Final Narrative & Financial Report

Name of Institution: Houston Community College
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Section 1: Final Narrative

Implementation
1. Briefly describe each major DEI intervention and policy changes included in your original proposal. Comment on the extent to which it was implemented. Your comments should include:
   - Details surrounding each intervention's progress (or lack of progress)
   - Evaluation activities and results, including number of students served and student outcomes.
   - Plans for sustaining, expanding, or discontinuing the intervention or policy

Strategic Direction One: Improved Coordination of Developmental Education and Expansion of Student Success Courses. This has been successfully accomplished through several means:

- HCC has created a Developmental Education Council which meets once a month to discuss strategies for success for HCC students in developmental education.   Since implementation of the DEI grant, all HCC programs and courses have set pre-requisite levels for reading, math, and writing skills. Students not testing at pre-requisite levels for reading, math, and writing are required to enroll continuously and complete the sequence of developmental education courses, first in reading, secondarily in math, and thirdly in writing. The coordination of developmental education is on-going and we have added our English as a Second Language (ESL) faculty to the Developmental Education Council. Agendas and highlights may be viewed on the HCC website at http://www.hccs.edu/hccs/faculty-staff/instructional-initiatives-resources/grants/gates.

- HCC, in partnership with other Gulf Coast community colleges, the Texas Association of Community Colleges, and the Texas higher Education Coordinating Board has organized and hosted four state conferences on topics related to developmental education from Fall 2010 through Fall 2012. HCC has also partnered with TACC, THECB, and other groups to make presentations at both state and national conferences. This spring, HCC is planning a major state conference on the new Mathways proposed for the state of Texas (April 6, 2013). On the day before, HCC will also host a major dialogue between state universities and community colleges about improved articulation and transfer of the different mathways courses. HCC has worked closely with the Dana Center for the Teaching of Mathematics at the University of Texas-Austin to develop alternative mathways and improve teacher preparation.

- To improve alignment of HCC course and program advising, several activities have occurred. HCC obtained a web-based software called CurricUNET that provides for the posting, development, revision, and archiving of all HCC curriculum. As part of our reaffirmation for reaccreditation in 2012, HCC engaged in a district-wide process by which Student Learning Outcomes (SLO) were created or revised for all courses and programs. Programs engage in a four-year cycle of review and an annual process of assessment activities and reports. HCC has also created a Faculty Advising Handbook that includes instructions for faculty to conduct a "degree audit" for students to ensure proper advising. HCC also served as a co-leader with neighbor San Jacinto College in the Houston Pathways Initiative, by which faculty "vertical teams" in history, English, math, and biology from area public schools, community colleges, and universities worked on curriculum alignment to ensure smooth transition for students.

- Improved coordination between Instruction and Student Services has occurred under the leadership of new Vice Chancellor for Student Services, Dr. Diana Pino. HCC has redirected Counselors to case management activities for individual students in need of personal advising and has hired 16 new academic advisors to assist students in course and program selection and scheduling. HCC has also sent numerous faculty to the National Association of Academic Advising (NACADA) conferences and workshops to help improve the quality and process of faculty academic advising.

- HCC has expanded the creation and revision of "model courses." These are courses created by teams of instructional designers, subject matter experts, and programmers that are made available to all faculty teaching a course. The purpose is to provide a sound basis for instructional quality and consistency across the district. All HCC faculty teaching one of our four student success courses (EDUC 1300: Learning Strategies; HPRS 1201: Introduction to the Health Sciences; LEAD 1200: Leadership in the Workforce; and ENGR 1201: Introduction to Engineering) have been required to attend training for use of Eagle Online, the HCC Learning Management System which houses our online and model courses. The model courses have been consistently improved with the addition of many modules, including one on Financial Literacy developed by HCC with assistance from a grant from Bank of America.

- Currently, over 6,500 students, representing 64 percent of each entering semester's cohort, are enrolled in an HCC student success course. The impact of these success courses have been demonstrated in three separate studies (one on the cohort of 2006, a second on the cohort of 2008, and the third on the cohort of 2010) to improve the long-term persistence of students taking the success course over students not taking the success courses.   The study of the 2010 cohort is attached at the end of this report.

