitate handling of office information. Study of equipment, applications, procedures, terminology and environmental factors affecting productivity and career paths.

**POFT 2301 DOCUMENT FORMATTING AND SKILL BUILDING**
**Prerequisite: POFT 1329**
**Credit 3 (2 lecture, 3 lab)**
A continuation of keyboarding skills in document formatting, speed, and accuracy. Emphasis on proofreading, editing, following instructions, and keying documents from various copy.

**POFT 2331 ADMINISTRATIVE SYSTEMS**
**Prerequisite: POFT 1329**
**Credit: 3 (2 lecture, 3 lab)**
Experience in project management and office procedures utilizing integration of previously learned skills.

**POFT 2359 RECORDS AND INFORMATION MANAGEMENT III**
**Credit: 3 (2 lecture, 3 lab)**
Study of advanced records and information management systems and applications. Includes database software and systems evaluation, integration of records and information management technologies, and advanced case studies. Student will recommend database software and systems, analyze current records and information management operations and propose applications appropriate for an organization, and use a problem-solving approach to evaluate records and information management systems and determine applicable management strategies using database software.

**POFT 2380 COOPERATIVE EDUCATION II– ADMINISTRATIVE ASSISTANT AND SECRETARIAL SERVICES, GENERAL**
**Prerequisite: POFT 1380 and Department Approval**
**Credit: 3 (1 lecture/seminar and 20 hours a week employment)**
An experience external to the college for an advanced student in a specialized field involving a written agreement between the educational institution and a business or industry. Mentored and supervised by a workplace employee, the student achieves objectives that are developed and documented by the college and that are directly related to specific occupational outcomes. This may be a paid or unpaid experience. This course may be repeated if topics and learning outcomes vary.

**PSTR 1301 FUNDAMENTALS OF BAKING**
**Credit: 3 (2 lecture, 4 lab)**
Fundamentals of baking including dough, quick breads, pies, cakes, cookies, tarts, and doughnuts. Instruction in flours, fillings, and ingredients. Topics include baking terminology, tool and equipment use, formula conversions, functions of ingredients, and the evaluation of baked products.

**PSTR 1305 BREADS AND ROLLS**
**Credit: 3 (2 lecture, 4 lab)**
Concentration on fundamentals of chemically- and yeast-raised breads and rolls. Instruction on commercial preparation of a wide variety of products.

**PSTR 1306 CAKE DECORATING I**
**Credit: 3 (2 lecture, 3 lab)**
A course in decoration of specialized and seasonal products.

**PSTR 1310 PIES, TARTS, TEACAKES AND COOKIES**
**Credit: 3 (2 lecture, 4 lab)**
Focus on preparation of American- and European-style pie and tart fillings and dough, cookies, teacakes, custard and batters. Instruction in finishing and presentation techniques.

**PSTR 1312 LAMINATED DOUGH, PATE A CHOUX AND DONUTS**
**Credit: 3 (2 lecture, 4 lab)**
Focus on preparation of laminated doughs to include puff pastry, croissant, and Danish and a variety of pate a choux (eclair paste) products and donuts. Fillings and finishing techniques included.

**PSTR 1340 PLATED DESSERTS**
**Credit: 3 (2 lecture, 4 lab)**
Preparation and service of hot and cold desserts with a focus on individual desserts, a la minute preparations, and numerous components within one preparation. Emphasis on station organization, timing, and service coordination for restaurant dessert production.

**PSTR 1364 PRACTICUM - BAKING AND PASTRY ARTS/BAKER/PASTRY CHEF**
**Prerequisite: Department Approval**
**Credit: 3 (21 lab)**
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

**PSTR 1381 COOPERATIVE EDUCATION - BAKING AND PASTRY ARTS/BAKER/PASTRY CHEF**
**Prerequisite: Department Approval**
**Credit: 3 (1 lecture, 20 lab)**
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

**PSTR 1391 SPECIAL TOPICS**
**Credit: 3 (2 lecture, 4 lab)**
Topics address recently identified current events, skills, knowledge's, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

**PSTR 2301 CHOCOLATES AND CONFECTIONS**
**Credit: 3 (2 lecture, 4 lab)**
Production and decoration of traditional truffles, marzipan, molded and hand-dipped chocolate, caramels, nougats, and pate de fruit.

**PSTR 2307 CAKE DECORATING II**
**Prerequisite: PSTR 1306**
**Credit: 3 (2 lecture, 3 lab)**
A course in decoration of specialized and seasonal products.

**PSTR 2331 ADVANCED PASTRY SHOP**
**Credit: 3 (2 lecture, 4 lab)**
A study of classical desserts, French and international pastries, hot and cold desserts, ice creams and ices, chocolate work, and decorations. Emphasis on advanced techniques.

**PSTR 2350 WEDDING CAKES**
**Credit: 3 (2 lecture, 4 lab)**
Skills, concepts, and techniques for preparing wedding cakes. Includes marzipan, plastic chocolate-rolled fondant, chocolate garnish, flower making, and royal icing piping work.

## PSYC 1300 LEARNING FRAMEWORK

**Credit: 3 (3 lecture)**

A study of the research and theory in the psychology of learning, cognition, and motivation; factors that impact learning; and application of learning strategies. Theoretical models of strategic learning, cognition, and motivation serve as the conceptual basis for the introduction of college-level student academic strategies. (May also be offered as EDUC 1300.)

## PSYC 2301 INTRODUCTION TO PSYCHOLOGY

**Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit: 3 (3 lecture)**

A survey of the basic principles underlying human behavior and mental processes. Emphasis will be placed on major areas of study in the field of psychology, such as motivation, development, thought processes, and personality. Core Curriculum Course.

## PSYC 2302 APPLIED PSYCHOLOGY

**Credit: 3 (3 lecture)**

A study of the application of basic psychological principles to adjustment decisions in daily life. This will include such topics as interpersonal communication, conflict resolution, stress, group processes, friendship, love and marriage, and career choices.

## PSYC 2303 BUSINESS PSYCHOLOGY

**Credit: 3 (3 lecture)**

Survey of psychological principles applied to the work place. This course will introduce students to the psychosocial, interpersonal, and behavioral dynamics of people in organizations. The importance of effective communication, leadership, cultural diversity, and teamwork within an organization will be explored.

## PSYC 2306 HUMAN SEXUALITY

**Prerequisites: Must be placed into college-level reading.**

**Credit: 3 (3 lecture)**

This course is designed to provide an understanding of human sexuality, identity, orientation, and behavior, and the variations in these dimensions of this important aspect of human experience. It includes information on physical, cognitive, and psychosocial changes associated with sexuality. Theory, research methods, and applications of research to the facilitation of gender identity development and understanding of the human sexual response are covered. The course also provides information on the treatment of sexual dysfunction, and the prevention of sexually transmitted diseases and irresponsible sexual behavior.

## PSYC 2307 ADOLESCENT PSYCHOLOGY

**Credit: 3 (3 lecture)**

Psychology of adolescence is a study of the relationships among the physical, emotional, social and psychological factors that influence growth and development from puberty to early adulthood (ages 12-18).

## PSYC 2308 HUMAN GROWTH AND DEVELOPMENT: CHILDHOOD AND ADOLESCENCE

**Credit: 3 (3 lecture)**

A study of normal physiological, intellectual, and emotional development and functioning of the child from conception through adolescence. Emphasis on normal child development, the family, parent-child interaction, and the psychological and cultural forces affecting them.

## PSYC 2311 HUMAN GROWTH AND DEVELOPMENT: ADULTHOOD AND AGING

**Prerequisite: PSYC 2301 or 2308 or Department Approval; Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit: 3 (3 lecture)**

A study of the normal physiological, intellectual, and emotional development and functioning of the human life cycle from adulthood through death.

## PSYC 2314 HUMAN GROWTH AND DEVELOPMENT: LIFESPAN

**Prerequisite: PSYC 2301 or Department Approval; Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit: 3 (3 lecture)**

A developmental psychology course designed to provide an understanding of human behavior and characteristics from conception through death. This course includes information on physical, cognitive, and psychosocial changes throughout the lifespan. Theory, research, and applications are covered.

## PSYC 2315 PSYCHOLOGY OF ADJUSTMENT

**Prerequisite: PSYC 2301; Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit: 3 (3 lecture)**

A study of human behavior, applying psychological theory to the development of the well-adjusted individual. Techniques for managing stress, reducing anxiety, coping with anger, increasing assertiveness, and achieving self-control are considered.

## PSYC 2316 PSYCHOLOGY OF PERSONALITY

**Prerequisite: PSYC 2301; Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit: 3 (3 lecture)**

This course covers personality theories that apply to both normal personality and abnormal behavior. Some of the theories covered are psychoanalytic, cognitive, learning, and sociocultural. Current research on the biological foundations of mental health and illness is covered in detail. These theories are related to mental disorders such as major depression, phobias, obsessive-compulsive disorder, bipolar disorder and schizophrenia. Case studies of individuals enhance comprehension of mental disorders. Treatment by psychotherapy and drugs is discussed as well as ethical, legal and social issues relating to the mentally ill.

## PSYC 2317 STATISTICAL METHODS IN PSYCHOLOGY

**Prerequisite: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite) and be placed into Math 0312 (or higher).**

**Credit: 3 (3 lecture)**

An introduction to the use of scientific methods in psychology and to the statistical analysis of data. Attention is given to descriptive, correlational, and inferential statistical methodology.

## PSYC 2319 SOCIAL PSYCHOLOGY

**Prerequisite: PSYC 2301; Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit: 3 (3 lecture)**

A study of social cognition, social behavior, interpersonal relations, and group membership. Emphasis on theories, research, and applications.

## PSYC 2370 CROSS-CULTURAL PSYCHOLOGY

**Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit: 3 (3 lecture)**

A course designed to explore and better understand psychology from a multicultural perspective. The course will examine similarities and differences among cultures and the context of their development. Discussions, lectures, and assignments will address how culture influences a group's way of thinking and behaving. Core Curriculum Course.

## PSYC 2374 THE PSYCHOLOGY OF WOMEN

**Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**

**Credit: 3 (3 lecture)**

This is a freshman or sophomore college level course on the psychology of women or gender. This course is designed to analyze and clarify the psychological issues in women's lives that are responsible for the "gender gap" in success. The course focuses on diversity and challenges that women of various cultures face in the twenty-first century. Strategies for overcoming the effects of sexism and racism in the various life states are also addressed.

**PSYC 2389 ACADEMIC COOPERATIVE IN PSYCHOLOGY**
**Prerequisites: Must be placed into college-level reading and college-level writing.**
**Credit: 3 (3 lecture, 0 lab)**
An experiential-learning instruction program designed to integrate textbook and classroom knowledge with practical hands-on experience in an applied area of psychology. In conjunction with class seminars, the individual student will set specific goals and objectives in the study of human social behavior and/or social institutions.

**PTAC 1302 INTRODUCTION TO PROCESS TECHNOLOGY**
**Credit: 3 (3 lecture)**
Introduction to chemical and refinery plant operations. Topics include process technician duties, responsibilities and expectations, plant organizations, plant process and utility systems, and the physical and mental requirements of the process technician.

**PTAC 1308 SAFETY, HEALTH, AND ENVIRONMENT I**
**Prerequisite or Corequisite: PTAC 1302 or Department Approval**
**Credit: 3 (3 lecture)**
Development of knowledge and skills to reinforce the attitudes and behaviors required for safe and environmentally sound work habits. Emphasis on safety, health, and environmental issues in the performance of all job tasks and regulatory compliance issues.

**PTAC 1332 PROCESS INSTRUMENTATION I**
**Prerequisites: PTAC 1308 and MATH 1314 or Department Approval**
**Credit: 3 (2 lecture, 2 lab)**
Study of the instruments and instrument systems used in the process industry including terminology, primary variables, symbology, control loops, and basic troubleshooting.

**PTAC 1350 INDUSTRIAL ECONOMICS**
**Credit: 3 (3 lecture)**
Examination of the profitability factors of plant operations including both personal and business strategies, objectives, and operating profitably.

**PTAC 1354 INDUSTRIAL PROCESSES**
**Prerequisites: PTAC 1302 and PTAC 1308**
**Credit: 3 (3 lecture)**
Study of the processes employed in process plant operations.

**PTAC 1410 PROCESS TECHNOLOGY I - EQUIPMENT**
**Prerequisite: PTAC 1302 or Department Approval**
**Credit: 4 (3 lecture, 3 lab)**
Instruction in the use of common process equipment.

**PTAC 2314 PRINCIPLES OF QUALITY**
**Prerequisite: PTAC 1302 and MATH 1314**
**Credit: 3 (3 lecture)**
Study of the background and application of quality concepts. Topics include team skills, quality tools, and economics and continuous improvement.

**PTAC 2336 PROCESS INSTRUMENTATION II**
**Prerequisite: PTAC 1302 or Department Approval**
**Credit: 3 (2 lecture, 2 lab)**
Continued study of coverage of the varied instruments and instrument systems used in the chemical processing industry including terminology, primary variables, symbology, control loops, and basic troubleshooting.

**PTAC 2348 SAFETY, HEALTH, AND ENVIRONMENT II**
**Prerequisite: PTAC 1308**
**Credit: 3 (3 lecture)**
Continued instruction in the application of concepts presented in Safety, Health, and Environment I. Emphasis on emergency response concepts.

**PTAC 2420 PROCESS TECHNOLOGY II - SYSTEMS**
**Prerequisite: PTAC 1410 or Department Approval**
**Credit: 4 (3 lecture, 3 lab)**
**Study of the interrelation of process equipment and process systems including related scientific principles.**

**PTAC 2438 PROCESS TECHNOLOGY III - OPERATIONS**
**Prerequisite: PTAC 2420**
**Credit: 4 (3 lecture, 3 lab)**
This course combines systems into operational processes with emphasis on operations under various conditions.

**PTAC 2446 PROCESS TROUBLESHOOTING**
**Prerequisite: PTAC 2420 or Department Approval**
**Credit: 4 (3 lecture, 3 lab)**
Instruction in the different types of troubleshooting techniques, procedures, and methods used to solve process problems. Topics include application of data collection and analysis, cause effect relationships, and reasoning.

**PTHA 1201 THE PROFESSION OF PHYSICAL THERAPY**
**Prerequisite: Admission to the Physical Therapist Assistant Program**
**Credit: 2 (2 lecture, 1 lab)**
Introduction to the profession of physical therapy including the historical and current scope of physical therapy.

**PTHA 1229 APPLIED PHYSICAL PRINCIPLES**
**Prerequisite: Admission to the Physical Therapist Assistant Program**
**Credit: 2 (1 lecture, 2 lab)**
An experiential approach to the application of physical principles as related to patient treatment.

**PTHA 1266 PRACTICUM I**
**Prerequisites: PTHA 2205, PTHA 2509**
**Credit: 2 (14 lab)**
Practical general workplace training supported by an individualized learning plan developed by the employer, college and student.

**PTHA 1267 PRACTICUM II**
**Prerequisites: PTHA 1266, PTHA 2435, PTHA 2431**
**Credit: 2 (14 lab)**
Practical general workplace training supported by an individualized learning plan developed by the employer, college and student.

**PTHA 1305 BASIC PATIENT CARE SKILLS**
**Prerequisites: Admission to program**
**Credit: 3 (2 lecture, 4 lab)**
Theory and application of basic patient handling and functional skills includes selected data collection techniques.

**PTHA 1321 PATHOPHYSIOLOGY**
**Prerequisite: PTHA 1413, PTHA 1201, HPRS 1106**
**Credit: 3 (3 lecture, 1 lab)**
Study of the pathogenesis, prognosis, and therapeutic management of diseases/conditions commonly encountered in physical therapy.

**PTHA 1391 SPECIAL TOPICS IN PHYSICAL THERAPY ASSISTANT**
**Credit: 3 (3 lecture)**
Topics address recently identified current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

**PTHA 1413 FUNCTIONAL ANATOMY**
**Prerequisite: Admission to the Physical Therapist Assistant Program**
**Credit: 4 (3 lecture, 4 lab)**
Human anatomy and its application to the motion of the musculoskeletal system as it relates to normal activities and dysfunctions.

**PTHA 1431 PHYSICAL AGENTS**
**Prerequisites: PTHA 1413, PTHA 1229, PTHA 1201, PTHA 1305, HPRS 1106**
**Credit: 4 (2 lecture, 6 lab)**
Biophysical principles and application of therapeutic physical agents with specific emphasis on indications, contraindications, medical efficacy, and physiological effects.

**PTHA 2205 NEUROLOGY**
**Prerequisite: PTHA 1321**
**Credit: 2 (2 lecture, 1 lab)**
Study of neuroanatomy and neurophysiology as it relates to commonly encountered neurological conditions.

**PTHA 2239 PROFESSIONAL ISSUES**
**Prerequisites: PTHA 2431, PTHA 2435**
**Corequisite: PTHA 1267, PTHA 2266, PTHA 2250**
**Credit: 2 (2 lecture, 1 lab)**
A capstone course which engages the student in the discussion of professional issues and behaviors related to clinical practice and which prepares the student for transition into the workforce.

## PTHA 2250 CURRENT CONCEPTS IN PHYSICAL THERAPY

**Prerequisites: PTHA 2435, PTHA 2431**
**Corequisite: PTHA 1267, PTHA 2266**
**Credit: 2 (1 lecture, 4 lab)**
Current concepts, skills, and knowledge in the provision of physical therapy services. Includes enhancement of professional development.

## PTHA 2266 PRACTICUM III – PHYSICAL THERAPIST ASSISTANT

**Prerequisites: PTHA 2435, PTHA 2431, PTHA 1267**
**Credit: 2 (14 lab)**
Practical general workplace training supported by an individualized learning plan developed by the employer, college and student.

## PTHA 2267 PRACTICUM IV - PHYSICAL THERAPIST ASSISTANT

**Prerequisites: PTHA 1267, PTHA 2266, PTHA 2250**
**Corequisite: PTHA 2239**
**Credit: 2 (14 lab)**
Practical general workplace training supported by an individualized learning plan developed by the employer, college and student.

## PTHA 2301 ESSENTIALS OF DATA COLLECTION

**Prerequisites: PTHA 1305, PTHA 1413, PTHA 1229, PTHA 1201, HPRS 1106**
**Corequisites: PTHA 1321, PTHA 1431, HPRS 2332**
**Credit: 3 (2 lecture, 4 lab)**
Data collection techniques used to prepare the physical therapist assistant to assist in physical therapy management.

## PTHA 2431 MANAGEMENT OF NEUROLOGICAL DISORDERS

**Prerequisites: PTHA 2205, PTHA 2509, PTHA 2435**
**Credit: 4 (2 lecture, 6 lab)**
Advanced course integrating previously learned and new skills/techniques into the comprehensive rehabilitation of selected neurological disorders.

## PTHA 2435 REHABILITATION TECHNIQUES

**Prerequisite: PTHA 2205, PTHA 2509**
**Credit: 4 (2 lecture, 6 lab)**
Advanced course integrating previously learned and new skills/techniques into the comprehensive rehabilitation of selected long-term pathologies.

## PTHA 2509 THERAPEUTIC EXERCISE

**Prerequisites: PTHA 1321, PTHA 1431, PTHA 2301, HPRS 2332**
**Credit: 5 (3 lecture, 6 lab)**
Concepts, principles, and application of techniques related to therapeutic exercise and functional training.

## QCTC 1341 STATISTICAL PROCESS CONTROL

**Prerequisite/Corequisite: INMT 1249**
**Credit: 3 (3 lecture)**
Components of statistics, including techniques of collection, presentation, analysis, and interpretation of numerical data as applied to statistical control. Stresses application of correlation methods, analysis of variance, dispersion, sampling quality control, reality, mathematical models, and programming.

## RADR 1160 CLINICAL - RADIOLOGIC TECHNOLOGY/ SCIENCE - RADIOGRAPHER

**Prerequisite: RADR 1313, RADR 1411**
**Credit: 1 (3 lab)**
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## RADR 1201 INTRODUCTION TO RADIOGRAPHY

**Credit: 2 (2 lecture)**
An overview of the historical development of radiography, basic radiation protection, an introduction to medical terminology, ethical and legal issues for health care professionals, and an orientation to the program and the health care system.

## RADR 1266 RADIOGRAPHIC PRACTICUM I

**Prerequisites: RADR 1160, RADR 2305, RADR 2401**
**Credit: 2 (16 lab)**
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## RADR 1267 RADIOGRAPHIC PRACTICUM II

**Prerequisite: RADR 1266, RADR 2331**
**Credit: 2 (20 lab)**
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## RADR 1303 PATIENT CARE

**Credit: (3 lecture)**
An introduction in patient assessment, infection control procedures, emergency and safety procedures, communication and patient interaction skills, and basic pharmacology.

## RADR 1313 PRINCIPLES OF RADIOGRAPHIC IMAGING I

**Prerequisite: admission to the program**
**Credit: 3 (3 lecture, 1 lab)**
Radiographic image quality and the effects of exposure variables

## RADR 1411 BASIC RADIOGRAPHIC PROCEDURES

**Prerequisite: admission to the program**
**Credit: 4 (3 lecture, 4 lab)**
An introduction to radiographic positioning terminology, the proper manipulation of equipment, positioning and alignment of the anatomical structure and equipment, and evaluation of images for proper demonstration of basic anatomy.

## RADR 2213 RADIATION BIOLOGY AND PROTECTION

**Prerequisites: RADR 2309, MATH 1314**
**Credit: 2 (2 lecture)**
Effects of radiation exposure on biological systems. Includes typical medical exposure levels, methods for measuring and monitoring radiation, and methods for protecting personnel and patients from excessive exposure

## RADR 2217 RADIOGRAPHIC PATHOLOGY

**Prerequisites: RADR 2233**
**Credit: 2 (2 lecture)**
Disease processes and their appearance on radiographic images

## RADR 2233 ADVANCED MEDICAL IMAGING

**Prerequisites: RADR 2305, RADR 2309 RADR 2331**
**Credit: 2 (2 lecture)**
Specialized imaging modalities. Includes concepts and theories of equipment operations and their integration for medical diagnosis.

## RADR 2305 PRINCIPLES OF RADIOGRAPHIC IMAGING II

**Prerequisites: RADR 1313, RADR 1411**
**Credit: 3 (3 lecture, 1 lab)**
Radiographic imaging technique formulation. Includes equipment quality control, image quality assurance, and the synthesis of all variables in image production

## RADR 2309 RADIOGRAPHIC IMAGING EQUIPMENT

**Prerequisites: RADR 2305, RADR 2401, MATH 1314**
**Credit: 3 (3 lecture)**
A study of the equipment and physics of x-ray production, basic x-ray circuits and relationship of equipment components to the imaging process.

## RADR 2331 ADVANCED RADIOGRAPHIC PROCEDURES

**Prerequisite: RADR 2305, RADR 2401**
**Credit: 3 (2 lecture, 4 lab)**
Continuation of positioning; alignment of the anatomical structure and equipment, evaluation of images for proper demonstration of anatomy and related pathology.

## RADR 2335 RADIOLOGIC TECHNOLOGY SEMINAR

**Prerequisite: all RADR courses or by permission of department chair**
**Credit: 3 (3 lecture, 1 lab)**
A capstone course focusing on the synthesis of professional knowledge, skills and attitudes in preparation for professional employment and lifelong learning.

## RADR 2340 SECTIONAL ANATOMY FOR MEDICAL IMAGING

**Prerequisite: RADR 2233**
**Credit: 3 (3 lecture)**
Anatomic relationships that are present under various sectional orientations as depicted by computed tomography or magnetic resonance imaging.

## RADR 2360 CLINICAL - RADIOLOGIC TECHNOLOGY/ SCIENCE - RADIOGRAPHER
**Credit: 3 (15 lab)**
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## RADR 2366 RADIOGRAPHIC PRACTICUM III
**Prerequisites: RADR 1267, RADR 2233**
**Credit: 3 (24 lab)**
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## RADR 2367 RADIOGRAPHIC PRACTICUM IV
**Prerequisites: RADR 2213, RADR 2217, RADR 2366**
**Credit: 3 (24 lab)**
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

## RADR 2401 INTERMEDIATE RADIOGRAPHIC PROCEDURES
**Prerequisite: RADR 1313, RADR 1411**
**Credit: 4 (3 lecture, 4 lab)**
A continuation of the study of the proper manipulation of radiographic equipment, positioning and alignment of the anatomical structure and equipment, and evaluation of images for proper demonstration of anatomy.

## RECT 1301 INTRODUCTION TO THERAPEUTIC RECREATION
**Prerequisite: Department Approval**
**Credit: 3 (3 lecture)**
Introduction to the value, history, philosophy, terminology, process, and outcomes of therapeutic recreation. Emphasis on identification of client groups, leisure activities, application of therapeutic recreation in various human services settings, and professional development and career opportunities.

## RECT 1391 SPECIAL TOPICS IN RECREATIONAL THERAPY
**Prerequisite: Department Approval**
**Credit: 3 (lecture and lab hours vary)**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

## RECT 2431 THERAPEUTIC RECREATION PROGRAM PLANNING
**Prerequisite: Department Approval**
**Credit: 4 (3 lecture, 3 lab)**
Development of the knowledge and skills required to effectively plan recreation and leisure programs that meet the physical, psychological, and social needs of participants. Major topics include assessment techniques, goal writing, developing outcome measures, facilitation and implementation techniques, adaptations, and evaluation.

## RELE 1105 UNIFORM STANDARDS OF PROFESSIONAL APPRAISAL PRACTICE
**Credit: 1 (1 lecture)**
Provides instruction on current provisions of the Uniform Standards of Professional Appraisal Practice (USPAP). Accredited: Texas Appraisal Licensing and Certification Board.

## RELE 1291 SPECIAL TOPICS IN REAL ESTATE
**Credit: 2 (2 lecture)**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

## RELE 1301 PRINCIPLES OF REAL ESTATE
**Credit: 3 (3 lecture)**
Overview of licensing as a real estate broker or salesperson. Includes ethics of practice as a license holder, titles to and conveyance of real estate, legal descriptions, deeds, encumbrances and liens, distinctions between personal and real property, appraisal, finance and regulations, closing procedures, and real estate mathematics. Covers at least three hours of classroom instruction on federal, state, and local laws relating to housing discrimination, housing credit discrimination, and community reinvestment. Fulfills at least 30 of 60 hours of required instruction for salesperson license.

## RELE 1303 REAL ESTATE APPRAISAL
**Credit: 3 (3 lecture)**
A study of the central purposes and functions of an appraisal, social and economic determinants of value, appraisal case studies, cost, market data and income approaches to value estimates, final correlations, and reporting.

## RELE 1307 REAL ESTATE INVESTMENT
**Credit: 3 (3 lecture)**
Characteristics of real estate investments. Includes techniques of investment analysis, time-valued money, discounted and non-discounted investment criteria, leverage, tax shelters, depreciation, and applications to property tax.

## RELE 1309 REAL ESTATE LAW
**Credit: 3 (3 lecture)**
Provides a study of legal concepts of real estate, land description, real property rights, estates in land, contracts, conveyances, encumbrances, foreclosures, recording procedures, and evidence of title.

## RELE 1311 LAW OF CONTRACTS
**Credit: 3 (3 lecture)**
Elements of a contract, offer and acceptance, statute of frauds, specific performance and remedies for breach, unauthorized practice of law, commission rules relating to use of adopted forms, and owner disclosure requirements.

## RELE 1315 PROPERTY MANAGEMENT
**Credit: 3 (3 lecture)**
A study of the role of the property manager, landlord policies, operating guidelines, leases, lease negotiations, tenant relations, maintenance, reports, habitability laws, and the Fair Housing Act.

## RELE 1319 REAL ESTATE FINANCE
**Credit: 3 (3 lecture)**
An overview of monetary systems, primary and secondary money markets, sources of mortgage loans, federal government programs, loan applications, processes and procedures, closing costs, alternative financial instruments, equal credit opportunity laws affecting mortgage lending, and the state housing agency.

## RELE 1321 REAL ESTATE MARKETING
**Credit: 3 (3 lecture)**
A study of real estate professionalism and ethics; characteristics of successful salespersons; time management; psychology of marketing; listing procedures; advertising; negotiating and closing financing; and the Deceptive Trade Practice Act.

## RELE 1323 REAL ESTATE COMPUTER APPLICATION
**Credit: 3 (3 lecture)**
A study of the availability of technology, current software, and its ability to help a real estate agent become more productive. Includes database, mapping, mortgage interest, contact management, presentation and real estate related software application packages.

## RELE 1324 LOAN ORIGINATION AND QUALITY CONTROL
**Credit: 3 (3 lecture)**
An introduction to the mortgage loan application process. Topics include regulatory compliance and documentation; real estate contracts; the mortgage application process, interview techniques; credit, income and property qualification, quality controls and procedures.

## RELE 1325 REAL ESTATE MATHEMATICS
**Credit: 3 (3 lecture)**
Basic arithmetic skills. Includes mathematical logic, percentages, interest, time value of money, depreciation, amortization, proration, and estimation of closting statements.

## RELE 1327 REAL ESTATE COMMERCIAL APPRAISAL
**Credit: 3 (3 lecture)**
Principles and techniques used in the valuation of commercial property. Topics include purposes and functions of an appraisal, social and economic forces affecting value, appraisal case studies, cost, and income approaches to value. Emphasis will be placed on determining gross income, and expenses as a part of the appraisal process. Accredited: Texas Appraiser Licensing and Certification Board.

## RELE 1329 FUNDAMENTALS OF ENVIRONMENTAL ISSUES
**Credit: 3 (3 lecture)**
A study of environmental issues affecting the real estate industry including hazardous substances, underground storage tanks, wetlands, radon, asbestos, lead, endangered species protection, sick building syndrome and electromagnetic fields.

### RELE 1335 REAL ESTATE CONSTRUCTION

**Credit: 3 (3 lecture)**

A study of the basic principles of design and construction of real estate properties. This course meets part of the educational requirements, as determined by The Texas Real Estate Commission, to become a licensed inspector.

### RELE 1338 PRINCIPLES OF REAL ESTATE II

**Credit: 3 (3 lecture)**

Overview of licensing as a broker or salesperson. Includes ethics of practice as a license holder, titles to and conveyance of real estate, legal descriptions, deeds, encumbrances and liens, distinctions between personal and real property, appraisal, finance and regulations, closing procedures, and real estate mathematics. Covers at least three hours of classroom instruction on federal, state, and local laws relating to housing, discrimination, housing credit discrimination, and community reinvestment. Fulfills at least 30 of 60 hours of required instruction for salesperson license.

### RELE 1371 LOAN PROCESSING

**Prerequisite: Department Approval**
**Credit: 3 (3 lecture)**

A study of the theoretical and practical framework necessary to understand the complex field of mortgage lending with emphasis on loan application, qualifications, and processing. Also includes the role of lenders, residential loan appraisals, closing, and funding the loan. This course emphasizes workforce training in the areas of loan processing and originating procedures as determined by the needs of industry. Accredited: Texas Savings and Loan Department.

### RELE 1381 COOPERATIVE EDUCATION - REAL ESTATE

**Prerequisite: Department Approval**
**Credit: 3 (1 lecture, 20 lab)**

Career related activities encountered in the student's area of specialization are offered through an individualized agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

### RELE 1391 SPECIAL TOPICS IN REAL ESTATE

**Prerequisite: Department Approval**
**Credit: 3 (3 lecture)**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

### RELE 2301 LAW OF AGENCY

**Credit: 3 (3 lecture)**

A study of law of agency including principal-agent and master-servant relationships, the authority of an agent, the termination of an agent's authority, the fiduciary and other duties of an agent, employment law, deceptive trade practices, listing or buying procedures, and the disclosure of an agency. This course is required by The Texas Real Estate Commission for new salesperson applicants.

### RELE 2305 REAL ESTATE INSPECTIONS

**Credit: 3 (3 lecture)**

A study of the different types of building systems and materials used in the design and construction of real property. Covers residential construction and commercial building systems and materials. Includes different structural building systems with emphasis on wood-related products, concrete and masonry, brick, stone, and steel units. This course meets part of the educational requirements, as determined by The Texas Real Estate Commission, to become a licensed inspector.

### RELE 2307 REAL ESTATE TITLE AND SETTLEMENT

**Credit: 3 (3 lecture)**

Examines the procedural aspects required to research land titles, establish and administer title closings, escrow, determination of settlement requirements, and filing. In addition, the lender's closing instructions, document review, funding procedures, post closing audit and file set up will be presented. This course emphasizes workforce training in the area of closing and funding procedures as determined by the needs of industry. Accredited: Texas Savings and Loan Department.

### RELE 2311 FUNDAMENTALS OF MORTGAGE LENDING

**Credit: 3 (3 lecture)**

A study of the theoretical and practical framework necessary to understand the complex field of mortgage lending with emphasis on loan application, qualifications, and underwriting. Also includes the role of lenders, security instruments, residential loan appraisals, and closing and funding the loan. This course emphasizes workforce training in the areas of loan processing and underwriting procedures as determined by the needs of industry.

### RELE 2331 REAL ESTATE BROKERAGE

**Credit: 3 (3 lecture)**

A study of law of agency, planning and organization, operational policies and procedures, recruiting, selection and training of personnel, records and control, and real estate firm analysis and expansion criteria.

### RELE 2381 COOPERATIVE EDUCATION - REAL ESTATE

**Prerequisite: Department Approval**
**Credit: 3 (3 lecture)**

Career related activities encountered in the student's area of specialization are offered through a cooperative agreement between the college, employer, and student. Under supervision of the college and the employer, the student combines, classroom learning with work experience. Directly related to a technical discipline, specific learning objectives guide the student through the paid work experience. This course may be repeated if topics and learning outcomes vary. The student is required to work a minimum of 20 hours a week and attend a weekly seminar. An approved project and final report is required.

### RNSG 1105 NURSING SKILLS I

**Prerequisites: RNSG 1251, RNSG 1261, RNSG 1193, RNSG 2201, RNSG 2262, RNSG 2213, RNSG 2263, or RNSG 2360**
**Corequisites: RNSG 1441, RNSG 2360**
**Credit: 1 (3 Lab)**

Study of concepts and principles essential for demonstrating competence in the performance of nursing procedures. Topics include knowledge, judgment, skills, and professional values within a legal/ethical framework.

### RNSG 1144 NURSING SKILLS II

**Prerequisites: RNSG 1441, RNSG 1105, RNSG 2360, RNSG 2221 or RNSG 1193, RNSG 2201, RNSG 2262, RNSG 1251, RNSG 1261**
**Corequisites: RNSG 2361, RNSG 1443, RNSG 2170**
**Credit: 1 (3 Lab)**

Study of concepts and principles necessary to perform intermediate or advanced nursing skills; and demonstrate competence in the performance of nursing procedures. Topics include knowledge, judgment, skills and professional values within a legal/ethical framework.

### RNSG 1163 CLINICAL NURSING— TRANSITION

**Prerequisites: RNSG 1301, BIOL 2402, BIOL 2420, PSYC 2314, ENGL 1301**
**Corequisites: RNSG 1327**
**Credit: 1 (3 clinical)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

### RNSG 1193 SPECIAL TOPICS IN NURSING, PEDIATRICS

**Prerequisites: RNSG 1513, RNSG 1360, PSYC 2314**
**Corequisites: RNSG 2201, RNSG 2262, BIOL 2420**
**Credit: 1 (1 lecture)**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

### RNSG 1251 CARE OF THE CHILDBEARING FAMILY

**Prerequisites: RNSG 1513, RNSG 1360, PSYC 2314**
**Corequisite: BIOL 2420, RNSG 1261**
**Credit: 2 (2 lecture)**

Study of concepts related to the provision of nursing care for childbearing families. Topics may include selected complications. Topics include knowledge judgment, skills, and professional values within a legal/ethical framework. This course lends itself to a blocked approach.

## RNSG 1261 CLINICAL NURSING - CHILDBEARING

**Prerequisites: RNSG 1513, RNSG 1360, PSYC 2341**
**Corequisites: BIOL 2420, RNSG 1251**
**Credit: 2 (6 Clinical)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## RNSG 1301 PHARMACOLOGY

**Prerequisite: administrative approval**
**Credit: 3 (3 lecture)**

Introduction to the science of pharmacology with emphasis on the actions, interactions, adverse effects, and nursing implications of each drug classification. Topics include the roles and responsibilities of the nurse in safe administration of medications within legal/ethical framework.

## RNSG 1327 TRANSITION FROM VOCATIONAL TO PROFESSIONAL NURSING

**Prerequisites: RNSG 1301, ENGL 1301, PSYC 2314, BIOL 2402, BIOL 2420**
**Corequisites: RNSG 1163**
**Credit: 3 (3 lecture)**

Topics include health promotion, expanded assessment, analysis of data, nursing process, pharmacology, multidisciplinary teamwork, communication, and applicable competencies in knowledge, judgment, skills, and professional values within a legal/ethical framework throughout the life span.

## RNSG 1360 CLINICAL NURSING - FOUNDATIONS

**Prerequisites: ENGL 1301, PSYC 2301, BIOL 1408, BIOL 2401, RNSG 1301**
**Corequisites: BIOL 2402, PSYC 2314, RNSG 1523**
**Credit: 3 (9 Clinical)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## RNSG 1441 COMMON CONCEPTS OF ADULT HEALTH

**Prerequisite: RNSG 1251, RNSG 1261, RNSG 1193, RNSG 2201, RSNG 2262, RNSG 2213, RNSG 2263**
**Corequisite: RNSG 1105, RNSG 2360, RNSG 2221**
**Credit: 4 (4 lecture)**

Study of the general principles of caring for selected adult clients and families in structured settings with common medical-surgical health care needs related to each body system. Emphasis on knowledge, judgment, skills, and professional values within a legal/ethical framework.

## RNSG 1443 COMPLEX CONCEPTS OF ADULT HEALTH

**Prerequisite: RNSG 1441, RNSG 1105, RNSG 2360, RNSG 2221**
**Corequisite: RNSG 2361, RNSG 1144,RNSG 2170**
**Credit: 4 (4 lecture)**

Integration of previous knowledge and skills related to common adult health needs into the continued development of the professional nurse as a provider of care, coordinator of care, and member of a profession in the care of adult clients/families in structured health care settings with complex medical-surgical health care needs associated with each body system Emphasis on knowledge, judgments, skills, and professional values within a legal/ethical framework.

## RNSG 1513 FOUNDATIONS FOR NURSING PRACTICE

**Prerequisites: ENGL 1301, PSYC 2301, BIOL 2401, RNSG 1301**
**Corequisites: RNSG 1360, BIOL 2402, PSYC 2314**
**Credit: 5 (4 lecture, 3 lab)**

Introduction to the role of the professional nurse as provider of care, coordinator of care, and member of the profession. Topics include but are not limited to the fundamental concepts of nursing practice, history of professional nursing, a systematic framework for decision-making, mechanisms of disease, the needs and problems that nurses help patients manage, and basic psychomotor skills. Emphasis on knowledge, judgment, skills and professional values within a legal/ethical framework. This course lends itself to a blocked approach.

## RNSG 2170 NATIONAL COUNCIL LICENSURE PREPARATION

**Prerequisites: RNSG 1105, RNSG 1441, RNSG 2221, RNSG 2360**
**Corequisites: RNSG 1443 or Department Approval**
**Credit: 1 (1 lecture)**

Nursing curriculum review course applicable to requirements for knowledge, synthesis, and application of concepts required of the entry level nurse. Includes application of knowledge, judgment, skills and professional values from all nursing and applicable academic courses.

## RNSG 2201 CARE OF CHILDREN AND FAMILIES

**Prerequisites: RNSG 1513, RNSG 1360, and all prerequisites and corequisites to RNSG 1523 and RNSG 1360**
**Corequisites: BIOL 2420, RNSG 1193, RNSG 2262**
**Credit: 2 (2 lecture)**

Study of concepts related to the provision of nursing care for children and families, emphasizing judgment, and professional values within a legal/ethical framework.

## RNSG 2213 MENTAL HEALTH NURSING

**Prerequisites: RNSG 1513, RNSG 1360**
**Corequisites: RNSG 2263**
**Credit: 2 (2 lecture)**

Principles and concepts of mental health, psychopathology, and treatment modalities related to the nursing care of clients and their families.

## RNSG 2221 MANAGEMENT OF CLIENT CARE

**Prerequisites: RNSG 1513 and RNSG 1360 or RNSG 1327 and RNSG 1163**
**Corequisites: RNSG 1441 and RNSG 2360 or RNSG 1251, RNSG 1261, RNSG 2201, RNSG 2262, RNSG 1105 and RNSG 1193**
**Credit: 2 (2 lecture)**

Exploration of leadership and management principles applicable to the role of the nurse as a provider of care, coordinator of care, and member of a profession. Includes application of knowledge, judgment, skills, and professional values within a legal/ethical framework.

## RNSG 2262 CLINICAL NURSING - CHILDREN

**Prerequisites: RNSG 1513, RNSG 1360, PSYC 2314**
**Corequisites: BIOL 2420, RNSG 2201, RNSG 1193**
**Credit: 2**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## RNSG 2263 CLINICAL NURSING - MENTAL HEALTH

**Prerequisites: RNSG 1513, RNSG 1360, RNSG 1251, RNSG 1261, RNSG 2201, RNSG 2262**
**Corequisites: RNSG 2213**
**Credit: 2 (6 Clinical)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## RNSG 2360 CLINICAL NURSING - ADULT I

**Prerequisites: RNSG 1301, RNSG 2213, RNSG 2263, RNSG 1251, RNSG 1261, RNSG 2201, RNSG 2262**
**Corequisites: RNSG 1441, RNSG 2221, RNSG 1105**
**Credit: 3 (9 clinical)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## RNSG 2361 CLINICAL NURSING - ADULT II

**Prerequisites: RNSG 1441, RNSG 2360 and RNSG 2221 or RNSG 1251, RNSG 1261, RNSG 2201, RNSG 1193, RNSG 1105 and RNSG 2262**
**Corequisite: RNSG 1144, RNSG 1443, RNSG 2170**
**Credit: 3 (9 clinical)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

### RSPT 1240 ADVANCED CARDIOPULMONARY ANATOMY AND PHYSIOLOGY

**Credit:2 (2 lecture)**

Provides an advanced presentation of anatomy and physiology of the cardiovascular and pulmonary system.

### RSPT 1307 CARDIOPULMONARY ANATOMY AND PHYSIOLOGY

**Credit: 3 (3 lecture)**

An introduction to the anatomy and physiology of the cardiovascular, and pulmonary systems.

### RSPT 1310 RESPIRATORY CARE PROCEDURES I

**Corequisite: RSPT 1361**

**Credit: 3 (2 lecture, 4 lab)**

Provides students with the essential knowledge of the equipment and techniques used in the treatment of pulmonary disease and their clinical application. The following areas are discussed in-depth: oxygen therapy, humidity and aerosol therapy, hyperinflation therapy, chest physiotherapy, pulse oximetry, arterial puncture, and interpretation.

### RSPT 1311 RESPIRATORY CARE PROCEDURES II

**Corequisite: RSPT 1362**

**Prerequisite: RSPT 1361**

**Credit: 3 (2 lecture, 4 lab)**

Provides student with essential knowledge of airway care and mechanical ventilation. Airway care includes indications, techniques, equipment, and hazards and complications. Mechanical ventilation includes indications, initiation, modes, clinical application, management, complications, and weaning.

### RSPT 1325 RESPIRATORY CARE SCIENCES

**Credit: 3 (3 lecture)**

A study of cardiopulmonary sciences including physics, math, chemistry, and statistics.

### RSPT 1361 CLINICAL - RESPIRATORY CARE THERAPY/THERAPIST

**Credit: 3 (16 lab)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

### RSPT 1362 CLINICAL-RESPIRATORY CARE THERAPY/THERAPIST

**Prerequisite: RSPT 1361**

**Credit: 3 (16 lab)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

### RSPT 2166 PRACTICUM (OR FIELD EXPERIENCE) - RESPIRATORY CARE THERAPY/THERAPIST

**Prerequisite: RSPT 1362**

**Credit: 1 (16 lab)**

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

### RSPT 2231 (CLINICAL) SIMULATIONS IN RESPIRATORY CARE

**Prerequisite: RSPT 1361, RSPT 1362, RSPT 2166, RSPT 2360, RSPT 2314, RSPT 2358**

**Credit: 2 (4 lab)**

The theory and history of clinical simulation examinations. Topics include the construction types, scoring, and mechanics of taking the exam along with practice in taking both written and computerized simulations, and basic concepts of computer usage.

### RSPT 2233 RESPIRATORY CARE CASE MANAGEMENT

**Credit: 2 (2 lecture, 1 lab)**

Preparation and presentation of the case study. Instruction in the investigation, organization, and presentation of the material, including preparation of questions for group discussion.

### RSPT 2239 ADVANCED CARDIAC LIFE SUPPORT

**Credit: 2 (1 lecture, 2 lab)**

A comprehensive course designed to develop the cognitive and psychomotor skills necessary for resuscitation of the adult. Strategies for managing and stabilizing the cardiopulmonary arrested patient will be included.

### RSPT 2255 CRITICAL CARE MONITORING

**Prerequisite/Corequisite: RSPT 2305**

**Credit: 2 (2 lecture)**

Introduction to monitoring techniques used clinically to assess a patient in the critical care setting.

### RSPT 2258 RESPIRATORY CARE PATIENT ASSESSMENT

**Credit: 2 (2 lecture)**

Instruction in the integration of patient examination techniques, clinical lab studies, x-ray, pulmonary function, arterial blood gases, and invasive and non-invasive hemodynamics results in patient assessment.

### RSPT 2266 PRACTICUM (OR FIELD EXPERIENCE) - RESPIRATORY CARE THERAPY/ THERAPIST

**Corequisite: RSPT 2231**

**Credit: 2 (16 lab)**

Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

### RSPT 2305 PULMONARY DIAGNOSTICS

**Prerequisite: RSPT 1307**

**Credit: 3 (3 lecture)**

The theories and techniques involved in pulmonary function testing diagnostics with emphasis on blood gas theory and analysis, quality control, oximetry, and capnography.

### RSPT 2310 CARDIOPULMONARY DISEASE

**Prerequisite: RSPT 1307**

**Credit: 3 (3 lecture)**

A discussion of pathogenesis, pathology, diagnosis, history, prognosis, manifestation, treatment, and detection of cardiopulmonary diseases.