- The new HCC Strategic Plan 2012-2015 calls for increased student completion through advanced educational opportunities. The plan calls for revamped developmental education to ensure greater success with more efficient delivery. This has started in many ways and will be detailed in further sections. The Strategic Plan is available at: http://www.hccs.edu/hcc/System%20Home/Departments/Communications/At%20a%20Glance/strategicplan2012.pdf .

Strategic Direction Two called for expansion of Learning Communities at HCC. We have two responses here:

(1) We believe Learning Communities to be a useful strategy for student success and were able to document that with a study conducted with MDRC. The Learning Communities for Developmental Math with our primary freshman success course prior to Fall 2012 (GUST 1270: College and Career Exploration) proved to be successful in terms of both improved student achievement and persistence but we have struggle to "scale" learning communities. In 2008-2009, HCC participated in a study by MDRC, with results analyzed by the National Center for Postsecondary Research and released in 2010. Over 1200 HCC students agreed to participate in Learning Communities linking GUST 1270 and MATH 0306: Fundamentals of Math. Students were randomly assigned, half to Learning Communities, and half to the courses not linked in Learning Communities. The key findings of the study revealed:
- ✓ Learning Community (LC) students took and passed their first developmental math class at higher rates than the non-LC students;
- ✓ LC students took the next math class at higher rates; and
- ✓ The greatest impacts occurred for students who entered college with the lowest math placement scores.

(2) While HCC still believes in the effectiveness of Learning Communities for developmental education students, the strategy has proven too difficult to implement in a district as diverse and far-flung as ours. Due to the obstacles of scheduling, advising, and tracking some 70,000 students a semester in a district with 22 campuses, we have decided that our current efforts are perhaps better served by strategies of improved preparation of students, acceleration strategies, and particularly, redesign of our developmental math program. Nonetheless, we will continue to work with our IT department to see if technology might be better utilized to promote and facilitate Learning Communities at HCC.

Strategic Direction Three called for the expansion of Math bridge courses. Initially, efforts centered on identifying HCC students who "nearly passed" a level of development math (earning a course grade of D) and having them take a modularized section or "bridge" course to cover only those concepts they failed to learn instead of repeating the entire course.

- This strategy has resulted in some 300 students identified and enrolled each semester in Math bridge courses and has resulted in success rates of over 70 percent for such students. However, much like the Learning Community strategy, we feel that we haven't been able to scale this intervention sufficiently to impact greater numbers of students.

- As a result, we have focused our attention instead on three different strategies: (1) increased preparation of students *prior* to placement; (2) modularization of the entire developmental education curriculum; and (3) identification of distinct "mathways" for students based upon their selection of program.

- In the Summer of 2012, HCC offered free one-week PREP courses for students wishing to receive tutorial assistance prior to taking the COMPASS. In the Fall semester of 2012, the PREP courses were expanded to four-weeks and became either prep for math (PREM 0200) or prep for reading/writing (PRER 0200). Students were charged a tuition fee for a two-SCH course and a

fee for use of Pearson MyFoundationLab software that HCC has cross-walked to both the COMPASS and HCC developmental education courses. Students who scored within designated "bubble ranges" (scores at the upper end of one level, but slightly below the next level of developmental education) were advised to take the PREM or PRER four-week courses instead of the regular 16-week courses at their current level. The goal was to "prep" students and retest them at the end of the four weeks in hopes that they would score at the next higher level and be able to enter a 12-week second start semester at the higher level. Combined results for summer and fall semesters of PREP, PREM, and PRER have impacted several hundred HCC students and the results have been promising. 50 percent of math students re-tested at least one level higher, 55 percent of writing students re-rested at least one level higher, and over 60 percent of reading students re-tested at least one level higher. For the spring 2013 semester, the bubble range of scores was widened to allow for even more HCC students to be offered the PREP experience.