### RSPT 2314 MECHANICAL VENTILATION

**Prerequisite: RSPT 1311**

**Credit: 3 (3 lecture)**

Preparation to conduct the therapeutic procedures to achieve adequate, spontaneous, and artificial ventilation with emphasis on ventilator classification, methods, principles, and operational characteristics. Also included are the indications, complications, and physiologic effects/principles of mechanical ventilation.

### RSPT 2317 RESPIRATORY CARE PHARMACOLOGY

**Credit: 3 (3 lecture)**

A study of pharmacological principles/practices of drugs which affect the cardiopulmonary systems. Emphasis on classification, route of administration, dosages/calculations, and physiological interactions.

### RSPT 2325 CARDIOPULMONARY DIAGNOSTICS

**Prerequisite: RSPT 2305**

**Credit: 3 (3 lecture)**

A study of physical, radiological, hemodynamic, laboratory, nutritional, and cardiopulmonary diagnostic assessment of the pulmonary patient.

### RSPT 2353 NEONATAL/PEDIATRIC CARDIOPULMONARY CARE

**Corequisite: RSPT 2361**

**Credit: 3 (3 lecture)**

A study of acute care, monitoring, and management as applied to the neonatal and pediatric patient.

### RSPT 2360 CLINICAL- RESPIRATORY CARE THERAPY/THERAPIST

**Prerequisite: RSPT 2166**

**Credit: 3 (16 lab)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

### RSPT 2361 CLINICAL- RESPIRATORY CARE THERAPY/THERAPIST

**Prerequisite: RSPT 2360**

**Credit: 3 (16 lab)**

A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

### RSTO 1301 BEVERAGE MANAGEMENT

**Credit: 3 (3 lecture)**

A study of the beverage service of the hospitality industry including spirits, wines, beers, and non-alcoholic beverages. Topics include purchasing, resource control, legislation, marketing, physical plant requirements, staffing, service, and the selection of wines to enhance foods.

### RSTO 1304 DINING ROOM SERVICE

**Credit: 3 (3 lecture)**

Introduces the principles, concepts, and systems of professional table service. Topics include dining room organization, scheduling, and management of food service personnel.

## RSTO 1325 PURCHASING FOR HOSPITALITY OPERATIONS
**Credit: 3 (3 lecture)**
Study of purchasing and inventory management of foods and other supplies to include development of purchase specifications, determination of order quantities, formal and informal price comparison, proper receiving procedures, storage management, and issue procedures. Emphasis on product cost analysis, yield, pricing formulas, controls, and record keeping at each stage of the purchasing cycle.

## RSTO 1491 SPECIAL TOPICS IN FOOD AND BEVERAGE/ RESTAURANT OPERATIONS MANAGER - PRINCIPLES OF FOOD PREPARATION
**Credit: 4 (lecture, lab - Varies)**
Topics address recently identified current events, skills, knowledge's, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## RSTO 2301 PRINCIPLES OF FOOD AND BEVERAGE CONTROLS
**Credit: 3 (3 lecture)**
A study of financial principle and controls of food service operation including review of operation policies and procedures. Topics include financial budgeting and cost analysis emphasizing food and beverage labor costs, operational analysis, and internal and regulatory reporting procedures.

## RTVB 1240 AUDIO/RADIO PRODUCTION LAB II
**Prerequisite: MUSC 1427, MUSC 1331**
**Corequisite: MUSC 2427**
**Credit: 2 (1 lecture, 4 lab)**
Introduces through practical hands-on experience the equipment and procedures used in multitrack recording and computer audio programs such as Pro Tools, Acid, Digital Performer, Jam and Spark. Topics include basic tracking, simple overdubs, CD mastering and audio editing. Students will participate in 32 hours of recording sessions and 32 hours of open lab.

## RTVB 1317 SURVEY OF BROADCAST MEDIA
**Credit: 3 (3 lecture)**
History and future of the broadcast industry. Includes operation of radio, TV, and Internet delivery programming practices. Emphasizes Federal Communication Commission (FCC) organization and career opportunities in the broadcast industry.

## RTVB 1401 BROADCAST NEWS WRITING
**Prerequisite: ENGL 1301**
**Credit: 4 (3 lecture, 2 lab)**
Instruction in the writing of news copy according to standard broadcast formats.

## RTVB 1409 AUDIO/RADIO PRODUCTION I
**Credit: 4 (2 lecture, 6 lab)**
Concepts and techniques of sound production including basic recording, mixing and editing techniques.

## RTVB 1421 TV FIELD PRODUCTION
**Credit: 4 (3 lecture, 4 lab)**
Production and post-production process involved in field television production. Topics include field camera setup and operation, field audio, television directing, and in-camera or basic continuity editing with emphasis on underlying principles of video technology. Students are required to attend additional lab hours outside of class.

## RTVB 1425 TV STUDIO PRODUCTION
**Prerequisite: RTVB 1317**
**Credit: 4 (3 lecture, 4 lab)**
Basic television production including live and taped studio programming, studio camera operation, television audio, and television directing with an emphasis on underlying principles of video technology.

## RTVB 1429 SCRIPTWRITING
**Prerequisite: ENGL 1301**
**Credit: 4 (3 lecture, 2 lab)**
Writing of commercials, public service announcements, promos, news documentaries, and other broadcast and film materials. Emphasis on the format and style of each type of writing and development of a professional writing style.

## RTVB 1447 AUDIO/RADIO PRODUCTION II
**Prerequisite: RTVB 1409**
**Credit: 4 (3 lecture, 2 lab)**
Audio production theories regarding multitrack recording, studio live production and equipment operation.

## RTVB 1455 RADIO AND TELEVISION ANNOUNCING
**Credit: 4 (3 lecture, 2 lab)**
Radio and television announcing skills such as voice quality, articulation, enunciation and pronunciation. Preparation for opportunities in announcing employment in news, sports, commercial, voice talent and disk jockey, and radio and TV.

## RTVB 1471 VIDEO MAINTENANCE TECHNOLOGY
**Credit: 4 (3 lecture, 4 lab)**
This course introduces the technology used by video production studios including video tape recorders, controllers, switchers, character generators, time base correctors, waveform monitors and video monitors. Common video recorder formats will be described and demonstrated. Students will learn methods for cleaning video tape recorders, diagnosing synchronization problems, checking cable integrity, adjusting color bars and phase with waveform monitors, ensuring proper genlock signal to integrated equipment and integrating equipment of differing formats. Students are required to attend additional lab hours outside of class.

## RTVB 1472 VIDEOTAPE EDITING
**Credit: 4 (3 lecture, 2 lab)**
An overview of the principles of video/audio post-production editing from tape-to-tape linear editing. It includes fundamental electronic concepts, assemble editing, audio and video insert editing, equipment operation, story construction, special effects utilization, EDL formation and utilization, and control track vs. time code editing. There will be extensive hands-on experience.

## RTVB 2232 AUDIO PRODUCTION LAB III
**Prerequisite: MUSC 2427, MUSC 2355**
**Corequisite: MUSC 2447**
**Credit: 2 (1 lecture, 4 lab)**
Topics include special effects, automated overdubbing, operation of specific recording equipment commonly found in large format multi-track audio facilities, mixing, and equalization. Complete one recording project using the lab time and facilities.

## RTVB 2343 COMMERCIAL RECORDING TECHNIQUES
**Prerequisite: MUSC 2447**
**Credit: 3 (2 lecture, 4 lab)**
Student will operate audio production and editing equipment, coordinate and direct music production projects from booking to post- production, and characterize the music industry and surrounding labor market. This class provides a capstone experience during which the student will use all of the skills acquired throughout this program. Students are required to attend additional lab hours outside of class.

## RTVB 2382 COOPERATIVE EDUCATION
**Prerequisite: MUSC 2447**
**Credit: 3 (1 lecture, 20 lab)**
As outlined in the learning plan, the student will master the theory, concepts and skills involving the tools, materials, equipment, procedures, regulations, laws and interactions within and among political, economic, environmental and legal systems associated with the particular occupation and the business/industry; demonstrate ethical behavior, safety practices, interpersonal and teamwork skills, communicating in the applicable technical language of the occupation and the business or industry. This class provides a capstone experience during which the student will use all of the skills acquired throughout this program.

## RTVB 2430 FILM AND VIDEO EDITING
**Prerequisite: Department Approval**
**Credit: 4 (3 lecture, 4 lab)**
Film and broadcast editing for the preparation and completion of shorts, trailers, documentaries, and features.

## RTVB 2435 TV PRODUCTION
**Prerequisite: RTVB 1421 and RTVB 1425**
**Credit: 4 (3 lecture, 4 lab)**
Pre-production, production and post-production process involved in single and multiple camera studio or field television production. Advanced instruction in camera operation, lighting, audio, television directing and single and multiple source editing with emphasis on underlying principles of video technology.

## RTVB 2437 TV PRODUCTION WORKSHOP I
**Prerequisite: RTVB 1421**
**Credit: 4 (2 lecture, 6 lab)**
A study of advanced application and design of video productions in location or studio shoots. This course provides information necessary to understand the production of professional video recordings. Basic camera, lighting, and recording skills will be introduced and reinforced with hands-on training. Students are required to attend additional lab hours outside of class.

### RTVB 2486 INTERNSHIP–RADIO AND TELEVISION BROADCASTING

**Prerequisite: RTVB 1317 and Department Approval**

**Credit: 4 (21 lab)**

A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

### RUSS 1300 BEGINNING RUSSIAN CONVERSATION I

**Credit: 3 (3 lecture)**

An introductory Russian course which emphasizes listening comprehension and speaking skills. Reading and writing may be done as reinforcement to oral communication skills. The course is slower-paced and less comprehensive than Russian 1411. This course is highly recommended for students without previous experience in the Russian language. It is not open to students whose first language is Russian. Generally, does not transfer as foreign language credit, but may transfer as elective credit.

### RUSS 1310 BEGINNING RUSSIAN CONVERSATION II

**Prerequisite: RUSS 1311 or equivalent**

**Credit: 3 (3 lecture)**

Continuation of RUSS 1311. Emphasizes oral communication skills. Generally, does not transfer as foreign language credit, but may transfer as elective credit. Students who continue the study of Russian following this course must take RUSS 1411.

### RUSS 1411 BEGINNING RUSSIAN I

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 4 (3 lecture, 2 lab)**

Introduction to Russian language and culture. Development of basic skills in listening comprehension, speaking, reading, writing, and cultural awareness. Course includes vocabulary building, conversation and grammar. Transfers as foreign language credit. Core Curriculum Course.

### RUSS 1412 BEGINNING RUSSIAN II

**Prerequisite: RUSS 1411 or satisfactory score on an advanced placement examination or at least 2 years of high school Russian within the last two years**

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 4 (3 lecture, 2 lab)**

**Continuation of RUSS 1411.**

Further development of listening comprehension, speaking, reading, and writing skills, and cultural awareness. More advanced grammar. Transfers as foreign language credit. Core Curriculum Course.

### RUSS 2311 INTERMEDIATE RUSSIAN I

**Prerequisite: RUSS 1412 or equivalent**

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 3 (3 lecture)**

Further development of listening, speaking, reading and writing skills and cultural awareness acquired in Beginning Russian. Study of more complex language structures. Oral and written practice based on readings and dialogues. Directed composition. Class conducted largely in Russian. Core Curriculum Course.

### RUSS 2312 INTERMEDIATE RUSSIAN II

**Prerequisite: RUSS 2311 or equivalent**

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 3 (3 lecture)**

Continuation of RUSS 2311. Oral practice and compositions based on readings. Class conducted mainly in Russian. Core Curriculum Course.

### SCIT 1407 HUMAN ANATOMY AND PHYSIOLOGY I

**Credit: 4 (4 lecture, 1 lab)**

In-depth coverage of the structure and function of the human body. Topics include cell structure and function; tissues; body organization; and the integumentary, skeletal, muscular, nervous, and endocrine systems. Emphasis on homeostasis.

### SCIT 1408 HUMAN ANATOMY AND PHYSIOLOGY II

**Prerequisite: SCIT 1407**

**Credit: 4 (4 lecture, 1 lab)**

A continuation of Human Anatomy and Physiology I with in-depth coverage of the structure and function of the human body. Topics include the digestive, respiratory, cardiovascular, lymphatic, immune, excretory, and reproductive systems. Emphasis on homeostasis.

### SCIT 1414 APPLIED GENERAL CHEMISTRY I

**Prerequisite or corequisite: MATH 1314**

**Credit: 4 (3 lecture, 3 lab)**

Study of the general concepts of chemistry with an emphasis on industrial applications. The student will measure physical properties of matter, perform chemical calculations, describe atomic and molecular structure, distinguish periodic relationships of elements, name and write inorganic formulas, write equations for chemical reactions, demonstrate stoichiometric relationships, and demonstrate basic laboratory skills.

### SCIT 1415 APPLIED GENERAL CHEMISTRY II

**Prerequisite: SCIT 1414**

**Credit: 4 (3 lecture, 3 lab)**

A continuation of Applied General Chemistry I with emphasis on solids, liquids, gases, solutions, energy changes, reaction rates, and chemical equilibrium. The student will describe properties of solids, liquids, gases, and solutions; measure and interpret energy changes, reaction rates, and chemical equilibrium; utilize acid/base chemistry and oxidation/reduction reaction concepts; and demonstrate laboratory techniques with industrial applications.

### SCIT 1418 APPLIED PHYSICS I

**Prerequisite: MATH 1314**

**Credit: 4 (3 lecture, 3 lab)**

An introduction to physics for students who have limited backgrounds in science and mathematics. Topics include motion, solid mechanics and fluid mechanics, properties of matter, heat, and thermodynamics.

### SCIT 1543 APPLIED ANALYTICAL CHEMISTRY

**Prerequisite: SCIT 1414, MATH 1314 or Department Approval**

**Credit: 5 (3 lecture, 4 lab)**

Instruction in gravimetric and titrimetric analysis of practical samples by classical and standard methods. The student will collect and prepare representative samples, perform gravimetric and titrimetric procedures, evaluate analytical data statistically, and prepare appropriate documentation.

### SCIT 2401 APPLIED ORGANIC CHEMISTRY I

**Prerequisite: SCIT 1414 or Department Approval**

**Credit: 4 (2 lecture, 4 lab)**

An overview of the classification, characteristics, and structure of carbon compounds and an introduction to basic organic laboratory techniques. The student will name compounds and write structural formulas; describe physical properties; write equations for organic reactions; describe selected industrial organic chemical sources, uses, and production; and synthesize, separate, purify, and identify organic compounds.

### SCIT 2402 APPLIED ORGANIC CHEMISTRY II

**Prerequisite: SCIT 2401**

**Credit: 4 (2 lecture, 4 lab)**

Continuation of Applied Organic Chemistry I with greater emphasis on reaction mechanisms and synthetic methods. The student will name compounds and write structural formulas; describe physical properties; write organic reaction equations including multi-step synthesis; describe selected industrial organic chemical sources, uses, and production; describe reaction mechanisms; and synthesize, separate, purify, and identify organic compounds.

### SCWK 1391 SPECIAL TOPICS IN SOCIAL WORK

**Credit: 3 (3 lecture)**

Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

### SCWK 2307 HUMAN BEHAVIOR AND THE SOCIAL ENVIRONMENT

**Credit: 3 (3 lecture)**

A basic framework for creating and organizing knowledge of human behavior and the social environment. Introduction of social system, life span, and strength approaches to understanding human behavior and environmental impact. Emphasis on the impact of human diversity, discrimination, and oppression on the individual's ability to reach or maintain optimal health and well-being.

### SGNL 1301 AMERICAN SIGN LANGUAGE (ASL): BEGINNING I
**Credit: 3 (2 lecture, 2 lab)**
An introduction to the basic skills in production and comprehension of American Sign Language (ASL). Includes the manual alphabet and numbers. Develops conversational ability, culturally appropriate behaviors, and exposes students to ASL grammar. Student must complete the course with a 'B' or better.

### SGNL 1302 AMERICAN SIGN LANGUAGE (ASL): BEGINNING II
**Prerequisite: SGNL 1301 or SLNG 1304**
**Credit: 3 (2 lecture, 2 lab)**
Develops receptive and expressive ability and allows recognition and demonstration of more sophisticated grammatical features of American Sign Language (ASL). Increases fluency and accuracy in fingerspelling and numbers. Provides opportunities for interaction within the deaf community. Student must complete the course with a 'B' or better.

### SGNL 2301 AMERICAN SIGN LANGUAGE: INTERMEDIATE I
**Prerequisite: SGNL 1302 or SLNG 1305**
**Credit: 3 (2 lecture, 2 lab)**
Integrates and refines expressive and receptive skills in American Sign Language (ASL), including recognition of sociolinguistic variation. A practice oriented approach to language acquisition, including the use of multimedia. Student must complete the course with a 'B' or better.

### SGNL 2302 AMERICAN SIGN LANGUAGE (ASL): INTERMEDIATE II
**Prerequisite: SGNL 2301 or SLNG 1344**
**Credit: 3 (2 lecture, 2 lab)**
An integration of expressive and receptive skills with emphasis on literature, discourse styles, and contextualization at an intermediate level. Provides students with information on idiomatic/colloquial usages for signs and grammatical structures for complex sentences. Student must complete the course with a 'B' or better.

### SLNG 1248 VISUAL/GESTURAL COMMUNICATION
**Credit: 2 (1 lecture, 3 lab)**
A course in vocabulary building in English and American Sign Language for interpreters.

### SLNG 1304 AMERICAN SIGN LANGUAGE (ASL): BEGINNING I
**Prerequisites: SGNL 1311 and SLNG 1315**
**Credit: 3 (2 lecture, 2 lab)**
An introduction to the basic skills in production and comprehension of American Sign Language (ASL). Includes the manual alphabet and numbers. Develops conversational ability, culturally appropriate behaviors, and exposes students to ASL grammar. Student must complete the course with a 'B' or better.

### SLNG 1305 AMERICAN SIGN LANGUAGE (ASL): BEGINNING II
**Prerequisite: SLNG 1304**
**Credit: 3 (2 lecture, 2 lab)**
Develops receptive and expressive ability and allows recognition and demonstration of more sophisticated grammatical features of American Sign Language (ASL). Increases fluency and accuracy in fingerspelling and numbers. Provides opportunities for interaction within the deaf community.

### SLNG 1311 FINGERSPELLING NUMBER SIGNS (ASL)
**Credit: 3 (2 lecture, 2 lab)**
Develops expressive and receptive fingerspelling skills. Receptive skills focus on whole word phrase recognition and fingerspelling/number comprehension in context. Expressive skills focus on the development of speed, clarity, and fluency.

### SLNG 1317 INTRODUCTION TO DEAF COMMUNITY
**Credit: 3 (3 lecture)**
An overview of the physical, educational, social, and cultural implications within the context of a deaf or hard-of-hearing individual's personal life, family, and community in today's multicultural world. Emphasis on current educational and vocational programs, legislation, technology, oppression, and other issues.

### SLNG 1321 INTRODUCTION TO THE INTERPRETING PROFESSION
**Prerequisite: SLNG 1317, SLNG 1311, SLNG 1315 and SLNG 1301**
**Credit: 3 (2 lecture, 2 lab)**
An overview of the field of sign language interpretation. Provides a historical framework for the principles, ethics, roles, responsibilities, and standard practices of the interpreting profession.

### SLNG 1344 AMERICAN SIGN LANGUAGE (ASL) III
**Prerequisite: SLNG 1304, SLNG 1305**
**Credit: 3 (2 lecture, 2 lab)**
Integrates and refines expressive and receptive skills in American Sign Language (ASL), including recognition of sociolinguistic variation. A practice oriented approach to language acquisition.

### SLNG 1345 AMERICAN SIGN LANGUAGE (ASL) IV
**Prerequisite: SLNG 1344**
**Credit: 3 (2 lecture, 2 lab)**
An integration of expressive and receptive skills in American Sign Language (ASL) with emphasis on grammar, linguistics, literature, and discourse styles at an intermediate level. Provides students with information on linguistic and cultural variations.

### SLNG 1347 DEAF CULTURE
**Credit: 3 (3 lecture)**
Provides a historical and contemporary perspective of American deaf culture using a sociocultural model. Includes cultural identity and awareness, values, group norms, communication, language, and significant contributions made by deaf people to the world.

### SLNG 1380 COOPERATIVE EDUCATION - SIGN LANGUAGE INTERPRETATION AND TRANSLATION
**Prerequisites: SLNG 2301, SLNG 2302, SLNG 2315, SLNG 2331 and Department Approval**
**Credit: 3 (1 lecture, 10 lab)**
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

### SLNG 1391 SPECIAL TOPICS IN SIGN LANGUAGE INTERPRETING
**Prerequisite: Department Approval**
**Credit: 3 (2 lecture, 2 lab)**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student.

### SLNG 2301 INTERPRETING I
**Prerequisites: SLNG 1211, SLNG 1215, SLNG 1304, SLNG 1305, SLNG 1321**
**Credit: 3 (2 lecture, 2 lab)**
An overview of the interpreting process and models of interpretation. Introduces the skills necessary to achieve message equivalency in interpreting American Sign Language (ASL) to English and English to ASL.

### SLNG 2302 INTERPRETING II
**Prerequisites: SLNG 2301, SLNG 1344, SLNG 1345**
**Credit: 3 (2 lecture, 2 lab)**
Enhancement of interpreting skills and discourse analysis of increasingly complex tasks utilizing consecutive and interactive interpreting experiences including multimedia materials. Emphasis on skill analysis and peer evaluation.

### SLNG 2311 SPECIALIZED INTERPRETING/TRANSLITERATING
**Prerequisites: SLNG 2301, SLNG 2302, SLNG 1344, SLNG 1345**
**Credit: 3 (2 lecture, 2 lab)**
Overview of interpreting/transliterating with special populations (e.g., deaf/blind, high visual, oral) in special settings (e.g., religious, artistic, medical, legal, mental health). Reinforce interpreting theories and techniques in relation to special population(s) and/or setting(s).

### SLNG 2315 INTERPRETING IN EDUCATIONAL SETTINGS
**Prerequisites: SLNG 2301, SLNG 2302**
**Credit: 3 (2 lecture, 2 lab)**
Increases awareness of current techniques, issues, and ethics in mainstreaming and bilingual/bicultural education practices. Includes a survey of technical signs and signed English systems currently in use, i.e., Cueing and MCE.

### SLNG 2331 INTERPRETING III
**Prerequisites: SLNG 2301, SLNG 2302**
**Credit: 3 (2 lecture, 2 lab)**
A practice oriented course to strengthen skills in the integration and application of processing more complex source materials. Continued exposure to simulated interpreting experience including multimedia material.

## SLNG 2388 INTERNSHIP - SIGN LANGUAGE INTERPRETATION AND TRANSLATION

**Prerequisites: SLNG 2302, SLNG 2311, SLNG 2331 and Department Approval**
**Credit: 3 (9 lab)**
A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

## SLNG 2389 INTERNSHIP - SIGN LANGUAGE INTERPRETATION AND TRANSLATION

**Prerequisites: SLNG 2388 and Department Approval**
**Credit: 3 (9 lab)**
A work-based learning experience that enables the student to apply specialized occupational theory, skills and concepts. A learning plan is developed by the college and the employer.