- In the Spring 2013 semester, HCC has enrolled over 300 students in modularized math. We are currently working to cross-walk the existing three developmental math courses (MATH 0306, MATH 0308, and MATH 0312) to a finite set of math modules (10-12), that will also cross-walk to college-level math courses and existing programs. Much like efforts undertaken by community colleges in Virginia and Tennessee, we are attempting to identify different "mathways" for students depending upon their chosen program of study. For students desiring to major in the science, technology, engineering, and math (STEM) fields, students will likely be required to complete all of the modules and enroll thereafter in College Algebra and Calculus. For other students (e.g., Social Sciences), perhaps they might exit at an earlier math module and enter Statistics as a college-level math course. For others (e.g., Humanities), they might also exist at an earlier math module and take thereafter College Math for Liberal Arts. Finally, we are engaged in a district-wide conversation about which math module is the necessary pre-requisite for our many Career and Technical Education (CTE) programs and which college level Technical Math course applies.

2. What obstacles (if any) did you face in implementing your DEI interventions? Think broadly, including state policy, community, and institutional environments.

   As noted above, we have found that certain strategies (Learning Communities and our prior use of Math bridge courses) have simply not been effective for us in terms of scaling them to reach large numbers of our students.

   Due to the size, complexity, and decentralized nature of our college locations, we have simply been unable to master successful implementation of Learning Communities. Interestingly, HCC is embarking on redesign of our credit workforce programs to achieve greater control of scheduling. We are introducing concepts of cohort enrollments, block scheduling, embedded remediation, wrap-around services, and improved use of technology to serve students across the district with programs that will allow them to progress at greater speed (and less hassles!) to completion of certificates and degrees. We hope that the experience and what we learn will allow us to develop better models of service for our developmental and academic students as well.

3. What would you do differently next time?

   Again, given the reality of our district's infrastructure and service area, it's not clear that different approaches would have resulted in better outcomes for these strategies. Perhaps a major learning lesson is that HCC must look to other similar institutions (e.g., Valencia, Northern Virginia Community College, etc.) to see how the size and complexity of an institution will influence the selection and adaptation of strategies.

4. Comment on additional outcomes not directly associated with DEI objectives (e.g. partnerships formed, additional funding support gained).

   The DEI grant was one that allowed us to leverage activities and apply for several additional grants.

   - As members of the Carnegie project Statway, we have created a developmental level "Introduction to Statistics" that will lead to a college-level "Statistics" course for non-STEM (science, technology, engineering, and math) majors in lieu of the traditional developmental math pathway leading to College Algebra.

   - In the Comprehensive Student Success Program, a grant received from the Texas Higher Education Coordinating Board, we have targeted our three college-level gatekeeper courses with the highest failure rates (ENGL 1301, HIST 1301, and MATH 1314) for a variety of strategies, including early warning to students, improved tracking, and a form of case management for improved advising.

   - As noted previously, HCC participated in the Houston Pathways Project from 2009-2011 and in 2012 received a Gulf Coast PASS grant from the Houston Endowment to improve articulation and partnerships with our largest school districts, including those that prepare students for college more effectively so that they might avoid developmental education after graduation. The Gulf Coast Pass website can be viewed at http://www.hccs.edu/hccs/faculty-staff/instructional-initiatives-resources/grants/gulf-coast-pass. A narrated PowerPoint highlights "next step" activities for Gulf Coast PASS at: http://tlr.hccs.edu/gcpassnar/DrcooklGulfCoastPASS.ppsx . As a result of Gulf Coast PASS funding, HCC has created and implemented a free online web site for students to "prep" for the COMPASS, the college placement test utilized by HCC. It may be accessed at http://hccs.edu/hcc_prep (there's an underscore between the last hcc and prep). It contains HCC faculty-developed videos, reviews, practice tests, and other instruction assisting students to prepare for the COMPASS.

   - In conjunction with the Gulf Coast PASS grant, HCC has signed a $2million contract with the Houston ISD to implement the Houston Innovative Learning Zone (HILZ) project. The project involves the prepping and teaching of students in selected high schools to complete certificates and Associate of Applied Arts (AAS) programs in five areas: computer networking, logistics, process technology, engineering technology with emphasis on alternative energies, pharmacy technology, and advanced manufacturing. Currently, HCC and HISD are serving about 150 students in the HILZ program and recruiting an additional 150 for the second cohort.