## SOCI 1301 INTRODUCTION TO SOCIOLOGY

**Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**
**Credit: 3 (3 lecture)**
A survey course which focuses on the nature of human groups in American and world societies, their social and cultural adaptations, and the impact which various social processes may have on their social organization and social change. Core Curriculum Course.

## SOCI 1306 CONTEMPORARY SOCIAL PROBLEMS

**Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**
**Credit: 3 (3 lecture)**
An inquiry into selected current social problems with specific reference to their original development, and suggested solutions. Core Curriculum Course.

## SOCI 2301 MARRIAGE AND THE FAMILY

**Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**
**Credit: 3 (3 lecture)**
This course is a sociological analysis of marriage and family relations based on fundamental principles in the discipline. Both theory and current research findings are covered. Areas explored include family dynamics, interpersonal relations, demographic trends, and conflict management. Current and classical research is reviewed and applied. Core Curriculum Course.

## SOCI 2319 MINORITY STUDIES I

**Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**
**Credit: 3 (3 lecture)**
An indepth theoretical and practical Sociological analysis that examines historical and contemporary minority issues including race and ethnicity using historical and modern demographic data such as life span, birth rates, marriage patterns, business ownership, educational attainment, migration data, and assimilation/pluralism patterns as well as the impact of economic and social globalization on minorities in the United States and the world. Core Curriculum Course

## SOCI 2336 CRIMINOLOGY

**Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**
**Credit: 3 (3 lecture)**
An analysis of the social dimensions of crime as a form of deviant behavior; the nature and extent of crime; classic and modern theories; the role of the police and the courts, group and community oriented programs, with an evaluation of prevention, control, and treatment programs. Core Curriculum Course.

## SOCI 2374 GLOBAL ISSUES AND SOCIAL CHANGE

**Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**
**Credit: 3 (3 lecture)**
A macro level analysis of the dynamic processes of change affecting the increasingly global community, with emphasis on the role of technology. The course will focus on current trends in the broad topics of human ecology, human rights, the environment, culture and the social institutions. Special attention will be devoted to the conflict and security, international governmental and nongovernmental entities, social movements, and the role of the "global citizen". Core Curriculum Course.

## SPAN 1300 BEGINNING SPANISH CONVERSATION I

**Credit: 3 (3 lecture)**
An introductory Spanish course which emphasizes listening comprehension and speaking skills. Reading and writing may be done as reinforcement to oral communication skills. The course is slower-paced and less comprehensive than Spanish 1411. It is highly recommended for students without previous experience in the Spanish language. This course is not open to students whose first language is Spanish. Generally, does not transfer as foreign language credit, but may transfer as elective credit.

## SPAN 1305 ELEMENTARY SPANISH REVIEW

**Prerequisite: test placement**
**Credit: 3 (3 lecture)**
Designed for students who enter with two or more years of high school Spanish but are not prepared to do work at the intermediate level. May not be taken for credit by students who have credit for SPAN 1411 or SPAN 1412.

## SPAN 1310 BEGINNING SPANISH CONVERSATION II

**Prerequisite: SPAN 1300 or equivalent**
**Credit: 3 (3 lecture)**
Continuation of SPAN 1300. Emphasizes oral communication skills. Generally, does not transfer as foreign language credit, but may transfer as elective credit. Students who continue the study of Spanish following this course must take SPAN 1411.

## SPAN 1411 BEGINNING SPANISH I

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 4 (3 lecture, 2 lab)**
Introduction to the Spanish language and Hispanic culture. Development of basic skills in listening comprehension, speaking, reading, writing, and cultural awareness. Course includes vocabulary building, conversation and grammar. Transfers as foreign language credit. Core Curriculum Course.

## SPAN 1412 BEGINNING SPANISH II

**Prerequisite: SPAN 1411 or satisfactory score on an advanced placement examination or at least 2 years of high school Spanish within the last two years; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 4 (3 lecture, 2 lab)**
Continuation of SPAN 1411. Further development of listening comprehension, speaking, reading, and writing skills, and cultural awareness. More advanced grammar. Transfers as foreign language credit. Core Curriculum Course.

## SPAN 2306 INTERMEDIATE CONVERSATIONAL SPANISH

**Prerequisite: SPAN 1412 or SPAN 1310**
**Credit: 3 (3 lecture)**
Refinement of conversational skills through practice of idiomatic usage and discussion of contemporary issues and/or current events.

## SPAN 2311 INTERMEDIATE SPANISH I

**Prerequisite: SPAN 1412 or equivalent; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (3 lecture)**
Further development of listening, speaking, reading and writing skills and cultural awareness acquired in Beginning Spanish. Presentation of more complex language structures. Oral and written practice based on selected readings. Class conducted mainly in Spanish. Core Curriculum Course.

## SPAN 2312 INTERMEDIATE SPANISH II

**Prerequisite: SPAN 2311 or equivalent; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (3 lecture)**
Continuation of SPAN 2311. Special emphasis on written communication. Readings, discussions and compositions. Class conducted mainly in Spanish. Core Curriculum Course.

## SPAN 2313 SPANISH FOR NATIVE SPEAKERS I

**Prerequisite: test placement; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (3 lecture)**
Designed for Hispanic-American and other students from a Spanish speaking background. Emphasis on basic skills in reading, spelling, and composition. Credit will not be given for both SPAN 2313 and SPAN 2311.

## SPAN 2315 SPANISH FOR NATIVE SPEAKERS II

**Prerequisite: SPAN 2313; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 3 (3 lecture)**
Continuation of SPAN 2313. Continued development of reading and writing skills and control of universal Spanish style.

## SPAN 2316 CAREER-ORIENTED CONVERSATIONAL SPANISH

**Prerequisite: SPAN 2311**
**Credit: 3 (3 lecture)**
A course emphasizing the development of listening and speaking skills at the intermediate level. The course will use vocabulary, structures, conversational situations and cultural information appropriate for a designated activity or topic such as business, music, travel or other specialized areas. Each time the course is offered, the particular focus will be specified. May be repeated for credit with permission of the Dean.

## SPAN 2321 READINGS IN SPANISH LITERATURE

**Prerequisite: SPAN 2312**
**Credit: 3 (3 lecture)**
An introduction to Spanish literature through representative selections by major Spanish authors. Conducted in Spanish. Core Curriculum Course.

## SPAN 2323 READINGS IN LATIN AMERICAN LITERATURE

**Prerequisite: SPAN 2312**
**Credit: 3 (3 lecture)**
An introduction to Latin American literature through representative selections from major Latin American authors. Conducted in Spanish. Core Curriculum Course.

## SPCH 1146 PARLIAMENTARY LAW AND PROCEDURE

**Credit: 1 (0 lecture, 3 lab)**
Parliamentary law and procedure as needed by club leaders and sponsors of school clubs and other organizations. Course includes lecture material, practice sessions with hypothetical cases and the reading of collateral material from library sources.

## SPCH 1311 FUNDAMENTALS OF SPEECH

**Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**
**Credit: 3 (3 lecture)**
A survey course in the basic principles of oral communication. Includes the study of the use of the body and voice, the speaker-listener relationship, and preparation and delivery of platform speeches. Open to all students. Required for speech majors.

## SPCH 1315 PUBLIC SPEAKING

**Prerequisites: SPCH 1311 or ENGL 1301 or Department Approval.**
**Credit: 3 (3 lecture)**
Designed to develop proficiency in public speaking situations; emphasis on content, organization, and delivery of speeches for various occasions. Open to all students. Required for speech majors.

## SPCH 1318 INTERPERSONAL COMMUNICATION

**Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**
**Credit: 3 (3 lecture)**
A course designed to improve the student's effectiveness in small-group and one-to-one communication. Open to all students. Required for speech majors. Core Curriculum Course.

## SPCH 1321 BUSINESS AND PROFESSIONAL SPEAKING

**Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**
**Credit: 3 (3 lecture)**
Applies the techniques of oral communication to situations most common to business and professional people. Covers discussion methods, conference techniques, committee reports, instructions, lectures, and public speeches. Open to all students. Required for speech majors.

## SPCH 1342 VOICE AND DICTION I

**Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**
**Credit: 3 (3 lecture)**
Training in the effective use of the voice and body. Includes study of the vocal mechanism and the phonetic alphabet; improvement of enunciation, pronunciation, and articulation. Recommended for non-native speakers. Open to all students. Required for speech majors.

## SPCH 2333 DISCUSSION AND SMALL GROUP COMMUNICATION

**Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**
**Credit: 3 (3 lecture)**
Examines the dynamics of small group communication and discussion situations, including body language. Open to all students, required of majors.

## SPCH 2335 DEBATE

**Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**
**Credit: 3 (3 lecture)**
Study of principles of argumentation and debate. Practice in preparing written and spoken arguments. Open to all students.

## SPCH 2341 INTERPRETIVE READING

**Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**
**Credit: 3 (3 lecture)**
Cultivation of the art of oral presentation of literary forms, analysis of thought, development of imagination, communication of emotional values, and individual projects in interpretive reading. Open to all students. Required for speech majors.

## SRGT 1201 MEDICAL TERMINOLOGY

**Prerequisites: Must be placed into college-level reading (or take GUST 0342 as a co-requisite) and be placed into college-level writing (or take ENGL 0310/0349 as a co-requisite).**
**Credit: 2 (2 lecture)**
Study of the basic structure of medical words including prefixes, suffixes, roots, combining forms, plurals, pronunciation, spelling, and the definitions of medical terms. Emphasis is on building a professional vocabulary required for employment within the allied health care field.

## SRGT 1361 CLINICAL - SURGICAL TECHNOLOGY/TECHNOLOGIST

**Prerequisite: Department Approval**
**Credit: 3 (9 clinical)**
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## SRGT 1391 SPECIAL TOPICS IN SURGICAL/OPERATING ROOM TECHNICIAN

**Credit: 3 (3 lecture)**
Topics address recently identified current events, skills, knowledges, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## SRGT 1405 INTRODUCTION TO SURGICAL TECHNOLOGY

**Credit: 4 (3 lecture, 3 lab)**
Orientation to surgical technology theory, surgical pharmacology and anesthesia, technological sciences, and patient care concepts.

## SRGT 1409 FUNDAMENTALS OF ASEPTIC TECHNIQUE

**Credit: 4 (3 lecture, 3 lab)**
In-depth coverage of perioperative concepts such as aseptic principles and practices, infectious processes, wound healing, and creation and maintenance of the sterile field.

## SRGT 1441 SURGICAL PROCEDURES I

**Prerequisites: SRGT 1405, SRGT 1409**
**Credit: 4 (3 lecture, 3 lab)**
Introduction to surgical pathology and its relationship to surgical procedures. Emphasis on surgical procedures related to the general, OB/GYN, genitourinary, and orthopedic surgical specialties incorporating instruments, equipment, and supplies required for safe patient care.

## SRGT 1442 SURGICAL PROCEDURES II

**Prerequisite: SRGT 1441**
**Credit: 4 (3 lecture, 3 lab)**
Introduction to surgical pathology and its relationship to surgical procedures. Emphasis on surgical procedures related to the thoracic, peripheral vascular, plastic/reconstructive, EENT, cardiac, and neurological surgical specialties incorporating instruments, equipment, and supplies required for safe patient care.

## SRGT 1463 CLINICAL - SURGICAL TECHNOLOGY/TECHNOLOGIST

**Prerequisite: SRGT 1361**
**Credit: 4 (24 clinical)**
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## SRGT 2130 PROFESSIONAL READINESS

**Credit: 1 (1 lecture, 1 lab)**
Transition into the professional role of the surgical technologist. Includes professional readiness for employment, attaining certification, and maintaining certification status. A capstone experience may be included.

## SRGT 2463 CLINICAL - SURGICAL TECHNOLOGY/TECHNOLOGIST

**Prerequisite: SRGT 1463**
**Credit: 4 (17 clinical)**
A health-related work-based learning experience that enables the student to apply specialized occupational theory, skills, and concepts. Direct supervision is provided by the clinical professional.

## SRVY 1301 INTRODUCTION TO SURVEYING

**Credit: 3 (3 lecture)**
An overview of the surveying profession. An introduction to research methods, to simple equipment used in making measurements, to data collection, and to organization of note keeping. Emphasis on horizontal and vertical measurements, leveling methods, and pencil manuscript mapping by coordinates.

## SRVY 1305 THEORY OF SURVEY MEASUREMENTS

**Prerequisite/Corequisite: SRVY 1301**
**Credit: 3 (3 lecture)**
Combines the skills covered in Introduction to Surveying and its companion lab. An introduction to research methods and organization skills. Emphasis on horizontal and vertical measurements, leveling methods, and pencil manuscript mapping by coordinates.

## SRVY 1309 SURVEYING MEASUREMENT PRACTICE

**Prerequisite/Corequisite: SRVY 1301**
**Credit: 3 (3 lecture)**
An introductory lab course covering the equipment and hardware of the profession necessary to measure horizontal and vertical distances (chains, rules, tapes, electronic distance measuring equipment, stadia, levels, pins, plumb bobs, barometers, pacing, odometers, and vertical collimators) in accordance with prevailing and applicable professional standards (e.g., standards of the National Geodetic survey, state and local statutes and regulations, and professional standards such as the Texas Society of Professional Surveyors).

## SRVY 1341 LAND SURVEYING

**Prerequisite/Corequisite: SRVY 1301**
**Credit: 3 (3 lecture)**
An introduction to the measurement and determination of boundaries, areas, shapes, and location through traversing techniques. A variety of adjustment methods introduced using programmed and non-programmed hand-held calculators, as well as computers. Methods of traversing and adjustment of errors in accordance with prevailing and applicable professional standards (TSPS, NGS and other state and local statutes and regulations).

## SRVY 1413 PLANE SURVEYING

**Prerequisite/Corequisite: SRVY 1301**
**Credit: 4 (3 lecture, 3 lab)**
An introductory overview of surveying equipment and measurement techniques used in mapping. A combined lecture and lab course with emphasis on introducing students to both leveling and traversing for the purpose of preparing a map.

## SRVY 1441 LAND SURVEYING

**Credit: 4 (3 lecture, 3 lab)**
A study of the measurement and determination of boundaries, areas, shapes, location through traversing techniques. Instruction in a variety of adjustment methods using programmed and non-programmed hand-held calculators and computers. Methods of traversing and adjustment of errors according to prevailing and applicable professional standards.

## SRVY 2343 SURVEYING - LEGAL PRINCIPLES I

**Credit: 3 (3 lecture)**
The study of location, conveyance, ownership and transfer of real property under the laws of the State of Texas.

## SRVY 2344 SURVEYING - LEGAL PRINCIPLES II

**Prerequisite: SRVY 2343**
**Credit: 3 (3 lecture)**
An advanced course in legal principles, retracement and boundary location with application of legal principles and rules of construction, writing survey reports and property descriptions, and a review of boundary law cases.

## SRVY 2349 CONSTRUCTION SURVEYING

**Credit: 3 (3 lecture)**
A study of the theory of surveying alignments, (e.g., highway routes, pipelines, utility and waterway construction), and transmission lines and site stakeout, including the study of horizontal circular curves, parabolic curves, areas, and earthwork volumes.

## TECA 1303 FAMILY, SCHOOL, AND COMMUNITY

**Prerequisites: Must be placed into college-level reading and college-level writing.**
**Credit: 3 (3 lecture)**
A study of the relationship between the child, the family, the community and early childhood educators, including a study of parent education, family and community life-styles, child abuse and current family issues. Field of Study Course.

## TECA 1311 EDUCATING YOUNG CHILDREN

**Prerequisites: Must be placed into college-level reading and college-level writing.**
**Credit: 3 (3 lecture)**
An introduction to the profession of early childhood education, focusing on developmentally appropriate practices, types of programs, historical perspectives, ethics and current issues. Field of Study Course.

## TECA 1318 WELLNESS OF THE YOUNG CHILD

**Prerequisites: Must be placed into college-level reading and college-level writing.**
**Credit: 3 (2 lecture, 3 lab)**
A study of nutrition, health, and safety including community health, universal health precautions, and legal implications as well as the practical application of these principles in a variety of settings. Field of Study Course.

## TECA 1354 CHILD GROWTH AND DEVELOPMENT

**Prerequisites: Must be placed into college-level reading and college-level writing.**
**Credit: 3 (3 lecture)**
A study of the principles of normal child growth and development from conception through adolescence. Focus on physical, cognitive, social and emotional domains of development. Field of Study and Core Curriculum Course. (Cross-listed with PSYC 2308)

## TECM 1303 TECHNICAL MATHEMATICS

**Credit: 3 (3 lecture)**
A review of basic mathematics including whole numbers, fractions, mixed numbers, decimals, percents, ratios, and proportions. Converting to different units of measure (stand and / or metrics) and other topics as related by specific businesses ans industries will br covered.

## TRVM 1300 INTRODUCTION TO TRAVEL AND TOURISM

**Credit: 3 (3 lecture)**
An overview of the travel industry. Emphasis on travel careers and the impact of tourism on society.

## TRVM 1306 TRAVEL AUTOMATION I

**Prerequisite: TRVM 1300 and TRVM 1313, or Department Approval**
**Credit: 3 (2 lecture, 2 lab)**
An introduction to computer training using one of the major computer reservation systems for the travel industry.

## TRVM 1308 TRAVEL DESTINATIONS I - WESTERN HEMISPHERE

**Credit: 3 (3 lecture)**
Study of countries located in the Western Hemisphere including Canada, United States, Latin America, South America, and the Caribbean Islands. Emphasis on the culture, customs, seasonal attractions, climate, physical features, language, currency, political conditions, and how they affect both the business and leisure traveler.

## TRVM 1313 TICKETING FORMS AND PROCEDURES

**Credit: 3 (3 lecture)**
An introduction to manual travel agency operations and basic hands-on reservations techniques. An overview of the ARC ticketing, forms, and procedures.

## TRVM 1323 GROUP TOUR OPERATIONS

**Credit: 3 (3 lecture)**
A study of the role of the group planner, selling to groups, and planning itineraries, including components of a tour package, tour costing, advertising and promotion, group dynamics, and tour guide qualifications.

## TRVM 1327 SPECIAL EVENTS DESIGN

**Credit: 3 (3 lecture)**
The development of a special event from the conceptual stage through completion. Emphasis on industry terminology, factors to consider when planning a special event, and contingency plans.

## TRVM 1341 TRAVEL DESTINATIONS II - EASTERN HEMISPHERE

**Credit: 3 (3 lecture)**
Study of countries located in the Eastern Hemisphere including Europe, Asia, Africa, Middle East, Australia, and New Zealand. Emphasis on the culture, customs, climate, physical features, language, currency, and political conditions and how they affect both the business and leisure traveler.

## TRVM 1345 TRAVEL AND TOURISM SALES AND MARKETING TECHNIQUES

**Credit: 3 (3 lecture)**
A study of marketing, sales techniques, promotions, and advertising theories as applied to the travel and tourism industry. Exposure to the marketing mix relating to market segmentation, market planning, advertising, and other communication techniques. Emphasis on role playing scenarios and consumer buying behavior. Product-service mix will be addressed.

## TRVM 1348 INTERNATIONAL FARE CONSTRUCTION

**Credit: 3 (3 lecture)**
A survey of international ticket pricing, fare construction, and ticketing.

## TRVM 1391 SPECIAL TOPICS/TRAVEL RETAIL SALES

**Credit: 3 (3 lecture)**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

## TRVM 2305 TRAVEL INDUSTRY MANAGEMENT

**Credit: 3 (3 lecture)**
An overview of mid-management responsibilities within the travel and tourism industry. Students will describe the management functions including: analyzing, coordinating, implementing, and supervising tasks of managing a business.

## TRVM 2335 TRAVEL AUTOMATION II

**Prerequisite: TRVM 1306**
**Credit: 3 (2 lecture, 2 lab)**
A continuation of the study of airline computer reservation systems. Emphasis on reserving cars and hotels, using queues, creating passenger profiles, interpreting air fares, rules, and routing, and explaining these to passengers.

## TRVM 2380 COOPERATIVE EDUCATION - TOURISM AND TRAVEL SERVICES MANAGEMENT

**Prerequisite: 6 semester hours in TRVM courses and Department Approval**
**Credit: 3 (1 lecture, 20 hours work experience)**
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## TRVM 2381 COOPERATIVE EDUCATION - TOURISM AND TRAVEL SERVICES MANAGEMENT

**Prerequisite: TRVM 2380 and Department Approval**
**Credit: 3 (1 lecture, 20 hours work experience)**
Career-related activities encountered in the student's area of specialization offered through an individualized agreement among the college, employer, and student. Under the supervision of the college and the employer, the student combines classroom learning with work experience. Includes a lecture component.

## VCPG 2210 BEGINNING VOCAL PEDAGOGY

**Prerequisite: MUAP 1281**
**Credit: 2 (2 lecture)**
Technical, theoretical and aural instructional strategies for applications to the beginning vocal student. Includes 'how to' set up the business of a teaching studio. Surveys beginning vocal methods books, repertoire, and professional affiliations.

## VCPG 2211 INTERMEDIATE VOCAL PEDAGOGY

**Prerequisite: VCPG 2210**
**Credit: 2 (2 lecture)**
Technical, theoretical, and aural instructional strategies for application to the intermediate vocal student. Surveys publications and reference materials germane to the teaching area. Includes major periods of vocal music with emphasis on style, diction, and performance.

## VHPA 1441 AUTO PARTS COUNTER SALES

**Credit: 4 (4 lecture)**
Skill development in communications, sales, and merchandising of auto parts to vehicle owners and repair technicians with an emphasis on customer relations, communication, sales, and merchandising skills.

## VIET 1411 BEGINNING VIETNAMESE I

**Prerequisites: Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**
**Credit: 4 (3 lecture, 2 lab)**
Introduction to Vietnamese language and culture. Development of basic skills in listening comprehension, speaking, reading, writing, and cultural awareness. Course includes vocabulary building, conversation and grammar. Transfers as foreign language credit. Core Curriculum Course.

## VIET 1412 BEGINNING VIETNAMESE II

**Prerequisites: VIET 1411 or satisfactory score on an advanced placement examination or at least 2 years of high school Vietnamese within the last two years. Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 4 (3 lecture, 2 lab)**

Continuation of Vietnamese 1411. Further development of listening comprehension, speaking, reading, and writing skills, and cultural awareness. More advanced grammar. Transfers as foreign language credit. Core Curriculum Course.

## VIET 2311 INTERMEDIATE VIETNAMESE I

**Prerequisite: VIET 1412 or equivalent; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.**

**Credit: 3 (3 lecture)**

Further development of listening, speaking, reading and writing skills and cultural awareness acquired in Beginning Vietnamese. Presentation of more complex language structures. Oral and written practice based on selected readings. Class conducted mainly in Vietnamese. Core Curriculum Course.

## VIET 2312 INTERMEDIATE VIETNAMESE II

**Prerequisite: VIET 2311 or equivalent; Must be placed into GUST 0342 (or higher) in reading and ENGL 0310/0349 (or higher) in writing.Credit: 3 (3 lecture)**

Continuation of VIET 2311. Special emphasis on written communication. Readings, discussions and compositions. Class conducted mainly in Vietnamese. Core Curriculum Course.

## VNSG 1122 VOCATIONAL NURSING CONCEPTS

**Prerequisite: Admission to program**

**Credit: 1 (1 lecture)**

Introduction to the nursing profession and its responsibilities and the legal and ethical issues in nursing practice. Concepts related to the physical, emotional, and psychosocial self-care of the learner/professional.