- HCC has sought more effective pathways for two additional groups of students: those in ESL and those in Adult Education. For ESL, we have moved the lower two levels to workforce continuing education, utilizing the I-BEST model (integrated basic education and skills training) to teach students literacy skills within the context of workforce training that will enable them a faster route to employment. Similarly, the HCC Board has approved reduced tuition for GED students (who don't qualify for federal financial aid) to take linked workforce programs in addition to their GED preparation.

5. Describe progress you made toward scaling up your DEI interventions, i.e., significantly increasing the number and/or proportion of the intervention's targeted population participating in the intervention.

   As noted in response above, HCC has successfully scaled student participation in its freshman success courses and we are poised for successful scaling of our preparation strategies (PREP, PREM, PRER, Gulf Coast PASS) to include both HCC and partner high school districts. Additionally, with the implementation of modularized math resulting in an enrollment of 300 students in the first semester (Spring 2013), we will rapidly scale this intervention in the next few semesters to include virtually all students in developmental math. For developmental reading and writing, we implemented an acceleration strategy of integration of the upper levels, offering INRW 1420: Integrated Reading and Writing for the first time in Spring 2013. This strategy will be required by the state of Texas by Spring 2014, and we have established a successful start.

6. What effect did scaling up have on student outcomes? Did you see results proportional to the increase in reach and effort? If so, what approaches were most successful?

   The improvements in students' placement scores and thus, their acceleration through developmental education was noted in response number one above. Another significant outcome has been the improved persistence rates of students who take the freshman success courses versus those who do not. The newest study (on the 2010 cohort of students) is included at the end of the report.

7. What did you learn by expanding interventions to *more* students that will help you reach *most* (if not all) that are eligible as you continue to offer these interventions?

   Students don't do optional (as a very wise Kay McClenney has often pointed out). As we prove the success of an intervention, we need to be bold and brave enough to *require* it of all eligible students.

8. In your opinion, what is the most remarkable accomplishment or finding of DEI on your campus?

   Participation in DEI brought new energy and awareness to the challenges and possibilities of Developmental Education. The DEI Grant provided resources for new opportunities for professional development. We conducted statewide conferences and invited leading champions to speak. Attendance and involvement have been robust. The programs for the Developmental Education Conferences may be accessed at the following web site: http://www.hccs.edu/hccs/faculty-staff/instructional-initiatives-resources/gates-grant/developmental-education-conferences.

   We also used DEI Grants to purchase computers and create "mobile classrooms" in each of our colleges. In the effort to accelerate developmental education curriculum, we have modularized the Math sequence and the use of computers in the delivery of the individualized modules for students. Computers are the necessary tools for its delivery. These "mobile classroom computer labs" were possible because of DEI.

9. What additional questions about developmental education student success did DEI raise for you?

   DEI helped us explore options about lowering the costs of developmental education for both the taxpayers and the students. We have utilized open source resources and partnered with publishing companies to provide lower cost instructional materials with greater effectiveness and efficiency. We are moving to the day when we will not have any "textbooks" per se for developmental education, charging students instead a lower cost "course fee" for access to electronic materials and software.

10. How will you sustain the benefits, momentum, and spirit of this project? How will the lessons learned from this grant affect your future work or the work of others?

    The momentum will be sustained by institutionalization of the programs, strategies, and practices learned from DEI. Students, faculty, staff, and administrators have all been excited about the search for more effective and efficient practices. Once beneficial results are obtained and confirmed, the step from pilot to institutionalization is an easy one. The lessons learned from the grant have helped everyone appreciate the need to question the "same old, tried and true" approaches and invigorate our energy in the search for ever better solutions.

11. Any additional information or comments about your DEI experience that you would like to share with MDC?

    The DEI experience allowed us to continue to expand our network and communications with practitioners and researchers across the nation. Without DEI, we would not have learned about Guilford County (NC) College's prep model that led to the creation of HCC's prep model. We would not have been able to travel to Virginia or Tennessee to explore the math modularization models at Northern Virginia Community College or Cleveland State and Chattanooga State Community Colleges in Tennessee. We would not have been able to afford the lap top computers that have expanded the "open lab" opportunities for students to prep for and progress faster in modular math at HCC. All of us at HCC are forever indebted and grateful to the Bill and Melinda Gates Foundation for its funding of the rich and fruitful experiences that have comprised the Developmental Education Initiative.