## VNSG 1161 CLINICAL - PRACTICAL NURSING I

**Prerequisite: Admission to program**

**Corequisite: VNSG 1423**

**Credit: 1 (6 lab)**

A method of instruction providing detailed education, training and work-based experience, and direct patient/client care, generally at a clinical site. Specific detailed learning objectives are developed for each course by the faculty. On-site clinical instruction, supervision, evaluation, and placement is the responsibility of the college faculty. Clinical experiences are unpaid external learning experiences. Course may be repeated if topics and learning outcomes vary. Clinical experiences focus on providing basic nursing care to adult patients/clients in a hospital or long-term care facility.

## VNSG 1162 CLINICAL - PRACTICAL NURSING II

**Prerequisite: VNSG 1161**

**Corequisite: VNSG 1330**

**Credit: 1 (4 lab)**

A method of instruction providing detailed education, training and work-based experience, and direct patient/client care, generally at a clinical site. Specific detailed learning objectives are developed for each course by the faculty. On-site clinical instruction, supervision, evaluation, and placement is the responsibility of the college faculty. Clinical experiences are unpaid external learning experiences. Course may be repeated if topics and learning outcomes vary. Clinical experiences focus on antepartum, intrapartum, postpartum, and newborn care in the community and hospital setting.

## VNSG 1163 CLINICAL - PRACTICAL NURSING III

**Prerequisite: VNSG 1162**

**Corequisite: VNSG 1334**

**Credit: 1 (4 lab)**

A method of instruction providing detailed education, training and work-based experience, and direct patient/client care, generally at a clinical site. Specific detailed learning objectives are developed for each course by the faculty. On-site clinical instruction, supervision, evaluation, and placement is the responsibility of the college faculty. Clinical experiences are unpaid external learning experiences. Course may be repeated if topics and learning outcomes vary. Clinical experiences focus on child care in the community and hospital setting.

## VNSG 1216 NUTRITION

**Prerequisite: Admission to program**

**Credit: 2 (2 lecture)**

Introduction to nutrients and their role in proper growth and development and the maintenance of health.

## VNSG 1219 PROFESSIONAL DEVELOPMENT

**Prerequisite: VNSG 1400**

**Credit: 2 (2 lecture)**

Study of the importance of professional growth. Topics include the role of the licensed vocational nurse in the multi-disciplinary health care team, professional organizations, and continuing education.

## VNSG 1227 ESSENTIALS OF MEDICATION ADMINISTRATION

**Prerequisite: Admission to program**

**Credit: 2 (2 lecture, 1 lab)**

General principles of medication administration including determination of dosage, preparation, safe administration, and documentation of multiple forms of drugs. Emphasis will be placed on the pharmacological aspect of drug classifications including the uses, actions, pharmacodynamics, indications, pharmakinetics, contraindications, adverse effects and nursing implications.

## VNSG 1238 MENTAL ILLNESS

**Prerequisite: VNSG 1400**

**Credit: 2 (2 lecture)**

Study of human behavior with emphasis on emotional and mental abnormalities and modes of treatment incorporating the nursing process.

## VNSG 1266 PRACTICUM-PRACTICAL NURSE I

**Prerequisite: VNSG 1161**

**Corequisite: VNSG 1409 and VNSG 2331**

**Credit: 2 (15 lab)**

Practical general training and experiences in the workplace. The college, with the employer, develops and documents an individualized plan for the student. The plan relates the workplace training and experiences to the student's general and technical course of study. The guided external experiences may be paid or unpaid. This course may be repeated if topics and learning outcomes vary. Clinical experiences focus on providing advance nursing care to adult patients/clients with circulatory, respiratory, endocrine, digestive and mental illness disorders in a community and hospital setting.

## VNSG 1267 PRACTICUM-PRACTICAL NURSE II

**Prerequisite: VNSG 1266 and VNSG 1162**

**Corequisite: VNSG 1410**

**Credit: 2 (16 lab)**

Practical general training and experiences in the workplace. The college with the employer develops and documents an individualized plan for the student. The plan relates the workplace training and experiences to the student's general and technical course of study. The guided external experiences may be paid or unpaid. This course may be repeated if topics and learning outcomes vary. Clinical experiences focus on providing advance nursing care to adult patients/clients with muscular-skeletal, neurosensory, renal and reproductive disorders in a community and hospital setting.

## VNSG 1320 ANATOMY AND PHYSIOLOGY FOR ALLIED HEALTH

**Prerequisite: Admission to program**

**Credit: 3 (3 lecture)**

Introduction to the normal structure and function of the body including an understanding of the relationship of body systems in maintaining homeostasis.

## VNSG 1330 MATERNAL- NEONATAL NURSING

**Prerequisite: VNSG 1400**

**Corequisite: VNSG 1162**

**Credit: 3 (3 lecture)**

Utilization of the nursing process in the assessment and management of the childbearing family. Emphasis on the bio-psycho-socio-cultural needs of the family during the phases of pregnancy, childbirth, and the neonatal period including abnormal conditions.

## VNSG 1334 PEDIATRICS

**Corequisite: VNSG 1163**

**Credit: 3 (3 lecture)**

Study of childhood diseases and childcare from infancy through adolescence. Focus on the care of the well and the ill child utilizing the nursing process.

## VNSG 1400 NURSING IN HEALTH AND ILLNESS I

**Credit: 4 (4 lecture)**

**Prerequisite: Admission to program**

Introduction to general principles of growth and development, primary health care needs of the client across the life span, and therapeutic nursing interventions.

### VNSG 1409 NURSING IN HEALTH AND ILLNESS II
**Credit: 4 (4 lecture)**
**Prerequisite: VNSG 1400**
Introduction to common health problems requiring medical and surgical interventions.

### VNSG 1410 NURSING IN HEALTH AND ILLNESS III
**Prerequisite: VNSG 1409**
**Corequisite: VNSG 1267**
**Credit: 4 (4 lecture)**
Continuation of Nursing in Health and Illness II. Further study of common medical-surgical health problems of the client including concepts of mental illness. Incorporates knowledge necessary to make the transition from student to graduate vocational nurse.

### VNSG 1423 BASIC NURSING SKILLS
**Prerequisite: Admission to program**
**Corequisite: VNSG 1161**
**Credit: 4 (3 lecture, 4 lab)**
Mastery of entry level nursing skills and competencies for a variety of health care settings. Utilization of the nursing process as the foundation for all nursing interventions.

### VNSG 2331 ADVANCED NURSING SKILLS
**Corequisite: VNSG 1266 and VNSG 2331**
**Credit: 4 (2 lecture, 4 lab)**
Mastery of advanced level nursing skills and competencies in a variety of health care settings utilizing the nursing process as a problem-solving tool.

### VTHT 1166 PRACTICUM (OR FIELD EXPERIENCE) - VETERINARY/ ANIMAL HEALTH TECHNOLOGY/ TECHNICIAN AND VETERINARY ASSISTANT
**Prerequisite: Department Approval**
**Credit: 1 (7 lab)**
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student

### VTHT 1229 LARGE ZOO AND WILD MAMMALS
**Credit: 2 (1 lecture, 4 lab)**
Care and management of large zoo and wild mammals commonly encountered in zoological parks, wildlife ranches, and aquariums.

### VTHT 1233 SMALL ZOO AND WILD MAMMALS
**Credit: 2 (1 lecture, 4 lab)**
Care and management of small zoo and wild mammals commonly encountered in zoological parks, wildlife ranches, and aquariums.

### VTHT 1266 PRACTICUM (OR FIELD EXPERIENCE) - VETERINARY/ ANIMAL HEALTH TECHNOLOGY/ TECHNICIAN AND VETERINARY ASSISTANT
**Prerequisite: Department Approval**
**Credit: 2 (14 lab)**
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

### VTHT 1341 ANESTHESIA AND SURGICAL ASSISTANCE
**Credit: 3 (1 lecture, 6 lab)**
In-depth application of surgical, obstetrical, and anesthesia techniques including identification and use of instruments and equipment.

### VTHT 1345 VETERINARY RADIOLOGY
**Credit: 3 (2 lecture, 4 lab)**
Presentation of theory and principles and practical application of radiology within the field of veterinary medicine.

### VTHT 1349 VETERINARY PHARMACOLOGY
**Credit: 3 (2 lecture, 2 lab)**
Fundamentals of pharmacology including recognition, calculation, labeling, packaging, and administration of common veterinary drugs, biologics, and therapeutic agents. Discussion of normal and abnormal responses to these agents.

### VTHT 1366 PRACTICUM (OR FIELD EXPERIENCE) - VETERINARY/ ANIMAL HEALTH TECHNOLOGY/ TECHNICIAN AND VETERINARY ASSISTANT
**Prerequisite: Department Approval**
**Credit: 3 (21 lab)**
Practical, general workplace training supported by an individualized learning plan developed by the employer, college, and student.

### VTHT 1371 SHELTER MANAGEMENT
**Credit: 3 (1 lecture, 6 lab)**
This course covers nutrition, sanitation, commonly encountered shelter diseases as well as breed identification and animal shelter management.

### VTHT 1413 VETERINARY ANATOMY AND PHYSIOLOGY
**Credit: 4 (3 lecture, 4 lab)**
Gross anatomy of domestic animals including physiological explanations of how each organ functions.

### VTHT 2201 CANINE AND FELINE CLINICAL MANAGEMENT
**Credit: 2 (1 lecture, 4 lab)**
Survey of feeding, common management practices, and care of canines and felines in a clinical setting. Review of common diseases of canines and felines encountered in the practice of veterinary medicine.

### VTHT 2205 EQUINE CLINICAL MANAGEMENT
**Credit: 2 (1 lecture, 4 lab)**
Survey of feeding, common management practices, and care of equines in a clinical setting. Review of common diseases of equines encountered in the practice of veterinary medicine.

### VTHT 2217 EXOTIC ANIMAL CLINICAL MANAGEMENT
**Credit: 2 (2 lecture)**
Survey of feeding, common management practices, and care of exotic animals in a clinical or zoological setting. Review of common diseases of exotic animals encountered in the practice of veterinary medicine.

### VTHT 2323 VETERINARY CLINICAL PATHOLOGY I
**Credit: 3 (2 lecture, 4 lab)**
In-depth study of hematology and related chemistries with emphasis on lab procedures. Additionally the study of parasites.

### VTHT 2331 VETERINARY CLINICAL PATHOLOGY II
**Credit: 3 (2 lecture, 4 lab)**
In-depth study of urinalysis and cytology. Survey of microbiological techniques. Exotic animal values will be studied. Emphasis on laboratory procedures.

### WDWK 1313 CABINET MAKING
**Prerequisite: CRPT 1329**
**Credit: 3 (2 lecture, 3 lab)**
Includes design and construction of base cabinets and wall cabinets for kitchens and bathrooms. Emphasis on safe use of portable and stationary power tools. Finishing techniques include proper sanding, sealing, staining, and finishing.

### WDWK 2451 CABINET MAKING II
**Prerequisite/Corequisite: WDWK 1313**
**Credit: 4 (2 lecture, 4 lab)**
Advanced skills in machine woodworking and hand craftsmanship. Emphasizes advanced design, door and drawer construction, and laminate laying.

### WLDG 1305 ART METALS
**Credit: 3 (2 lecture, 2 lab)**
Fundamentals of conceptualizing and producing utilitarian items on ferrous and non-ferrous metals. Skill development through the techniques of sinking, raising, repousse, and piercing to create objects from flat sheet. Topics include brazing, soldering, tinning, polishing, and tool making.

### WLDG 1391 SPECIAL TOPICS IN WELDER/WELDING TECHNOLOGIST
**Credit: 3 (2 lecture, 2 lab)**
Topics address recently identified current events, skills, knowledge, and/or attitudes and behaviors pertinent to the technology or occupation and relevant to the professional development of the student. This course was designed to be repeated multiple times to improve student proficiency.

### WLDG 1407 INTRODUCTION TO WELDING USING MULTIPLE PROCESSES
**Credit: 4 (2 lecture, 4 lab)**
Basic welding processes. Includes oxy-fuel welding (OFW) and cutting, shielded metal arc welding (SMAW), gas metal arc welding (GMAW), and gas tungsten arc welding (GTAW).

## WLDG 1413 INTRODUCTION TO BLUEPRINT READING FOR WELDERS
**Corequisite: WLDG 1428**
**Credit: 4 (2 lecture, 6 lab)**
A study of industrial blueprints. Emphasis placed on terminology, symbols, graphic description, and welding processes, including systems of measurement and industry standards. Interpretation of plans and drawings used by industry.

## WLDG 1417 INTRODUCTION TO LAYOUT AND FABRICATION
**Prerequisite: WLDG 1421 or WLDG 1413**
**Credit: 4 (2 lecture, 6 lab)**
A fundamental course in layout and fabrication related to the welding industry. Major emphasis on structural shapes and use in construction.

## WLDG 1421 INTRODUCTION TO WELDING FUNDAMENTALS
**Credit: 4 (2 lecture, 6 lab)**
An introduction to the fundamentals of equipment used in oxy-fuel and arc welding, including welding and cutting safety, basic oxy-fuel welding and cutting, basic arc welding processes and basic metallurgy.

## WLDG 1425 INTRODUCTION TO OXY-FUEL WELDING AND CUTTING
**Corequisite: WLDG 1421**
**Credit: 4 (2 lecture, 6 lab)**
An introduction to oxy-fuel welding and cutting, safety, setup and maintenance of oxy-fuel welding, and cutting equipment and supplies.

## WLDG 1428 INTRODUCTION TO SHIELDED METAL ARC WELDING (SMAW)
**Corequisite: WLDG 1421 or WLDG 1425**
**Credit: 4 (2 lecture, 6 lab)**
An introduction to shielded metal arc welding process. Emphasis on power sources, electrode selection, oxy-fuel cutting, and various joint designs. Instruction provided in SMAW fillet welds in various positions.

## WLDG 1430 INTRODUCTION TO GAS METAL ARC MIG WELDING
**Prerequisite: WLDG 2443**
**Credit: 4 (2 lecture, 6 lab)**
A study of the principles of gas metal arc welding, setup and use of GMAW equipment, and safe use of tools/equipment. Instructions on various joint designs.

## WLDG 1434 INTRODUCTION TO GAS-TUNGSTEN ARC TIG WELDING
**Prerequisite: WLDG 2353**
**Credit: 4 (2 lecture, 6 lab)**
An introduction to the principles of gas tungsten arc welding (GTAW), setup/use of GTAW equipment, and safe use of tools and equipment. Welding instruction in various positions on joint designs.

## WLDG 1435 INTRODUCTION TO PIPE WELDING
**Credit: 4 (2 lecture, 6 lab)**
Introduction to the welding of pipe using the shielded-metal arc welding process, including electrodes selection, equipment setup, and safe shop practices. Emphasis on weld position 1G and 2G using various electrodes.

## WLDG 1457 INTERMEDIATE SHIELDED-METAL ARC WELDING
**Prerequisite: WLDG 1428**
**Credit: 4 (2 lecture, 6 lab)**
A study of the production of various fillets and groove welds. Preparation of specimens for testing in all test positions.

## WLDG 2350 ORBITAL TUBE WELDING
**Credit: 3 (2 lecture, 2 lab)**
An overview of welding in the semi-conductor and related industries. Special emphasis on the disciplines of orbital tube welding, including cutting, facing, and development of weld procedures.

## WLDG 2443 ADVANCED SHIELDED-METAL ARC WELDING
**Prerequisite: WLDG 1457**
**Credit: 4 (2 lecture, 6 lab)**
Advanced topics based on accepted welding codes. Training provided with various electrodes in shielded-metal arc welding processes with open v-groove joint in all positions.

## WLDG 2447 ADVANCED GAS METAL ARC WELDING (GMAW)
**Prerequisite: WLDG 1430**
**Credit: 4 (2 lecture, 6 lab)**
Advanced topics in GMAW welding, including welding in various positions and directions.

## WLDG 2451 ADVANCED GAS TUNGSTEN ARC WELDING (GTAW)
**Prerequisite: WLDG 1434**
**Credit: 4 (2 lecture, 6 lab)**
Advanced topics in GTAW welding, including welding in various positions and directions.

## WLDG 2453 ADVANCED PIPE WELDING
**Prerequisite: WLDG 1434**
**Credit: 4 (2 lecture, 6 lab)**
Advanced topics involving welding of pipe using the shielded metal arc welding (SMAW) process. Topics include electrode selection, equipment setup, and safe shop practices. Emphasis on weld positions 5G and 6G using various electrodes.

# Administration

## SYSTEM ADMINISTRATION

**Chancellor**

**Mary S. Spangler**
Chestnut Hill College, BA
University of California at Los Angeles, M.A.
University of California at Los Angeles, Ed.D.

**Executive Assistant to Chancellor**

**Doretha Eason**
Utica Junior College, AA
Mississippi Valley State University, BS
Delta State University, MEd
Mississippi State University, Ed.D.

**Vice Chancellor, Finance and Administration/CFO**

**Gloria Walker**
University of Houston, BBA, CPA

**Vice Chancellor, For Instruction**

**Charles M. Cook**
University of Texas at Austin, BA
University of Houston, MA, Ed.D.

**Vice Chancellor, Information Technology**

**William E. Carter**
University of Houston, BBA, MBA

**Vice Chancellor, Student Success**

**Irene Porcarello**
South Texas Junior College, AA
University of Houston, BA, MSW

**General Counsel**

**Miles J. LeBlanc**
Dartmouth College, BA
Harvard Law School, JD

**Associate Vice Chancellor, Continuing Education and Corporate Training**

**Daniel Seymour**
Gettysburg College, BA
University of Oregon, MBA, PhD

**Associate Vice Chancellor Communications**

**Dan Arguijo, Jr.**
University of Texas at Pan American, BA

**Associate Vice Chancellor, Student Success**

**Cheryl Sterling**
Texas Southern University, BA, MEd, Ed.D.

**Associate Vice Chancellor, Facilities & Construction**

**TBA**

**Associate Vice Chancellor, Human Resources**

**Willie Williams, Jr.**
Southern University, BS
Texas Southern University, MBA, CCP

**Associate Vice Chancellor, Workforce Development**

**Charles H. Hebert, Jr.**
Texas Southern University, BS
University of Missouri, MEd
Oklahoma State University, Ed.D.

**Executive Director, Business Affairs**

**Ron E. Defalco**
University of Houston, BBA,
CPA-Texas

**Executive Director, Budget and Financial Control**

**TBA**

**Executive Director, Construction and Project Management**

**Reynaldo J. Pradia, Sr.**
CCI, CCPM, CSI
Texas Southern University, BS
Texas Southern University, MA

**Strategic Partnerships and Initiatives**

**Patti Whitmire Carlton**
San Jacinto Junior College, AA
Lamar University, BS, MEd

**Executive Director, Facilities Development**

**Richard C. Gremillion**
Tulane University, MBA

**Executive Director, Foundation**

**Kelly J. Zuniga**
San Diego State University, BS
University of San Diego, MBA
University of Houston, Ed.D.

**Executive Director, Instructional Resources and Technology**

**Stephen Levey**
St. Louis University, BA, MA
University of Texas at Austin, Ed.D.

**Executive Director, Procurement**

**Michael Kyme**
City University of New York, BS
Manhattan College, MBA

**Director, Office of International Initiatives**

**Gigi Diem Uyen Do**
University of Washington, BA
University of Houston, MA

**Director, ACT Center-Online Continuing Education**

**Madeline Burillo**
University of Puerto Rico, BA
University of Phoenix, MA

**Director, Admissions and Registrar**

**Mary Lemburg**
Texas State University, BA

**Director, Application Development, Information Technology**

**Fheryl Prestage**
Southern University A&M, BA

**Director, Customer Support, Information Technology**

**Evelyn Josey**

**Director, System Support, Information Technology**

**Annette Hearn**
University of Houston, BS

**Director, Building Operations & Property Management**

**Mark Lambert**
Texas A&M University, BS
Nicholls State University, MA

**Interim Director, Community Development**

**John E. Gilmore III**
The College of Wooster Ohio, BA

**Director, Compensation/Benefits**

**Diane Blankenship**
UH-Clear Lake, BBA

**Director, Debt Administration**

**Brian W. Malone**
University of Nebraska at Lincoln, BS

**Director, Employee Learning and Organizational Development**

**Connie Stone**
Vanderbilt University, BA
University of Houston, MS

**Director, Employment**

**Don L. Washington**
Texas Woman's University , MS

**Director, Enrollment Services and Compliance**

**Alex E. Prince**
Prairie View A&M University, BA, MEd

**Director, Administrative Services, Information Technology**

**Celia A. Gee**
University of the
East Philippines, BBA
University of Houston, MBA, CPA

**Director, EEO/Employee Relations**

**James David Cross**
University of North Texas, BS
University of Houston, MEd

**Director, Financial Aid Operations**

**Avis Hord**
Southern A&M University, BS
Our Lady of the Lake, MBA

**Director, Financial Control and Auxiliary Services**

**Karla Bender**
University of Nebraska, MBA

**Director Government Relations**

**Remmele J. Young**
University of South Carolina, BA
District of Columbia School of Law, JD

**Director, Grants and Contracts**

**John Bryant**
University of Houston, BA, BS

**Director, Grants Planning and Special Projects**

**Lawrence E. Markey**
West Virginia University, BA, MA

**Director, Health Care Cluster**
**Ricky Bailey**
Texas Southern University, MPA

**Director, Institutional Research**

**Linda Gibbs**
University of Texas at Austin, BA
Texas A&M University, MA
University of Texas at Austin, PhD

**Director, Instructional Computing Resource Center**

**Lorah Gough,**
University of Oklahoma, BA
Houston Community College, Certificates

**Director, Internal Auditing**

**Chester Woodard**
Tuskegee Institute, BS
Southern Illinois University, MA, MBA
Texas Southern University, Ed.D., CPA

**Director, Internationa/Veteran Student Services**

**Emmett Pugh**
South Texas Junior College, AA
Sam Houston State University, BA
Texas Southern University, MEd

**Director, Instructional Initiatives**

**Maria del Pilar Straus**
University of Houston, BA
University of Houston at Clear Lake, MA, MS
University of Houston, Ed.D.

**Director, Community and Adult Education**

**David Joost**
Texas A&M University, BS, MEd

**Director, Library/LRC Support Services**

**Angela K. Secrest**
Central University of Iowa, BA
University of Iowa, MA

**Director, Maintenance**
**Timothy Rychlec**
Wayland Baptist University, BS

**Director, Payroll**
**Florene Lee**
Southern A&M University, BS

**Chief of Police**
**TBA**

**Director, Print and Electronic Communications**

**J. Curtis Doolan**
San Jacinto College, AA
University of Houston, BA

**Director, Procurement Materials Management**
**John Carter**

**Interim Public Information Officer**
**Sheila Briones**
Del Mar College, AA
University of Texas, BA

**Director, Small Business Development Center**

**Paralee Shivers**
Texas Southern University, MA

**Interim Director, Student Assessment and Advising**

**Mary Page**
Francis Marion College, BA
UH-Clear Lake, MA

**Director, Student Financial Services**

**Hernando Baldonado**
University of East  BBA

**Director, Student Support Services**

**Dona Robey Fields**
Fisk University, BA
Prairie View A&M University, MEd
Texas Southern University, Ed.D.

**Director, Title V**

**Juan Carlos Reina**
Boston University, MA, PhD

**Director, Workforce Continuing Education**

**Pamela Reed**
University of Houston, BA, MEd

**Director, Workforce Program Initiatives**

**FrEd.D.ie Wade**
Prairie View A&M University, BS, MEd
Texas Southern University, Ed.D.

**Assistant Director, Student Support Services**

**Robert Castillo**
Palmer Junior College, AA
University of Iowa, BA
Texas Southern University, MA

**Coordinator, ADA**

**Donna B. Price**
Indiana University, BS
University of Houston, MEd

**Manager, Application Development Group**
**TBA**

**Manager, Educational Partnerships**

**Mark W. Tengler**
University of Wisconsin, BA, MS

**General Manager, HCC-TV**
**Chris Bourne**

**Manager, Risk Management**

**Gwendolyn Drumgoole**
Wiley College, BA
Texas Southern University, MBA

**Supervisor, Adult High School**

**Gilbert G. Ontiveros**
Texas A&M University, BBA
U.S. Army Command and
General Staff College, Graduate
University of Houston, MS

**Project Administrator, Information Technology**

**Joseph Diflavio**
University of Houston, BS

**Research Associate II**

**Margaret Drain**
Pennsylvania State University, BS
Lamar University, MBA

**Research Associate I**

**Raymond L. Golitko**
Triton Community College, AS
Western Illinois University, BS
University of Houston at Clear Lake, MBA
Eastern Illinois University, MSEd

## CHANCELLORS EMERITUS

**Bruce H. Leslie**
Baldwin-Wallace College, BA
Sam Houston State University, MS
University of Texas at Austin, PhD

**Ruth Burgos-Sasscer**
Maryville College, BA
Columbia University, MA
Florida State University, PhD

**J. B. Whiteley**
Le Tourneau College,
East Texas State University, BS
Texas A&M University, MEd

## PRESIDENT EMERITUS

**Joseph E. Champagne**
St. Thomas Seminary, AA
St., Mary's University, BA
Fordham University, MA
Purdue University, PhD

## CENTRAL COLLEGE ADMINISTRATION

**President**

**William W. Harmon**
Johson C. Smith University, BS
Seton Hall University, MA
Kansas State University, PhD

**College Operations Officer**

**Tina Young**
Prairie View A&M University, BA

**Dean, Academic Development**

**Cheryl Peters**
Stetson University, BA
University of Kentucky, MA
University of Houston, PhD

**Interim Dean, Student Development**

**Cheryl Johnson**
University of Cincinnati, BS
Texas Southern University, MEd

**Dean, Workforce Development**

**TBA**

**Assistant Dean, Student Success**

**Earlene Leverett**
University of Arkansas, BS
Kansas State University, MA
University of Houston, Ed.D.

**Director, Apprenticeship**

**Jerry Bowerman**
University of Houston, BS

**Director, Corporate Training and Continuing Education**

**Marshall McGhee**
Wilberforce University, BA
Antioch University, MA

**Interim Director, Public Relations**

**Andre Humphrey**
Prairie View A&M University, BA

**Campus Manager II**

**Joyce Reynolds**
Texas Southern University, BS

**Campus Manager I**
**Willie Lee Gay**

**Eileen Barrett-Williams**
Hampston University, BA
Texas Southern University, MA

**Manager, Child Care**

**Marie Jones**
Houston Community College, AAS
LeTourneau University, BBA

## ACADEMIC DEPARTMENT CHAIRS

**Anthropology/Economics/ Psychology/Sociology**

**Richard J. Gosselin**
University of Houston, BA, MA

**English**

**Joseph Alan Ainsworth**
Rice University, BA
University of Houston, MA, PhD

**Fine Arts**

**Deborah P. Quanaim**
Agnes Scott College, BA
Mills College, MA

**Geography/Government/ History/Philosophy**

**John A. Moretta**
University of Santa Clara, BA
Portland State University, MA
Rice University, PhD

**Guided Studies/ ESL/ESOL/ Foreign Languages/LAC**

**Paul Quinn**
Huddersfield University, BA
StateUniversity of New York, MSEd

**Mathematics**

**Timor Sever**
University of Houston, BS, MS

**Physical Education**

**Caprice Lynn Dodson**
Western Kentucky University, BS, MA

**Natural / Physical Sciences**

**Yiyan Bai**
Harbin Institute of Technology, BS, MS
California State University, Los Angeles, MS
University of Southern California, PhD

## WORKFORCE DEPARTMENT CHAIRS

**Child Development**

**Vanese Delahoussaye**
McNeese State University, BA, MEd
University of Houston, Ed.D.

**Fashion Design, Fashion Merchandising, Interior Design**

**Kay King**
University of North Texas, BA
Houston Baptist University, MLA

**Finance (Banking) and Paralegal Technology**

**Earl F. Smith**
American Institute of Banking, Certified
University of State New York, BS

**Health and Fitness Instructor**

**Caprice Lynn Dodson**
Western Kentucky University, BS, MEd

**Carpentry, Construction Technology, Heating, Air Conditioning and Refrigeration, and Industrial Electricity**

**Max Saravia**
University of Houston, AS, BSEE

**Culinary Arts, Hospitality Services, and Travel and Tourism**

**Ezat Moradi**
Regional Cooperation for Development
International School of Insurance and Economics (Iran, Pakistan, and Turkey), BS
Eastern New Mexico University, MBA
University of Houston, Ed.D.

**Machining, Manufacturing Engineering and Welding Technologies**

**Jimmy Vu**
Houston Community College, AAS
Thomas Edison State College, BA
Indiana University, BA, BS
New York State University, BS
University of Houston, MS
City University, MBA
Walden University, PhD
Century University, PhD

## COUNSELING CHAIR

**Patricia Ugwu,**
Southern Illinois University, BS, MA
University of Houston at Clear Lake, MS

## LIBRARIAN CHAIR

**Ronald J. Homick**
Temple University, BA
Louisiana State University, MA, MLS

## COLEMAN COLLEGE FOR HEALTH SCIENCES
**President**

**Marsal Stoll**
D'Youville College, BS
State University of New York, MS, Ed.D.

**College Operations Officer**

**Diana Castillo**
Texas A&I University, BS
Texas A&M University, MEd

**Dean, Health Sciences Programs**

**Norma Perez**
Sacred Heart Dominican, BA
University of Houston, MEd
Texas A&M University, PhD

## WORKFORCE DEPARTMENT CHAIRS

**Associate Degree Nursing**

**Roger V. Kline**
Wayne State University, BSN, MBA
Texas Woman's University, MS

**Cardiovascular Technology, Medical Assistant**

**Tomye R. Geringer**
Lilly Jolly School of Nursing, Diploma
University of Houston, RN, BS

**Computed Tomography and Radiography**

**Lynne Y. Davis**
University of Oklahoma, BS
Central State University, MEd
University of Houston, Ed.D.

**Clinical Laboratory Technician and Histologic Technician**

**Theresa L. Spain**
Houston Community College, AAS
University of Texas Health Science Center, BS
University of Houston, MEd

**Dental Assisting**

**Rosalva Perez**
Houston Community College, Certificate
University of Houston, BS

**Emergency Medical Services**

**Marion V. Cole**
Houston Community College, Certificate
Texas Woman's University, BSN
University of Houston, MEd

**Health Information Technology**

**Carla Tyson-Howard**
Incarnate Word University, BS
Texas Woman's University, MS
Texas Southern University, Ed.D.

**Human Service Technology and Interpreting / Sign Language Program**

**Richard Rosing**
Southern Illinois University, BA, MS

**Nuclear Medicine Technology and Diagnostic Medical Sonography**

**Glenn X. Smith**
Texas A&M University, BS

**Occupational Therapy Assistant**

**Linda J. Williams**
Texas Woman's University, BS
Texas Southern University, MA

**Pharmacy Technician**

**Liz Johnson Wilroy**
University of Missouri at Columbia, BS

**Physical Therapist Assistant**

**Jan Myers**
Texas Woman's University, BS, MS

**Respiratory Therapist**

**Donna Westmoreland**
Houston Community College, Certificate
Ottawa University, BA

**Surgical Technology**

**Christine Castillo-Sainz**
Houston Community College, AAS
University of St. Thomas, BA

**Vocational Nursing**

**Deborah J. Simmons-Johnson**
Texas Woman's University, BSN
Texas Southern University, MEd

## LIBRARIAN CHAIR

**Richard Conn**
Baylor University, BBA
Texas Wesleyan University, MBA
Texas Woman's University, MLS

**Coordinator Telecommunications & Instructional Computing Support**
**Ernest E. Reynolds**
Houston Community College, AAS
University of Texas, BS
Texas Southern University, MS

**Facilitator Program Resources and Evaluation**

**Teresa Z. Rice**
Fairleigh Dickinson University, AS, BS
Midwestern State University, MS

## NORTHEAST COLLEGE ADMINISTRATION

**President**

**Margaret Ford**
Wichita State University, BA, MA
University of Houston, Ed.D.

**College Operations Officer**

**Vacant**

**Dean, Academic Development**

**Lois Avery**
University of Houston, BS, MEd, Ed.D.

**Dean, Student Development**

**Kenneth Holden**
University of Tennessee, BS, MS
Texas Southern University, Ed.D.

**Dean, Workforce Development**

**Kenneth Hernandez**
Manhattan College, BS
American Graduate School of International Management, BA
Pace University, MBA

**Assistant Dean, Enrollment Services**

**Oralia Green**
Houston Community College, AA
University of Houston, BA, MEd

**Director of Public Relations**

**Patsy Flowers**
University of Houston, BS
Prairie View A&M University, MS

**Campus Manager I, Automotive Technology Training Center**

**Jacqueline Joseph-Howard**
University of Texas, BS
Prairie View A&M University, MEd

**Campus Manager II, Northeast Campus**

**Abe Bryant**
Texas Southern University, BS, MS

**Campus Manager II, Northline Mall**

**Raul Ortegon**
University St. Thomas, BA

## ACADEMIC DEPARTMENT CHAIRS

**Anthropology, Psychology, Public Administration, Sociology, Service Learning, Civic Engagement**

**Daniel W. Richards**
Brigham Young University, BS, MS
University of Houston, PhD

**Arts, English, Humanities, Intensive English, Philosophy, Speech, Foreign Languages, Drama**

**Joe McDade**
University of Southern California, BA
State University of New York at Binghamton, MA
University of Houston, PhD

**Economics, Geography, Government, History, Global Studies**

**Aaron Knight**
Sam Houston State University, BA, MA
Texas A&M University, PhD

**Guided Studies, ACP Teacher Education**

**Kay Lynn Moran**
University of Houston, BS, MEd

**Mathematics**

**Emmanuel E. Usen**
Michigan Technological University, BS
Texas Southern University, MA

**Biology, Chemistry, Geology, Physics**

**Beverly Perry**
Texas Southern University, BS, MEd
Tuskegee Institute, DVM

## WORKFORCE DEPARTMENT CHAIRS

**Biotechnology, Chemical Laboratory Technology, Instrumentation and Controls Engineering Technology, Process Technology**

**John K. Galiotos**
Northeastern Illinois University, BS
University of Illinois at Chicago, MS, PhD

**Business Administration/ Business Management/Marketing**

**Rudy Soliz**
Sam Houston State University, BS
Ball State University, MA
Texas A&M University, PhD

**Automotive Technology, Diesel Mechanics**

**Carl Clark**
Houston Community College, AAS

**Drafting and Design Engineering Technology**

**Marvin Griffin**
Houston Community College, CAD Certificate
Prairie View A & M University, Vocational Certificate, BS, MEd

**Electronic Engineering Technology**

**Pratap R. Talusani**
Osmania University, BSEE
University of Houston, MSEE

**Public Saftey Careers**

**Johnny Sessums**

Law Enforcement Certificate
Blinn Junior College, AA
Midwestern State University, BA
University of Houston, MA

## COUNSELING CHAIR

**Roman Alvarez**
Sam Houston State University, BFA
Prairie View A&M University, MA
Texas Southern University, Ed.D.

## LIBRARIAN CHAIR

**James A. Smith**
Texas Southern University, BA, MA
East Texas State University, MSLS

## NORTHWEST COLLEGE ADMINISTRATION

**President**

**Zachary Hodges**
East Texas State University, BS, MS, Ed.D.

**College Operations Officer**

**Carolyn Glass**
Georgetown College, BA
College of William and Mary, MEd, Ed.D.

**Dean, Academic Development**

**Edmund Butch Herod**
Baylor University, BA
University of Houston, MA, PhD

**Dean, Student Development**

**Gilda McFail**
Prairie View A&M University, BS, MA
Texas Southern University, Ed.D.

**Dean, Workforce Development**

**Maya Durnovo**
Adelphi University, BA
Florida Atlantic University, MEd
University of Houston, Ed.D.

**Assistant Dean, Enrollment Services**

**Elda Cisneros**

**Director, Corporate Training and Continuing Education**
VACANT

**Director, Public Relations**

**Evelyn Velasquez**
Southern Illinois University, BS

**Campus Manager, Town & Country**

**Rose Sarzoza Pena**
Southwest Texas Junior College, AA
Texas State University, BA
Sul Ross State University, MEd

## ACADEMIC DEPARTMENT CHAIRS

**Anthropology/Psychology/ Sociology**

**Chiehwen (Joanne) Hsu**
National Taiwan University, BS
Ohio State University, MA, PhD

**Biological Sciences**

**Robert J. Keating**
University of St. Thomas, BA
University of Houston, MS, PhD

**Developmental Studies and Foreign Languages**

**Peggy Porter**
Lamar University, BA
Texas Southern University, MA

**English/Communications/ Philosophy**

**Genevieve Coogan**
University of Americas, BA
Sam Houston State University, MA

**Fine Arts**

**Aubrey Tucker**
University of Houston, BA
Rice University, MA, DMA

**Criminal Justice, Government, Economics**

**R. Mark Tiller**
University of Texas at Austin, BA, MA

**History/Geography**

**Gisela Ables**
University of Houston, BA, MA, PhD

**Mathematics and Physical Education**

**Ernest Lowery**
Prairie View A&M University, BS, MS

**Physical Sciences**
**William E. Askew**
University of North Carolina, BA
East Carolina University, MA
University of Houston, PhD

## WORKFORCE DEPARTMENT CHAIRS

**Audio Recording/Filmmaking**

**Scott Gehman**
Rice University, BM, MM, DMA

**Commercial Music**

**Aubrey Tucker**
University of Houston, BA
Rice University, MA, DMA

**Cosmetology**
**Hilda Sustaita**
San Jacinto Junior College, AA
University of Houston, BS, MSOT

**Horticulture, Veterinary Paramedic Technology**
**Pamela L. Huebner**
University of New Mexico, BS

## COUNSELING CHAIR

**Sam Dibrell**
Texas A&M University, BA
Trinity University, MA

## LIBRARIAN CHAIR

**George M. Teoh**
Rangoon Arts and Sciences University, BA
University of Texas at Dallas, BS
Louisiana State University, MLS

## SOUTHEAST COLLEGE ADMINISTRATION

**President**

**Fena Garza**
Texas Woman's University, BS
Texas Southern University, MA
Texas A&M University, PhD

**College Operations Officer**

**Julian V. Fisher**
Houston Community College, AGS
University of New York Regents College, BS
Prairie View A&M University, MA

**Dean, Academic Development**

**Yueh-neu (Joanne) Lin**
National Taiwan University, BS
University of Washington, PhD

**Dean, Student Development**

**Reynaldo Garay**
South Texas Junior College, AA
Texas Southern University, MA
University of Houston, BA, Ed.D.

**Assistant Dean, Weekend College**

**Marie Cromwell**
Southern University, BA
Texas Southern University, MEd
Nova Southeastern University, Ed.D.

**Dean, Workforce Development**
**Johnella R. Bradford**
Texas Southern University, BS, MEd, Ed.D.

**Director of Public Relations**
**Debra Martine McGaughey**
Boston University, B.S.

**Director, Corporate Training and Continuing Education**
**TBA**

**Director, Upward Bound**
**TBA**

**Campus Manager, Eastside**
**Jeffery Austin**
Houston Community College, AAS
University of Houston, BBA

## WORKFORCE DEPARTMENT CHAIRS

**Business Technology**
**Willie T. Caldwell**
Prairie View A&M University, BA, MA

## ACADEMIC DEPARTMENT CHAIRS

**Arts and Languages**

**Fausto G. Vergara**
Universidad de Puebla, BA
University of Houston, BA, MA

**English Studies**

**Beverly Hixon**
Syracuse University, BS, MS

**History, Sociology and Liberal Arts**

**Michelle A. Novak**
University of Houston-Clear Lake, BA, MA

**Instructional Technology**

**Sandra Lebron-Lozada**
University of Puerto Rico, BA
University of Houston, MEd

**Mathematics**

**Michael J. Bohn**
State University of New York at Buffalo, BS
University of Houston, MEd

**Natural Sciences**

**Audrick Lewis**
Texas Southern University, BS, MS

**Social Sciences and Teacher Education**

**Karen P. Saenz**
Texas State University, BS
Prairie View A&M University, MEd

## COUNSELING CHAIR

**Turner Lee Jackson**
Prairie View A&M University, BS, MEd

## LIBRARIAN CHAIR

**Judy Cantwell**
Louisiana State University, BA, MS

## SOUTHWEST COLLEGE ADMINISTRATION

**Interim, President**

**Winston Dahse**
Sam Houston State
University, BBA, MBA

**College Operations Officer**
**TBA**

**Dean, Academic Development**

**Neal Tannahill**
Louisiana State University, BA
Rice University, MA, PhD

**Dean, Student Development**

**James E. Shippy**
Tuskegee University, BS, MEd

**Dean, Workforce Development**

**Arnold Goldberg**
Pratt Institute, BArch
University of Wisconsin, BS
Columbia University, MA
Nova Southeastern University, Ed.D.

**Interim Assistant Dean, Enrollment Services**

**Patricia Jensvold**
Waldorf College, AA
Minnesota State University-Mankato, BS
University of Houston, MEd

**Director, Corporate Training and Continuing Education**

**Kathy Housel**
Northern State University, BS
Purdue University, MEd

**Director, Public Relations**

**Carole Keeney Harrington**
University of Houston, BA, MEd

**Director, Telecommunications and Instructional Computing Support**

**Larry B. Mers**
Texas A&M University, BA, MA

**Campus Manager, Alief**

**Jane Perez**
Alvin Community College, AAS
Prairie View A&M University, BSN, MEd
Texas Woman's University, MSN
Texas Southern University, Ed.D.

**Campus Manager, Missouri City**

**Elroy Brown**
Houston Community College, Certificate
Houston Community College, AAS
Southern Illinois University at
Edwardsville, BS, MS
Texas Southern University, Ed.D.

**Campus Manager, Stafford**

**Debra J. Robinson**
Sam Houston State University, BS
University of Houston, MEd

**Campus Manager, West Loop Campus**

**Elroy Brown**
Houston Community College, Certificate
Houston Community College, AAS
Southern Illinois University at
Edwardsville, BS, MS
Texas Southern University, Ed.D.

## ACADEMIC DEPARTMENT CHAIRS

**Developmental Studies**

**Fortune, Betty**
Southern University, BS
Prairie View A&M, Med

**Fine Arts / Speech**

**John Corley**
University of Houston, BA, MA

**English, Educaton, Humanities & Gender Studies**

**Marie Dybala**
University of Houston, BA, MA

**Government/Geographical Information Sciences**

**John Speer**
Pan American University, BA
University of Kentucky, MA, PhD

**History, Geography and Philosphy**

**Michael McCormick**
University of Houston, BA, MA
University of Texas, PhD

**Foreign Languages and Intensive English**

**Grace Low Bishop**
Baylor University, BA
University of Houston, MA

**Life Sciences**

**Shult, Milton D., Jr.**
Texas Lutheran College, BS
University of Houston, MS

**Mathematics**

**M.A. Shagroni**
Rice University, MSC
Colorado School of Mines, MS, PhD

**Physical Sciences**

**Gholam Pahlavan**
Tehran University, BS
Texas Southern University, MS
University of Houston, MS, PhD,
TEA certification

**Social Sciences**

**Sara Saderion**
University of Illinois, BS
University of Houston, MA, PhD

## WORKFORCE DEPARTMENT CHAIRS

**Accounting**

**Marina Grau**
University of St. Thomas, BBA, MBA
Texas Southern University, Ed.D., CPA

**Broadcast Technology, Digital Communication, Geographic Information Sciences, and Technical Communication**

**Patricia Doran Porcynaluk**
S.U.N.Y. at Buffalo, BFA
Rochester Institute of Technology, MFA

**Computer Science Technology**

**Getachew Haile**
Central State University, BS
Oklahoma City University, MBA

**Digital Gaming & Simulation**

**Reni Abraham**
Tri-State University, BSCS
East Texas State University, MSCS

**Real Estate**

**Bruce 'Alex' Binkley**
Real Estate Brokers License
University of Texas, BA

## COUNSELING CHAIR

**Kathy Kelly**
Eastern Michigan University, BS
University of Houston, MEd

## LIBRARIAN CHAIR

**Dennis Klappersack**
Boston University, BA
University of Tennessee, MSLS

## ACCOUNTING

**Bischoff, Gregory**
University of Texas at Austin, BA
Lamar University, MBA

**Bond, Donald R**
CPA
Texas Southern University, BBA, MBA

**Flowers, Linda**
CPA
University of Houston, BBA
Houston Baptist University, MAcc

**Genanaw, Mesfin**
Addis Abba University, BA
Catholic University of Leuven, MBA
Texas Southern University, EdD

**Grau, Marina, R.**
CPA
University of St. Thomas, BBA, MBA
Texas Southern University, EdD

**McQueary II, Glenn Melvin**
CPA, CISA, CFE, CISM
Ball State University, BS, MA

**Pitts, Pietro A.**
Texas Southern University, BBA
Southern Methodist University MBA

**Shintri, Mallikarjun**
CPA
Karnatak University, BA
Utah State University, MBA
University of Bombay, MCom

**Templeton, John F.**
CPA
University of Houston, BA, MBA

## ANTHROPOLOGY

**Awasom, Lawrence C.**
University of Yaounde (Maitrise), BA
University of Houston, MA, EdD

**Bragdon, Ann**
University of Connecticut, BA
State University of New York
at Buffalo, MA, PhD
University of Houston, MA

**Menon, Sarath K.**
University of Calicut, India, BA
University of Houston, MA, EdD

**Mc Wharter, Marian**
Sam Houston State, BA,MA

## ART

**Bel, Gladys**
Louisiana State University, BS
Cranbrook Academy of Art, MFA

**Carothers, Scott**
Southwest Texas State University, BS
University of Houston, MFA

**Cherry, Michael**
Christian Brothers University, BS
University of Dayton, MS
University of Houston at Clearlake, MA
University of Houston, MFA

**Golden, Michael**
University of Notre Dame, BBA
University of Illinois at Urbana, MFA

**Gonzales, Michael**
University of Texas, BS
University of Arizona, MFA

**House, Perry**
California College of Arts and
Crafts, BA, MFA

**Kaminski, Stanley**
West Virginia University, BFA
Louisiana State University, MFA

**Kovalchuk, Sergius**
Youngstown State University, BA
Pratt Institute, MFA

**Lauster, Darryl**
San Diego State, BFA
University of Houston, MFA

**Millis-Horton, Cynthia**
Yankton College Conservatory of Music, SD,
BME Houston Community College, AAS
University of St. Thomas, MLA