DEI Strategy Report

Longitudinal Analysis of
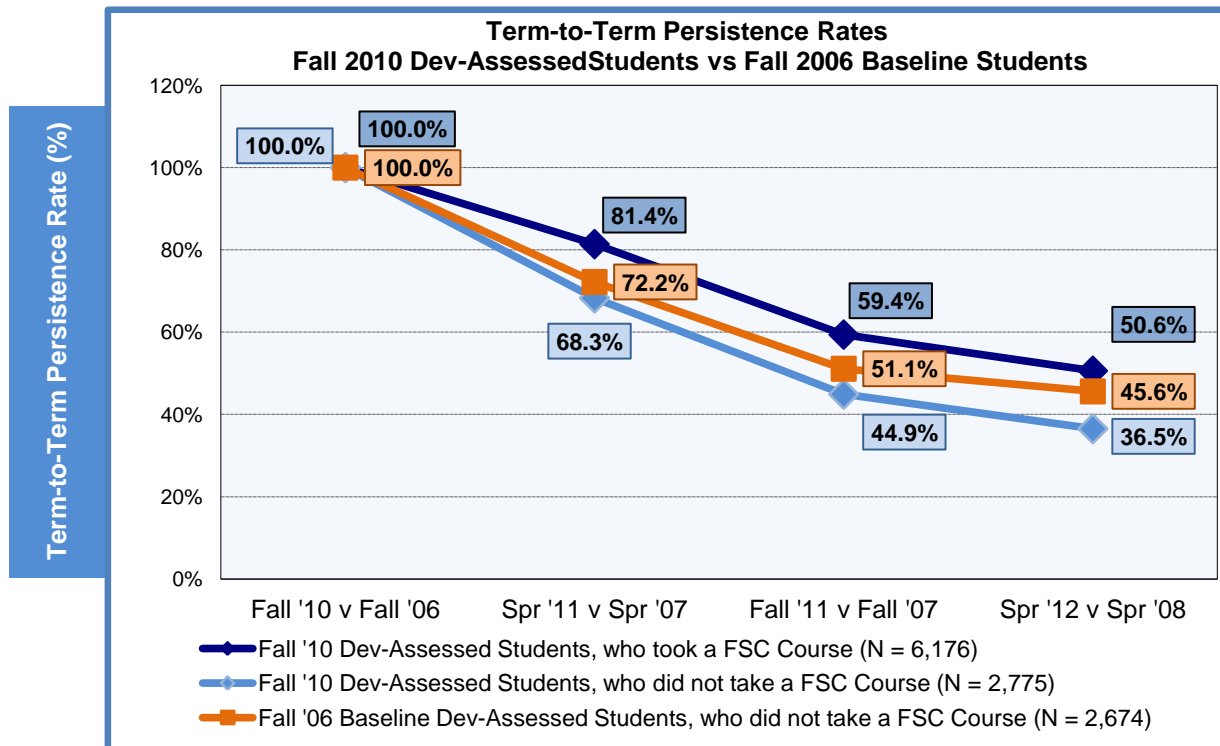## Freshman Success Course Students
Fall 2010 Cohort Enrollees Tracked Through Spring 2012

Research Question: Are there any significant differences in **term-to-term persistence rates** among the AtD Fall 2010 Cohort of **developmentally-assessed (dev-assessed) students** who took one of the **Freshman Success Courses (FSC)** compared to those Fall 2010 Cohort dev-assessed students who did not take a FSC, and compared to dev-assessed students from the **Baseline** Fall 2006 AtD cohort who did not take any orientation or student success course**?**

Analysis: The chart below, provides visual evidence of the higher persistence rates of dev-assessed Fall 2010 students who took a FSC compared to both current and past AtD Cohort's dev-assessed students.