**Porcynaluk, Patricia Doran**
State University of New York
at Buffalo, BFA
Rochester Institute of Technology, MFA

**Potter, Steven**
University of Texas, BFA
University of Houston, MFA

**Swaim, David**
Temple University, BFA
Louisiana State University, MFA

**Woest, June**
Fort Hays State University, BS
University of Houston, MFA

## ASSOCIATE DEGREE NURSING

**Bollinger, Shelia D.**
University of Texas, BSN
Texas Woman's University, MS
University of Houston, EdD

**Bryan-Green, Meva**
University of Phoenix, MSN
Prairie View A&M University, BSN

**De la Cruz, Independencia**
Texas Woman's University, BSN, MS

**Grant-Smith, Aerica**
University of Texas Health
Science Center, M.S.N.
Texas Woman's University, BSN

**Greenwood, Bobbie Jo**
Texas Woman's University, BSN, MS

**Joseph, Jolly**
University of Poona College
of Nursing, BS
Texas Woman's University, MS

**Kline, Roger V.**
Wayne State University, BSN, MBA
Texas Woman's University, MS

**McCarthy, Magda S.**
University of South Alabama, BSN, MSN
Mississippi Gulf Coast Community College,
ADN

**McClay, Fay**
Temple University, BS
University of Texas, MSN
A&M University, PhD

**Mosqueda, Diane E.**
University of Toledo, BSN
Wayne State University, MSN
Texas Woman's University, Post Graduate
Certificate in Family Nurse Practitioner

**Nicholson, Linda K.**
University of Texas, Galveston, BSN
University of Texas Health Science Center, MSN

**Obey, Faye**
Prairie View A&M University, BS
Texas Woman's University, MS

**Reyes, Maria C.**
Houston Community College, AAS, Nursing
Texas Woman's University, BSN, MS
Certified Family Nurse Practitioner

**Rich, Wilhelmina**
Elizabethtown College, BS
University of Pennsylvania, MSN

**Rolle, Yvette**
University Hospital of the West Indies,
Diploma University of Texas Houston Health
Science Center, BSN, MSN

**Russell, Sandra**
University of Phoenix, MSN
University of Texas Medical Branch-
Galveston, BSN

**Saddler, Delores**
Texas Woman's University, BSN
University of Texas Health Science Center,
MSN

**Smith, Patricia**
University of Texas, BSN
University of Alabama, MSN

**Sullivan, Hermoine S.**
Louisiana State University, BA
Texas Woman's University, BSN, MS

**Thomas, Sofia**
San Jacinto College-North, AA
University of Texas Houston Health Science
Center, BSN, MSN

**Ward-Cosby, Adrianne**
Texas Woman's University, BSN, MS

**Westerfield, Shana**
University of Texas Health
Science Center, BSN
Lamar University, BS
Texas Woman's University, MS, PhD
University of Houston, MBA, MEd

**Wilson, Kathleen Spor**
Molloy College, BSN
Adelphi University, MSN

**Wooten, Theresa E.**
Prairie View A&M University, BS
Texas Woman's University, MS

## AUDIO RECORDING/ FILMMAKING

**Boyd, Richard**
Art Institute, AAS

**Champagne, Brent M.**
San Jacinto College, AAS

**Duryea, Brad**
Houston Community College, AS

**Gehman, Scott**
Rice University, BM, MM, DMA

**Tristan, Michael**
Houston Community College, AAS

## AUTOMOTIVE TECHNOLOGY

**Alexander, John M.**
Houston Community College, AAS
Master Automotive Instructor Certificate
Moog Training Center Certificate
AC Delco Service Training Program,
11 Certificates

**Chambless, Jerry R.**
Regents College, BS
Wyoming Technical Institute, Certificate
NIASE Master Auto Technician
NIASE Diesel, three Certificates
GM Service Technology Group,
five Certificates
AC Delco Service Training,
three Certificates
Hunter Engineering, two Certificates
Mobile Air Conditioning

**Chandler, James J.**
Durham College, United
Delco, Certificate
Houston Community College, AAS

**Childs, Carl**
Houston Community College, Certificates

**Clark, Carl S.**
Houston Community College, AAS

**Cleveland, Michael**
Denver Auto and Diesel College, AAS

**Hackemack, Richard**
ASE Certified Master Automotive Technician
Houston Community College, AAS
University of Houston, BS

**Johnson, Luther L.**
University of Houston, BBA

**Mimms, John H., Jr.**
Houston Community College, AAS
U.S. Air Force Aviation
Maintenance School
U.S. Air Force Technical Instructor
& Technical Writer School
General Motors Certificate

**See, Martin**
North Harris County College, AAS
Houston Community College, Certificates

**Soto, John**
Houston Community College, Certificate
ASE Certified

## BIOLOGY

**Amaku, Veronica**
University of Ife, BS
Obafemi Awolowo University, MS

**Attisha, Khalid P.**
University of Texas, MD, MPH

**Campbell, Cliff**
Texas Southern University, BS, MS

**Garcia, Pablo**
Texas A&M University Kingsville, BS
University of Texas Medical Branch at
Galveston, MD

**Hebel, Nazanin, Z.**
University of Houston, BS
University of Texas Health Science Center, DDS

**Jain, Renu**
Delhi University, BS, MS
Rice University, PhD

**Johnson-Murray, Jane L.**
Northeastern University, BA
University of
Massachusetts, MA, PhD

**Keating, Robert  J.**
University of St. Thomas, BA
University of Houston, MS, PhD

**Koshy, Anna**
Marthomakerta College, BS
St. John's College, MS
Agra University, MPhil, PhD

**Leena Sawant**
University of Bombay, MS, PhD

**Lewis, Audrick M.**
Texas Southern University, BS, MS

**McCamant-Grigsby, Susan**
University of California at Berkeley, BA, PhD

**Mc Whinney, Dalton**
Texas A&M University, MS, PhD.

**McNack, Eddie C.**
Texas Southern University, BS, MS

**Merritt, Richard D.**
Emory University, BS
West Texas State University, MS
Utah State University, PhD

**Mishra Jasleen**
University of Udaipur, MS
University of Delhi, PhD

**Nioupin, Auguste**
University of Abidjan, Maitrise, BS
University of Houston, MS

**Ooi, Wan Hin**
National Taiwan University, BS
Yale University, MFS, MPH
University of Texas, PhD

**Perry, Beverly J.**
Texas Southern University, BS, MEd
Tuskegee University, BS, DVM

**Puccini, Mary G.**
Pennsylvania State University, BS
Case Western Recserve University, MS

**Schwartz, David J.**
City College of New York, BS
University of Texas Health Science Center, BS
Syracuse University, PhD

**Sen, Pramila**
Women's College, Banaras,
Hindu University, India, BS, MS, PhD

**Shult, Milton D., Jr.**
Texas Lutheran College, BS
University of Houston, MS

**Simms, Marie**
Prairie View A&M University, BS,MS
Texas Southern University

**Solti, Judith**
University of California at Irvine, BS
California State University
at Northridge, MS
University of Rochester, MS, PhD

**Swartz, Philip E.**
University of Pennsylvania, BA
University of Texas at Austin, MA
Texas Chiropractic College, DC

**Thomas, Molly**
Stanley Medical College of Madras,
India, MD

**Turell, Marsha R.**
Harpur College, State University
of New York, BA
Hunter College, City University
of New York, MA

**Wagle, Jyoti R.**
Delhi University, BS, MS
Jawaharlal Nehru University,
India, MA
Ohio University, PhD

**Wiersema, Donna**
University of Houston, BS, MS, MBA

**Wiersema, Vernon L.**
Central University of Iowa, BA
Northern University of Iowa, MA

## BIOTECHNOLOGY

**Mittal, Chandra**
University of Lucknow, BS, MS
All-India Institute of Medical Sciences, PhD

## BROADCAST TECHNOLOGY

**Gonzalez, Marcelo**
University of Houston, BA
Florida State University, MFA

## BUSINESS ADMINISTRATION

**Davenport, Raven**
Los Angeles Trade Technical College, AA
Southern University of
New Orleans, BS
University of Texas
School of Law, J.D.

**Hanks, Norman E.**
San Jacinto College, AA
Sam Houston State
University, BBA, MBA

**Henson, Warner**
Texas Southern University, BA
University of Massachusetts, MBA

**Koffel, Linda S.**
Pensacola Junior College, AA
University of Florida, BA
University of Houston, MS

**Overton, Karen**
Texas Southern University, BA, MA

**Perser, Glenn**
University of Texas at Dallas, BS
Abilene Christian University, MS

**Sherman, Nora J.**
Northern Illinois University, BS, MEd
University of Houston, EdD
College of DuPage, AA

**Smith, Peggy**
University of Texas, BA
University of Houston, MA, EdD

**Soliz, Rudy**
Sam Houston State University, BS
Ball State University, MA
Texas A&M University, PhD

**Teel, Deanna**
Southern Illinois University at
Carbondale, BS
University of St. Thomas, MBA

**Woodland, Steven**
Idaho State University, BS
Northwestern State University of Louisiana,
MBA

## BUSINESS TECHNOLOGY

**Boyd, Jerelean**
Prairie View A&M
University, BS, MEd

**Bradshaw, Loris**
Prairie View A&M University, BS
University of Phoenix, MAED

**Caldwell, Willie T.**
Prairie View A&M University, BS, MS

**Carter, Weasey R.**
Lamar University, BBA
University of Phoenix, MAEDCT

**Echols, Hazel J.**
Prairie View A&M University, BS
Texas Southern University, MEd

**Johnson, Rhonda**
University of St. Thomas, BBA
Our Lady of the Lake, MBA

**Lewis, Sabrina Y.**
Wiley College, BS
Texas Southern University, MBA
University of Phoenix, DM

**Murphy, Dorothy L.**
Texas Southern University, BBA

**Nilsen, Joan H.**
Sam Houston State University, BBA
University of Houston, MS

**Nsonamoah, Deloris M.**
Texas Southern University, BS
University of Houston, MEd

**Potosky, Jacqueline**
Ohio University, BS
Prairie View A&M University, MEd

**Punch-LaGard, Rita**
Texas Southern University, BBA

**Smith, Louis Etta**
University of Houston, BS, MEd

**Witt, Paula M.**
University of Houston, BS, MS, MEd, EdD

## CARDIOVASCULAR TECHNOLOGY

**Raines, Debora**

William Rainey Harper College, AAS

## CHEMICAL ENGINEERING TECHNOLOGY

**Galiotos, John**
Northeastern Illinois University, BS
University of Illinois at Chicago, MS, PhD

## CHEMICAL LABORATORY TECHNOLOGY

**Ali, Marion**
ITT Technical Institute, AAS
University of Montgomery, BS

**Galiotos, John**
Northeastern Illinois University, BS
University of Illinois at Chicago, MS, PhD

**Isaachsen, Alan**
Adelaide University, BS
SAIT, Electronic Technician Certificate
ITT Technical Insitute, AAS
University of Montgomery, BS

## CHEMISTRY

**Askew, William E.**
University of North Carolina, BA
East Carolina University, MA
University of Houston, PhD

**Bai, Yiyan**
Harbin Institute of Technology, BS
California State University, Los Angeles, MS
University of Southern California, PhD

**Batamo, Shuhsien**
National Tsing Hua University, BS, MS
Temple University, PhD

**Chakravarty, Bindu**
Kanpur University, BS, MS
Clarkson University, MS

**Cherif Abdallah**
Universite de Reims Champagne, BS, MS, PhD

**Dessens, Steven**
Sam Houston State University, BS
Tulane University, PhD

**Ewane, Emmanuel**
Southwest Texas State University, BS
Texas Southern University, PhD

**John, Jagdish N.**
University of Agra, India, BS, MS
Texas A&M University, PhD

**Judd, Carolyn S.**
Rosary College, BA
University of Texas-Austin, MA

**Pahlavan, Gholam**
Teheran University, BS
Texas Southern University, MS
University of Houston, MS, PhD,
TEA Certification

**Shukla, Alka**
University of Indore, BSC, MS
Lamar University, MS

**Sihi, Supriya**
Jadavpar University, BS
Louisiana State University, MS

## CHILD DEVELOPMENT

**Delahoussaye, Vanese**
McNeese State University, BA, MEd
University of Houston, EdD

**Norwood, Pamela**
San Joaquin DeHa College, AA
University of the Pacific, BA
University of Houston, MEd, EdD

## CLINICAL LABORATORY TECHNOLOGY

**Hallmark, Robbe**
Southwest Texas State University, BS
Texas A&M University at Corpus Christi, BS

**Spain, Theresa L.**
Houston Community College, AAS
University of Texas Health
Science Center, BS
University of Houston, MEd

## COMMERCIAL TRUCK DRIVER TRAINING

**Bashlor, Richard H.**
Houston Community College, Certificate

**Bell, Valeire**
Howard College, AAS

**Boswell, Tommy**
Houston Community College, Certificate

**Dreger, Jeff**
Houston Community College, Certificate
University of Wisconsin-Parkside, BS
University of Houston
at Clearlake, MS

**Fletcher, Ronald**
Houston Community College, AAS

**Garcia, Pablo**
Houston Community College, Cetificate

**Garsee, Martin**
Houston Community College, Certificate
Texas Southern University, Certificate in
Drivers Education

**Harvey, Henry**
Houston Community College, Certificate

**Maddox, Jay**
Houston Community College, Certificate

**Moncrief, Ray**
Houston Community College, Certificate

**Mouton, Steve**
Houston Community College, Certificate

**O'Neal, Van**
Texas Southern University, Certificate
Regents College, AS

**Ray, Harry**
Houston Community College, Certificate

**Reese, Marvin**
Houston Community College,, Certificate
Central Missouri State University, BS
Texas A&M University at College Station,
Drivers Education Supervisor's Certificate

**Ross, Thomas**
Houston Community College, Certificate

## COMMUNICATIONS

**Johnson, Napoleon**
Highlands University, BA
Texas Southern University, MA

**Whitebird, Scott**
University of Texas at Austin, BA, MA

## COMPUTER SCIENCE TECHNOLOGY

**Adams, Craig A.**
Southwest Texas State University, BS
Houston Baptist University, MS

**Alamnehe, Abass B.**
University of Houston, BS

**Anthony, David W.**
Baylor University, BA
University of Houston, MS

**Asgary, Homied**
Texas Southern University, BS
University of Houston, MS

**Boston, Roger L.**
University of Texas at Austin, BA
University of Houston, MBA

**Busbee, Kenneth Leroy**
Brigham Young University, AA,
BS, BS, MAcc, CPA

**Haile, Getachew**
Central State University, BS
Oklahoma City University, MBA

**Hillman, Douglas Scott**
University of Arkansas, BS

**Johnson, Robert B.**
University of Houston, BS

**Linden, Donald P.**
Texas Southern University, BBA
University of Houston, MEd

**Linkin, Stephen, S.**
Boston University, AS
Northeastern University, BS

**Louie, Parkay**
Texas Tech University, BS

**Marek, John N.**
University of New Mexico, BA
University of Houston, BS
University of Houston
at Clear Lake, MEd

**Ngang, Fidelis N.**
Hohai University, Nanjing, China, BS
Texas A&M University, MS

**Nikzad, Ali R.**
University of Texas, BS
Southwest Texas State University, MS

**Otto, Laura S.**
Southern Illinois University, BA, MBA

**Rao, Suma R.**
Bangalore Institute of
Technology, India, BS
University of Houston at Clear Lake, MS

**Shah, Ancelin T.**
Texas A&M University, BS, MCS

**Uskup, Erhan**
University of North Carolina, BS
University of Chicago, MS

**Walters, Walter J.**
Purdue University, BS
University of Houston, MEd, MBA

**Wilequet, Jeanne**
College of the Mainland, AAS

## CONSTRUCTION TRADES

**Anderson, Tobin**
University of Nebraska, BS

## CORPORATE TRAINING AND CONTINUING EDUCATION

**Bailey, Minnie**
University of Minnesota, BA
Prairie View A & M University, BA
University of Texas, MS
University of Houston, PhEd

**Bowie, Thelma**
University of Colorado, MS

**Briggs, Konnie King**
San Jacinto College, LVN Certificate

**Hermann, Frank W.**
University of Houston, BA, MA

**Kelly, Deborah**
Phoenix School of Holistic Health
Certification Massage Therapy.

**Moraska, Sue**
Eastern Michigan University, BS
Houston Baptist University, MEd

## CORRECTIONS

**Abercrombie, John H.**
Prairie View A&M University, BS
Culinary Arts

**Albers, Lisa**
Stephen F. Austin University, BSIS

**Arnold, Randal**
Texas Institute Building and Design License
American Institute Building and Design
License

**Barrett, Milton**
U.S. Department of Labor,
Carpentry Certificate

**Basye, Timothy**
ASE Certificate

**Bemis, David**
Houston Community College, Certificate

**Bisch, Tod**
Houston Community College, Certificate

**Cason, Arthur B.**
Southern Arkansas University, BSE
University of Houston, MSE
Commercial Art

**Diaz, Jaime**
Houston Community College, AAS
Graphic Arts/Printing

**Fauss, Terry**
Chaminade University of Hawaii, BA

**Garcia, Cristina**
Houston Community College, Certificate

**Gomez, Gerardo**
ASE Certified: Air Conditioning Non-
Structural Analyzing/Damage Repair
Painting and Refinishing

**Graham, Charles**
Houston Community College, Certificate

**Hickman, Lynn**

**Maddox, Donald**
Houston Community College, Certificate

**Mosley, Rhonda**
Houston Community College, Certificate

**Sims, Robert Earl**
Jackson State University, BA

**Smith, Billy**
Ferris State Michigan, Certificate

**Sutton, Samuel**
Airco Technical Institute, Certificate

**Warren, Alex**
University of Missouri, BS
Prairie View A&M, MS

**Washington, Carmen**
Prairie View A&M University, MA

**Weston, Danny**
Devry University, AS

**Wiley, Orvie Jr.**
Jarvis Christian College, BBA

**Williams, James**
Houston Community College, Certificate

**Wilson, Jimmie**
Houston Community College,
Certificate

## COSMETOLOGY

**Fifield, Yolanda**
North Harris College, AAS
Instructor License,
Cosmetology License
Sam Houston State University, Vocational
Teacher Certifcation

**Jones, Lucy**
Houston Community College, AAS
Cosmetology License
Instructor Certificate

**Greene, Gloria**
Debbie's School of Beauty Culture,
Instructor's License
Houston Community College, AAS

**Ramirez, Rosalinda**
North Harris County College, AAS,
Instructor's License
Sam Houston State, Vocational Certification

**Ramirez, Ventura**
North Harris County Junior College, AAS,
Instructor's License
Prairie View A&M, MBA, BA
Sam Houston State, Vocational Certification

**Snelson, Michele**
San Jacinto Junior College, AAS,
Instructor's License
University of Houston, Vocational Teacher
Certification

**Sustaita, Hilda**
San Jacinto College, AA,
Instructor's Certificate
University of Houston, BS,
Vocational Instructor
Certification, MSOT

**Zambrano, Maria**
San Jacinto College, AA
Instructor Certification

## COUNSELING

**Alvarez, Roman**
Far Eastern University, BS
Texas Southern University, MA, EdD

**Bagherpour, Parvin**
University of Farh Pahlavi, BA
Texas Southern University, MA

**Baldwin, Lilian**
Houston Community College, AA
University of Houston, BBA
Prairie View A&M University, MA

**Bateki, Joe H.**
Texas Southern University, BBA, MPA, EdD

**Berveiler, Angela**
University of North Texas, BS
University of Houston-Victoria, MEd
Nova Southeastern University, EdD

**Cambrice-Williams, Brenda**
Texas Southern University, BA, MA

**Canek, Ana V.**
University of St. Thomas, BA
Houston Baptist University, MA

**Denkins, Linda**
North Carolina A&T State University, BS
Prairie View A&M University, MEd

**Dibrell, Sam C.**
Texas A&M University, BS
Trinity University, MA

**Elbert, Weldon**
Texas A&M University-Commerce, BS,MS
University of Houston, EdD

**Farnell, Michael J.**
University of Texas at Arlington, BA
General Theology Seminary, MDiv
University of North Texas, MEd

**Fuller, Kevin A.**
University of Houston, BGS
Texas Southern University, MA

**Garcia, A.G. Miguel**
University of Houston, BA, MSW

**Garcia, Rene**
Our Lady of the Snow Scholasticate, BA
Oblate School of Theology, MDiv
Texas Southern University, MA

**Gentry, Carmen**
University of Houston, BS
University of Houston, MEd

**Green, Verla**
State University of New York, BS
Prairie View A&M University, MA

**Gupta, Raj**
Agra University, BA, MA
Ohio University, PHD

**Harris, Robert**
Prairie View A&M University, BS, MS

**Hauri, Becky**
Western Michigan University, BA,MA
University of Houston, PhD

**High, Clennis**
Texas Southern University, BA, MA, EdD

**Jackson, Turner Lee**
Prairie View A&M University, BA, MEd

**Kelly, Kathleen**
Eastern Michigan University, BS
University of Houston, MEd

**Lapham, Margaret**
University of Oklahoma, BA, MEd

**Mehrinfar, Nasrin**
College of Social Services, BA
Texas Southern University, MA, EdD

**Mosley, Ruby**
Texas Southern University, BS, MA

**Nemeth, Sandra**
University of Oklahoma, BS
University of New Orleans, MEd

**Page, Mary L.**
Francis Marion College, BA
University of Houston, MA

**Parham, Ruth Jacqueline**
University of Houston, BA
Prairie View A&M University, MEd

**Perry-Ridley, G. Terrye**
Bishop College, BA
Texas Southern University, MA

**Pham, Thien-Kim**
University of Houston, MEd

**Prevost, Arthur**
National University, BA
Prairie View A&M University, MEd

**Reno, John**
Assumption College, MA/CAGS.

**Rivera, Luci**
University of Houston, BA
University of Houston at Clearlake, MA

**Rowell, Lesli Lam**
Baylor University, BS
Texas A&M University, M.Ed., Ph.D.

**Russell, Nancy L.**
Incarnate Word College, BS
Columbia University, MA
University of Texas at Austin, PhD

**Salinas, Jr. Luciano**
University of Houston, BA
Pan American University, MEd

**Scribner, Martha**
ADA Counselor
New York University, MA

**Selby, Mary**
University of Oklahoma, BA, MA

**Sneed, Linder**
Texas Southern University, BS
Prairie View A&M University, MEd

**Suryaatmadja, Johan**
Foreign Language Academy, BA
University of Virginia, MA
Prairie View A&M University, MA

**Sutton, Judy**
University of Texas, BA
Angelo State University, MS

**Torres, Jaime**
University of Texas, BBA
University of Houston, MEd

**Trevino, Dora**
Houston Community College, AA
University of Houston - Downtown, BS
University of Houston - Clear Lake, MS