➢ Fall 2010 dev-assessed FSC students surpassed the baseline Fall 2006 dev-assessed students with term-to-term persistence gains of 9.2% for the first Fall to Spring, 8.3% for the first Fall to Fall, and 5% for the first Fall to the second Spring. FSCs in Fall 2006 were limited to HPRS1200 for Allied Health, the old GUST0303 Orientation course, and the new pilot Student Success Course (GUST1270) at three of the six HCC colleges. However, the comparison group for this analysis did not enroll in any of those FSCs.

➢ Fall 2010 Cohort students,who took any FSC, persisted through three long semesters significantly more than other dev-assessed students in the Fall 2010 Cohort, who did not take any FSC, with persistence rates of 81.4% compared to 68.3% for Fall-Spring, 59.4% compared to 44.9% for Fall-Fall, and 50.6% compared to 36.4% for Fall to second Spring. (Comparing two blue lines in the graph below.) This equates to a 13% to 14% gain every subsequent semester.

Term-to-Term Persistence Rates
Fall 2010 Dev-AssessedStudents vs Fall 2006 Baseline Students

Y-axis: **Term-to-Term Persistence Rate (%)**

Data points:
- Fall '10 v Fall '06: 100.0%, 100.0%, 100.0%
- Spr '11 v Spr '07: 81.4%, 72.2%, 68.3%
- Fall '11 v Fall '07: 59.4%, 51.1%, 44.9%
- Spr '12 v Spr '08: 50.6%, 45.6%, 36.5%

Legend:
— Fall '10 Dev-Assessed Students, who took a FSC Course (N = 6,176)
— Fall '10 Dev-Assessed Students, who did not take a FSC Course (N = 2,775)
— Fall '06 Baseline Dev-Assessed Students, who did not take a FSC Course (N = 2,674)

Definitions: Freshman Success Course (FSC): Courses that provide college orientation, career exploration, financial and academic advising, and basic study/testing skills. These include EDUC1300 (the current version of the past GUST1270), ENGR1201 for engineering students, HPRS1201 for Health Careers, EDUC1200 for Education, and LEAD1200 for workforce technologies.

Baseline Fall 2006 AtD Cohort: The Fall 2006 first-time-at-HCC AtD Cohort who did not take an orientation or student success course and were referred to developmental coursework.

Developmentally-Assessed (Dev-Assessed): Students who were referred to developmental coursework in at least one academic field primarily based on placement test scores and prior college experience.

Term-to-Term Persistence Rate: Percentage of students enrolled in a specified semester who enroll in a stated subsequent semester – the first semester for this analysis is Fall 2010 for dev-assessed FSC students, and Fall 2006 for

Source: HCC Academic History Files (HCOIR1446_d & a) for Fall 2010 & Fall 2006 AtD Cohorts, April 2012.
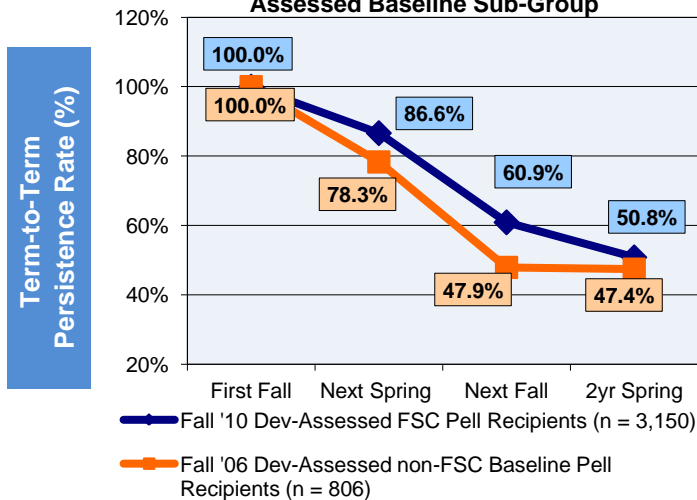
DEI Strategy Report
Longitudinal Analysis of
Freshman Success Course Students
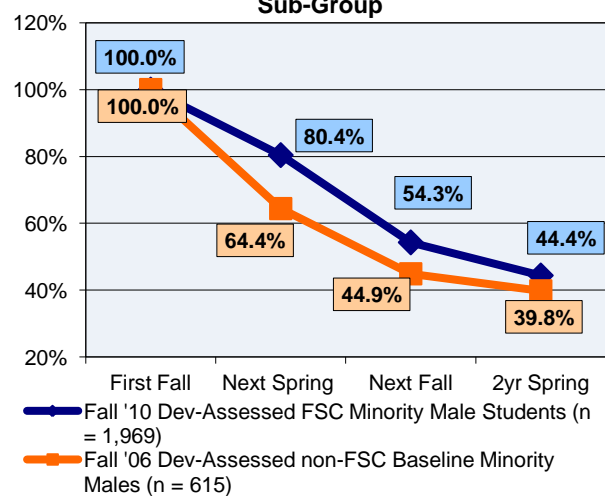## Fall 2010 Tracked Through Spring 2012

Additional Analysis: The **dev-assessed** students within the Fall 2010 and Fall 2006 AtD Cohorts were further subdivided by **Pell Recipient** status, gender, and **Minority** classification. Looking forward three subsequent long semesters, all subgroups of students who took a **Freshman Success Course** (FSC) had significantly higher term-to-term persistence rates, than their counterparts who did not take any FSC course.

♠ Among all cohort subgroups, minorities in the dev-assessed Pell recipient FSC supgroup had the highest Fall-to-Spring persistance rate at 86.6%. As shown in the left-hand graph below, the three semesters of presistence rates of this subgroup exceeded each of the rates for their Fall 2006 baseline counterparts who did not take a FSC course. The Fall '10 Pell recipient subgroup persisted 16 percentage points more than the baseline group did for the first-Fall-to-second-Spring persistence, then had gains of 9.4% and 4.6% for the two subsequent persistence rates.

♠ Dev-Assessed minority males made significant gains in persistance by participating in a FSC. Compared to their baseline counterparts, the FSC minority males gained 8.3% in their first Fall to Spring, 13% in their first Fall to Fall, and 3.4% in their first Fall to second Spring semester. (See graph at right below.) Dev-assessed minority males of the Fall 2010 Cohort taking a FSC persisted at rates of 80.4 from their first Fall to Spring, 54.3% from their first Fall to second Fall, and 44.4% from their first Fall to second Spring semester. These rates compare to Fall 2006 dev-assessed minority males' rates of 64.4%, 44.9%, & 39.8% respectively.

Term-to-Term Persistence Rates of Dev-Assessed Minority Pell-Recipients among Fall 2010 FSC Sub-Cohort versus Fall 2006 Minority Pell-Recipient Dev-Assessed Baseline Sub-Group

Fall '10 Dev-Assessed FSC Pell Recipients (n = 3,150)
Fall '06 Dev-Assessed non-FSC Baseline Pell Recipients (n = 806)

Term-to-Term Persistence Rates of Dev-Assessed Minority Males among Fall 2010 FSC Sub-Cohort versus Fall 2006 Dev-Assessed Minority Males in Baseline Sub-Group

Fall '10 Dev-Assessed FSC Minority Male Students (n = 1,969)
Fall '06 Dev-Assessed non-FSC Baseline Minority Males (n = 615)

Definitions: Freshman Success Course (FSC): College-Prep/Orientation Courses including EDUC1300 (the current version of the past GUST1270), ENGR1201, HPRS1201, EDUC1200, and LEAD1200.
Baseline Fall 2006 AtD Cohort: The Fall 2006 first-time-at-HCC AtD Cohort who did not take an orientation or student success course and were referred to developmental coursework.
Developmentally-Assessed (Dev-Assessed): Students who were referred to developmental coursework in at least one academic field primarily based on placement test scores and prior college experience.
Minority: As categorized by AtD, African-American/Black and Hispanic Students.
Pell Recipient: Students who have received Federal Pell Grant financial assistance within their first year.
Term-to-Term Persistence Rate: Percentage of students enrolled in a specified semester who enroll in a stated subsequent semester.
Source: *HCC Academic History Files (HCOIR1446_d & a) for Fall 2010 & Fall 2006 AtD Cohorts, April 2012.*