**Trevino, Luis**
University of Texas, Pan-American, BS
University of Houston, Central, MSW

**Ugwu, Patricia**
Southern Illinois University, BS, MA
University of Houston at Clear Lake, MS
University of Texas, PhD

**Walker, Lorenzo**
Huston-Tillotson College, BA
Prairie View A&M University, MEd

**Welcome, Stacy**
Texas Southern University, BA
Prairie View A&M University, MA

**Weldon Elbert**
Texas A&M University-Commerce, BS,MS
University of Houston, EdD

**Wellenkamp, Gail**
Western Michigan University, BA, MA

**Young, Bobby R.**
Jackson State College, BA
Oklahoma State University, MS

## CRIMINAL JUSTICE

**Brook, Jonathan**
University of Texas, BS
City University of New York, MA
South Texas of Law, JD

**Carmean, Irl (Chris)**
Ohio State University, BA
University of Nebraska, MS
Creighton University
School of Law, JD

**Edwards, Michael J.**
Rice University, BA
University of Texas at Austin, JD

**Galloway, Howard C.**
University of Texas Permian Basin, MS,
BATexas Tech University, BS
Midland College, AS

**Scott, Janelle**
Texas Southern University, BS

**Sessums, Johnny**
Blinn Junior College, AA
Houston Community College, AA, AAS
Midwestern State University, BAAS
University of Houston@
Clear Lake, MA
Law Enforcement Certificate

**Sexton, John F.**
Houston Community College, AAS
Law Enforcement Certificate
LeTourneau, BA
University of Houston@
Clear Lake, MA

## CULINARY ARTS

**Boland, Nicholas**
Johnson and Wales University, AAS

**Boykin, Judith**
Culinary Institute of America, AOS

**Kotyra, Christy**
Johnson and Wales University, AAS

**Moradi, Ezat**
Regional Cooperation for Development
International School of Insurance and
Economics (Iran, Pakistan, and Turkey), BS
Eastern New Mexico University, MBA
University of Houston, EdD

**Van Damme, Eddy**
IMOV (Belgium), AOS
PIVA (Belgium) Certificate of Education
Pastry Chef Confectioner

## DANCE

**Cupach, Cynthia**
Kent State University, BA
Antioch University, MA

**Quanaim, Deborah P.**
Agnes Scott College, BA
Mills College, MA

## DENTAL ASSISTING

**Jukes, Kay B.**
Houston Community College,
Certificate, AA
University of Phoenix, BS

**Perez, Rosalva R.**
Houston Community College, Certificate

University of Houston, BS

## DIAGNOSTIC MEDICAL SONOGRAPHY

**Ho, Elizabeth**
Houston Community College, AAS, ATC

**Richardson, William**
Baylor College of Medicine/Harris County
Hospital District, School of Radiology,
Certificate
Houston Community College, AA
Texas Southern University, BA, MPA

## DIESEL MECHANICS

**Johnson, Herbert**
Detroit Diesel Technician Certificate, ASE
Certified: Master Truck Technician

**Littlejohn, Benjamin**
Houston Community, Diesel Certificate,
Journeyman Mechanic

**Washington, George**
University of Arkansas, BS
Prairie View A&M University, MEd

## DIGITAL COMMUNICATION

**Hendry, Sharon**
State University of New York at Buffalo, BFA
Niagara County Community College,BA
University of Houston at Clear Lake, MA

**Leathers, Reginald**
Southern University, BS, MA

**Ormrod, Oliver Pim**
Massachusetts College of Art, BFA, MFA

**Porcynaluk, Patricia Doran**
S.U.N.Y. at Buffalo, BFA
Rochester Insiute Technology, MFA

**Raghavan, Ellen W.**
Texas Christian University, BA
University of Houston, MA, PhD

**Reece, Margo**
University of Houston, BFA, MFA

**Roberts, Paul T.**
Brigham Young University, BA, MA

**Schuh, Lloyd**
Oklahoma State University, BS
University of Houston, MEd

**Tan, Carolyn (Ghim), P.**
Houston Community, Certificate
Queens College, City
University of New York, BA
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## DIGITAL GAMING AND SIMULATION

**Abraham, Reni**
Tri-State University, BSCS
Texas A&M University-Commerce, MSCS

**Salinas, Hector Jr.**
Art Institute of Houston, AAS

## DRAFTING DESIGN TECHNOLOGY

**Asper, Kris**
Institute of Technology, AAS
Northern Kentucky
University, BS, MEd

**Griffin, Marvin L.**
Houston Community, CAD Certificate
Prairie View A&M University, Vocational
Certificate, BS, MEd

**Ha, Francis**
SEAY University, BS
Union College of California, MA

**Haddock, Nicky M.**
University of Tulsa, BA

**Pham, Minh**
University of Houston, BS

**Ortiz, Frank**
University of Houston, BArch

**Vu, Nho H.**
School of Business, Saigon, Vietnam, BA
Indiana State University, MS

## DRAMA

**Corley, John C.**
University of Houston, BA, MA

**Knight, Kathleen**
San Diego State University, BS
University of Houston, MM

**Muth, Edward**
Philadelphia Community
College, AA
Temple University, BS
Northern Illinois University, MFA

**Shine, Betty**
Baylor University, BM
Lamar University, MM
Indiana University, MSM

## ECONOMICS

**Ashraf, Birjees**
St. Joseph College for Women, BA
Northern Illinois University, MS
Karachi University, PhD

**Faegh, Ali**
National University of Iran, BA
University of Houston, MA, PhD

**Gosselin, Richard J.**
University of Houston, BA, MA

**Kinsey, Charlene**
Our Lady of the Lake, BA
University of Houston, MA

**Mbata, James**
University of Ife, BS
University of Ibadan, MS, PhD

**Newton, Charles**
Baylor University, BA
Texas Tech University, MA
Texas A&M, MBA

**Poen, Harmonna**
Western Michigan University, BA, MA

**Reyes, Manuel**
St. Mary's University, BA, MA
University of Houston, JD

**Saderion, Sara**
University of Illinois, BS
University of Houston, MA, PhD

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Macalester College, BS
Indiana University, MBA

## ELECTRONIC ENGINEERING TECHNOLOGY

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University of Houston, BSET
University of Houston at
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**Talusani, Pratap R.**
Osmania University, BSEE
University of Houston, MSEE

**Young, Stanley, Jr.**
University of Surrey, MSEE

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Rice University, BA BSEE
University of Pittsburgh, MSEE
University of Houston, MBA

## EMERGENCY MEDICAL SERVICES

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Victoria College, Paramedic Certificate
University of Houston, BS, MED

**Cole, Marion V.**
HCC, Paramedic Certificate
Texas Woman's University, BSN
University of Houston, MEd

**Demers, Dean A.**
Houston Community College   Emergency
Medical
Technician-Paramedic Certificate, AAS

**Grider, Hans**
Greenville Technical College, AAS

**May, Vicki L.**
Houston Community College, Paramedic
Certificate
Southwest Texas State University, BS
University of Houston, MEd

**McCrea, Deborah L.**
Houston Community College, Paramedic
Certificate
University of Texas, BSN, MSN, ENP

## ENGINEERING

**Sheinberg, Bartlett**
University of Texas at Austin, BS
University of Houston, BS
University of Texas GSBS at Houston, MS

## ENGLISH

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Rice University, BA
University of Houston, MA, PhD

**Arzola, Laura**
Rice University, BA,
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**Bell, Glenna**
University of Houston, PhD

**Belz, Sabrena**
University of Houston, BA, MA

**Blain, Martin (Rob)**
Lamar University, BA
University of Houston at
Clear Lake, MA

**Brogdon, Bruce**
University of Houston, BA, MA

**Cano, Grisel**
University of Houston, BA, MA, EdD

**Coogan, Genevieve B.**
University of the Americas, BA
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Oklahoma Baptist University, BA
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DePaul University, BA
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Queens University at Kingston, BA
Prairie View A&M University, MA

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Northwestern State University, BA. MA

**Dybala, Marie**
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**Ford, Robert G.**
Rice University, BA, MA, PhD

**Gordon, Donna L.**
Sul Ross State University, BA,MLA

**Guillory, Brenda D.**
Navarro Junior College, AS
Sam Houston State University, BA, MA
University of Houston, MSW

**Griffin,Linda**
Louisiana Tech, BA, MA, MBA
University of Houston, EdD

**Harrison, Lee**
Lamar University, BFA
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**Harvey, John**
Wayne State University, BA
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**Haynes, Harold**
Prairie View A&M University, BA
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**Jackson, Helen E.**
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**James, David A.**
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University of California, Berkeley, MA
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**Lacroix, Laurel**
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**Langston, James T.**
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**Marquez, Candace**
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University of Houston, BA, MA, PhD

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Barnard College, BA
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California State University, BA
University of Southern California, MA, PhD

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University of St. Thomas, BA
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Sarah Lawrence College, BA
University of Montana, MFA
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University of Houston at
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**Clement, Kevin A.**
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**Glazer, Elliott**
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**Kamm, Jeffrey**
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**Loeb, Victoria**
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University of Houston, MEd, EdD

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University of Houston, MEd, PhD

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**Medina, Gisele**
Syracuse University, BS

**Melo-Ruppert, Julieta**
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**Phillips, Dyanne**
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Sam Houston State
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**Ross, David A.**
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University of Paris, Diplome
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Southern Methodist University, MA

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Texas Southern University, MEd
University of Houston, EdD

**Silva, Eva**
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University of Houston, BA, MA

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University of London, Institute
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Briarcliff College, BA
University of Houston, MA

## FASHION DESIGN

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University of North Texas, BA
Houston Baptist University, MLA

**Muller, Ruby M.**
Texas Technological University, BS

**Simmons, Kenneth E.**
Sam Houston State University, BA
University of Houston, MFA

## FASHION MERCHANDISING

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Louisana State University, BA
University of Phoenix, MBA

## FILMMAKING

**Boyd, Richard**
Art Institute, AAS

**Harrington, Richard**

## FINANCE (BANKING)

**Parr, Janet S.**
Sam Houston State University, BBA

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American Institute of Banking, Certificate
Excelsior University, BA, BS

## FIRE PROTECTION TECHNOLOGY

**Summers, Rufus T.**
University of Houston, BS, MA

## GEOGRAPHY

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Sam Houston State
University, BA, MA

**Evans, Bryant**
Shasta College, AA
Sonoma State University, BA
University of Arizona, MA

## GEOGRAPHIC INFORMATION SCIENCE

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Texas A&M University, Master of Urban
Planning, AICP

## GEOLOGY

**ALOYSIUS J. O'NEILL**
Duquesne University, BS
Rutgers University, MS

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Newcomb College, Tulane University, BS
University of Houston, MS, PhD

**Kranz, Dwight S.**
Texas A&M University, BS, MS

**Miller, Carolyn Rindosh**
Rice University, BA
University of Southern California, MS

## GOVERNMENT

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Texas Tech. University, BA, MA
University of Houston, PhD

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University of Houston, BA, MA

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Mississippi State University, BA, MA

**Jones, Brenda F.**
Southern University, BA
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HCC, AAS
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University of Houston, BS, MEd

**Gonzalez, Larry J.**
San Antonio College, AA
University of Houston, BA, MA, PhD

**Hartray, Mark**
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University of Houston, MA

**Haymes, Thomas**
University of Texas, BA
Georgetown University, MA, MA

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Sam Houston State
University, BA, MA
Texas A&M University, PhD

**Lange, Heidi**
St.Mary's University, BA MA

**LeBlanc, Gary**
Lamar University, BA, MPA

**Lew, Raymond**
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**Martin, Joe C.**
Sam Houston State
University, BS, MA

**Meikle Harris, Vinette**
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Columbia University, MA
University of Houston, PhD

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University of Houston, BA, MA
Denver University, MA, PhD

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**Rhea, Donna L.**
University of Houston, BA, MA

**Shay, C.S. (Cammy)**
Willamette University, BA
Rice University, MA, PhD

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Pan American University, BA,
University of Kentucky, MA, PhD

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South Texas College of Law, JD

**Sutter, John Ben**
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**Tiller, R. Mark**
University of Texas, BA, MA

**Webb, Linda B.**
Ball State University, BS, MA

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Texas Woman's University MS, PhD

## GUIDED STUDIES

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**Botts, Chyrell**
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**Davis, Patricia**
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Prairie View A&M, MA

**Davis, Russell R.**
Houston Baptist University, BA
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Theological Seminary, MDiv, MA
Center For Advanced Legal Studies,
Paralegal Certificate

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University, BS, MEd

**Endrinal, Azucena**
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Phillipines, BS
De Paul University, MEd

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Prairie View A&M, MEd

**Heidbreder, Paulette**
University of Texas, BA
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**Hines, Montez**
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University, BS, MEd

**Hixon, Beverly**
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**Housel, David**
University of Tulsa, BA
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**Johnson, Sidney**
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**Jones, Helen Ann**
Southwest Texas State University, BS
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**King, Michael John**
Stephen F. Austin State University, BS
Houston Community College, Certificate
The Victoria College, AAS
University of Houston at Victoria, MEd
University of Houston, EdD

**Krieg, Elaine B.**
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University of Houston, MED

**Leifeste, Sharon A.**
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University of Houston, MEd

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## HEALTH AND FITNESS INSTRUCTOR

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## HEATING, AIR CONDITIONING, REFRIGERATION

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Certificate

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University of Houston, BS
University of Houston,
Clear Lake, MS

**Grauman, Gerald**
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AAS
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San Jacinto  College, Certificate
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## HISTORY

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Western Reserve
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University of St. Thomas, BA
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Houston Baptist University,MLA
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**Drake, Chris**
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**Jackson, Gretchen D.**
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**Johnson, Alan**
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**Kehoe, Mary**
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**McGaughy, J. Kent**
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University of Houston, MA, PhD

**Moretta, John A.**
University of Santa Clara, BA
Portland State University, MA
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**Olivares, Jaime Ramon**
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**Patterson, James**
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**Robinson, Joella**
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**Ross-Nazzal, James A.**
University of Washington, BA, MA
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**Sparks, James W.**
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**Villarreal, Rodolfo**
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**Walmsley, Andrew S.**
Sussex University, BA
Rice University, MA
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## HOTEL AND RESTAURANT MANAGEMENT

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## HUMAN SERVICE TECHNOLOGY

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University of Houston, MSW
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## INDUSTRIAL ELECTRICITY

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## INSTRUMENTATION AND CONTROLS ENGINEERING TECHNOLOGY

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SAIT, Electronic Technician Certificate

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## LIBRARIANS

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Lamar University, MA

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University of Texas at Austin, MIS

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University of North Texas, MLS

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University of Texas, BSW
Emporia State University, MLS

**Cleveland, Trudy**
University of Oklahoma, BA
University of North Texas, MLS

**Coles, Denise**
Northwestern University, BA
University of Arizona, MA

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Baylor University, BBA
Texas Wesleyan University, MBA
Texas Woman's University, MLS

**Dillon, Kathleen**
 Wayne State University, BA, MSLS
University of Houston, BFA

**Edwards Peggy S.**
University of Texas, BA
University of North Texas, MLS

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Central Michigan University, BS
University of Michigan, MLS

**Garner Dolores**
University of Pittsburgh, BA
University of Pittsburgh, MLS

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Temple University, BA
Louisiana State University, MA, MLS

**Hord, Bill**
University of Houston, BA
University of Texas, MLIS

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Taiwan University, BA
Case Western Reserve, MLS

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Boston University, BA
University of Tennessee, MSLIS

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Louisiana State University, Shreveport, BS
Louisiana State University, Baton
Rouge,MLIS

**Martin, Melba**
Southern University, BA
Louisiana State University, MLS

**Richard, Gwendolyn**
Simmons College, BA
University of Maryland, MLS

**Reeves, Tolley**
State University of New York, BA, MLS

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Texas Southern University, BA, MA
East Texas State University, MSLS

**Stidham, Jennifer B.**
Trinity University, BA
Simmons College, MS

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University of Washington, BA
Louisiana State University, MLS

**Teoh, George M.**
Rangoon Arts and Sciences University, BA
University of Texas at Dallas, BA
Louisiana State University, MLS

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University of Texas, BFA
University of Texas, MLIS,

## MANUFACTURING ENGINEERING TECHNOLOGY

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Houston Community College, AAS
Thomas Edison State College, BA
Indiana University, BA, BS
New York State University, BS
University of Houston, MS
City University, MBA
Walden University, PhD
Century University, PhD

## MACHINING TECHNOLOGY

**Neal, James C.**
U.S. Department of Labor, Journeyman's
Certificate,
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Houston Community College, AAS
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Indiana University, BA, BS
New York State University, BS
University of Houston, MS
City University, MBA
Walden University, PhD
Century University, PhD

**Watson, Johnny E.**
Houston Community College, AA

## MARKETING

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Pensacola Junior College, AA
University of Florida, BA
University of Houston, MS

**Overton, Karen**
Texas Southern University, BA, MA

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University of Texas at Dallas, BS
Abilene Christian University, MS

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Idaho State University, BS
Northwestern State University of Louisiana,
MBA

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University of Hamburg, BS
Southern Methodist University, MS
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Texas A & M University, BS
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Texas Tech University, MS

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Texas Southern University, MS

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Tehran University, BS, MS
London University, MS, PhD

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State University of New York at Buffalo, BS
University of Houston, MEd

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Memphis State University, BS
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University of the West Indies, BS
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McGill University, BS
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University of Houston, BS, MS, PhD

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Texas A&M, MEd
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University of Houston, MEE, MS, PhD

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Prairie View A&M University, BS, MS
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Texas Southern University, MS
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St. Cloud State University, B.S.
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University of Houston, BS
University of Houston, MEd
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University of Panama, BA, BS
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University of Puerto Rico, BS
North Carolina State University, PhD

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Cheng Kung University, BS
Mississippi State, MA
University of South Carolina, MS
Kensington University, PhD

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University of Houston, BS, MEd

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Southwest Texas State
University, BS, MS

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University, BS, MS, EdD

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University of Arkansas, BS
Mississippi State University, MS

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Arellano University, BS
Ateneo De Manila, MS

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University of Houston, B.S.
University Of Houston, Clear lake, M.S.

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University of Houston, MS
Prairie View A&M University, MS

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University of Jos Nigeria, BS
Prairie View A&M University, MS
University of Nebraska at
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**Odion, Charles I.**
University of Missouri, BS
Texas A&M University, ME, MS

**Onu, Vitalis C.**
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University of Houston, BA, MEd, MS

**Rust, Crystal A.**
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Kansas State University, BS, MS

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University of Oklahoma, BA
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Prairie View A&M University, MS

**Sawyer, Michael J.**
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**Sever, Timor**
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**Shagroni, Mahmoud**
Colorado School of Mines, MS, PhD
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**Smith, Edgar**
University of St. Thomas, BS
Rice University, MS

**Singleton, Elizabeth A.**
McMaster University, BA
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**Thomas, John C.**
Texas A&M University, BS, MS, PhD

**Thompson, Jr., Burnette**
Texas Southern University, BA, MS

**Usen, Emmanuel, E.**
Michigan Technological
University, BS
Texas Southern University, MS

**Vance, Clen D.**
Clark College, BS
University of Houston, MEd

**Weng, George H.**
Tamkang College, BA
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Prairie View A&M University, BS
Langston University, BA
Texas Southern University, MS

**Wylie, H. Lee**
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University of Houston, BA

## MEDICAL ASSISTANT PROGRAM

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Lilly Jolly School of Nursing Diploma
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Assistant Certificate, AAS

## MUSIC AND COMMERCIAL MUSIC

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Southern Methodist University, BM
Rice University, MM
University of California
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**Bishop, James E.**
University of Texas @ San Antonio, BM
Florida State University, MM
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Louisiana State University, BA
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Arkansas State
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Cleveland Institute of Music, BM
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**Schaffer, Christine**
Catholic University of America, BA
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**Tucker, Aubrey S.**
University of Houston, BM
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University of North Texas, MM
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Texas Woman's University, MS, PhD

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## PHYSICS

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University of Texas at Austin, BS
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University of Texas GSBS at Houston, MS

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Tunghai University, BA
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## PROCESS TECHNOLOGY

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ITT Technical Institute, AAS
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University of Illinois at
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SAIT, Electronic Technician Certificate

## PSYCHOLOGY

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Texas A&M University, BA, MA
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University of Texas at Austin, BA
Baylor University, Psy.D.

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University of St. Thomas, BA
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Columbia University, EdD

**Green, Donald R.**
Fisk University, BA
University of Massachusetts, MS
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University of Houston, BS, MEd
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National Taiwan University, BS
Ohio State University, MA, PhD

**Laman, Carol A.**
Long Island University, BA
Rice University, PhD

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University of Michigan, BA
University of Minnesota, MA
Wayne State University, PhD

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University of Indiana, BA
Sam Houston State University, MA

**Morecook, Robert**
Randolph-Mason College, BA
University of Houston at
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Brigham Young University, BS, MS
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**Saenz, Karen P.**
Southwest Texas  State University, BS
Prairie View A&M University, MEd

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University of Wisconsin at Madison, MS
Texas A&I University, MS

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University of Houston, MEd, PhD

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University of Houston, EdD

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Wayne State University, BS
University of Michigan, MA, PhD

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University of Texas Health Science Center,
MPH

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University of Houston, BS, MS

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Midwestern State University, BS

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University of Oklahoma, BS
University of Central Oklahoma, MEd
University of Houston, EdD

**Gow, Patricia R.**
Houston Community College, AAS

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San Jacinto Junior College, AAS
Houston Community College, AAS

**Nobles, Catherine**
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Sam Houston State University, BME
University of Houston, MEd

**Strayhorn, Faye**
Lamar University, AAS
Midwestern State University, BS

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San Jacinto Junior College, AAS
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Real Estate Broker's License
University of Texas, BA

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University of Toronto, BA
University of Houston, MBA

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Delmar College, AAS
University of Corpus Christi, BS

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Real Estate Broker's License
University of Houston, BS

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Houston Community College, AAS

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Real Estate Sales License
University of Houston, BA

## RESPIRATORY THERAPIST

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Houston Community College, AAS
University of Houston, BSC
Prairie View A&M, MBA

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Texas Southern University, BS

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San Jacinto College, AAS
University of Texas
Medical Branch, BS

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Houston Community College, Certificate
Ottawa University, BA

## SOCIOLOGY

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Texas Southern University, MA, EdD
Prairie View A&M University, MEd

**Greene, Claronette B.**
Prairie View A&M University, BA
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Huston-Tillotson College, BA
Atlanta University, MA

**McWhorter, Marian J.**
Sam Houston State University, BA, MA

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University of Calicut, India, BA
University of Houston, MA, EdD

**Pearson, Anthony M.**
University of Houston, BA, MA

**Salinas, Luis L., II**
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Brown University, MA
University of Arizona, PhD

**Tinnermon, Portia**
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Texas Southern University, MA

## SPANISH

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University of Southern Mississippi, MA
South Texas College of Law, JD
University of Arizona, PhD.

**Crasto, Darren**
Mississippi State University, BA, MA

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University of Houston, PhD

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University of Chile
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Columbia University, M.A
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John Carroll University, MA

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Pontifical Catholic University of Puerto Rico,
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University of Houston, BA, MA

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University of Houston, MA

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## SPEECH

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Brooklyn College, BA
Ohio State University, MA
City University of New York, MA

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University of Houston, BA, MA

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Baylor University, BA
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University of Houston at Clear lake, MA

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Highlands University, BA
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University of the Pacific, BA
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## UPHOLSTERY

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## VETERINARY PARAMEDIC

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Texas Southern University, MEd

**Watts, Pearlie M.**
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## WELDING

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