

Remedial and Developmental Education in the  
University of Hawai'i Community College System  
White Paper Group Committee  
University of Hawai'i Community Colleges

## EXECUTIVE SUMMARY

In September 2006, the White Paper Group (WPG) was formed to examine the remedial and developmental programs at the seven University of Hawai'i community college campuses and to review the literature for "best practices." As set forth in a 6/27/06 memo issued by the Office of the UHCC Vice-President, the committee's goal was to "recommend a series of program improvements that will increase the number of students enrolling in and successfully completing the necessary developmental work preparatory to the community college technical and transfer programs."

The latter task--finding out what works at other institutions--was relatively easy, especially after WPG members attended the National Association for Developmental Education (NADE) conference in March 2007 and were able to talk with developers of award-winning programs. The committee members' assumptions and experiences were affirmed by their readings and conversations: (1) about half of all first-time community college students are "academically underprepared" and enroll in at least one remedial/developmental math or English course; (2) many students drop out of these remedial/developmental courses or the subsequent college-level ones due to a combination of academic/cognitive and non-academic/affective factors; and (3) the more effective programs address both types of factors with a systematic, multi-faceted approach involving mandatory testing and placement, intrusive counseling and advising, a variety of teaching/learning strategies and curricular materials, integrated tutoring and course-based learning assistance, and reliable and valid data shared among the stakeholders and used to effect improvements. Such successful programs require widespread and deep institutional commitment and resources over a long period of time.

The former task—finding out the current state of affairs on each campus in order to compare local policies and practices with best national ones—was much more difficult for the committee to complete. Although each member was knowledgeable about his/her particular field and department and was able to gather some campus-specific data for Appendix B, the committee expected—but did not receive—more extensive systemwide data. Reliable and valid data about placement test scores and course enrollments, retention and persistence rates, success rates in the targeted courses and subsequent ones, use of support services, Grade Point Averages, transfer and graduation rates, and other “industry standard” data were difficult to extract from the existing Compass and Banner databases, not only because of the scarcity of personnel and time and the complexity of the UH student information systems, but also because of the variations among the seven campuses’ policies, practices, and courses. In addition, when students enrolled in remedial/developmental English and math courses sought tutoring, counseling, and other support services, often they were not identified as a “special population,” which made tracking their progress at one or more campuses impossible. One best practice is data-driven decision-making, and when faculty members lack important information about their students, as is so often the case, both faculty and students are at a great disadvantage.

The systemwide data obtained by the WPG committee on the demographics of the students enrolled in the remedial/developmental English and math courses seem to mirror national trends. The biggest difference, as expected for Hawai’i, was in the large Native Hawaiian and Filipino ethnic groups. Data on persistence rates over four semesters revealed that students in remedial/developmental courses remained in school at rates similar to those enrolled in college-level courses. If they successfully completed the developmental courses and enrolled in the subsequent college-level courses, the large majority successfully completed those as well.

Based on an extensive literature review, little local data, and the knowledge and experiences of its members, the WPG committee has made many recommendations in this report concerning program organization, assessment and placement, curricula and delivery methods, learning support systems, evaluation, community partnerships, and professional development. To have the greatest positive effect, these recommendations must be implemented in concert rather than piecemeal. What is taught and learned in the classroom cannot be isolated from the learning assistance, tutoring, and counseling and advising that, when combined, create a comprehensive learning system truly capable of helping *all* students succeed at the post-secondary level.

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In a June 27, 2006, memo, John Morton, Vice-President for the University of Hawai'i Community Colleges, asked the Chancellors and Chief Academic Officers to “develop a white paper that will analyze the current successes and issues with our remedial and developmental programs and recommend a series of program improvements that will increase the number of students enrolling in and successfully completing the necessary developmental work preparatory to the community college technical and transfer programs.” The memo linked a “properly trained workforce” and a robust economy for Hawai'i to an increase in the number of students not only *entering* into but also *succeeding* in the community colleges' certificate and degree programs.

Unfortunately, many of these students are underprepared for college-level courses and “are likely to require remedial/developmental education if they are to be successful.”

Acting on the Vice-President's memo, the Chief Academic Officers then appointed twelve community college representatives, with expertise in math, reading, writing, counseling, academic support, or career and technical training, and one system-level administrator to study the issues and write a report with recommendations for the entire system as well as for individual campuses. (See Appendix A for the systemwide committee's membership.) The White Paper Group (WPG) committee started its monthly meetings and research in September 2006. Most of the WPG members also attended the National Association for Developmental Education (NADE) conference in March 2007 to gather information about several award-winning remedial and developmental programs and to dialog with other educators in the field. The WPG committee completed its task in June, 2007, and its findings are articulated in the following report.

## Context for Study

### *UHCC Mission, Educational Pipeline, Remedial/Developmental Education*

*UHCC Mission.* The mission of the UHCCs is to focus on access, learning and teaching, workforce development, personal development, community development and diversity (*UHCC Strategic Plan 2002-2010*). The community colleges have a significant role in preparing workers who can communicate, perform mathematical procedures, solve problems, and think critically. The WPG committee understands and shares the concerns about worker preparedness for skilled jobs in the future, and it believes that creating the conditions that foster student success in college has never been more important. As many as four-fifths of high school graduates nationwide need some form of postsecondary education (McCabe, 2000) to be economically self sufficient and deal effectively with the increasingly complex social, political, and cultural issues of the twenty-first century.

*Educational Pipeline.* Unfortunately, the educational pipeline is leaking badly. In a widely cited report, the National Center for Public Policy and Higher Education (2004) indicates that only 60 of every 100 ninth graders graduate from high school; 40 immediately enter college, 27 are still enrolled in their sophomore year, and only 18 complete any type of postsecondary education within six years of graduating from high school. The outcomes of the Hawai'i pipeline are below the national average with only 13 completing a postsecondary degree on time (*University of Hawai'i Measuring Our Progress*, 2006).<sup>1</sup>

The quality of high school preparation is not always consistent with what colleges expect. In 2000, 48 percent and 35 percent of high school seniors scored at basic and

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<sup>1</sup> On time is defined as three years for an associate degree and six years for a baccalaureate.

below basic levels on the National Assessment of Educational Progress (the Nation's Report Card), a nationally representative and continuing assessment of what U.S. students know and can do in various subject areas (U.S. Department of Education, 2002). Only twelve states have fully aligned high school academic standards with colleges and workplace expectations (Achieve, 2007). Just over half (51 percent) of high school graduates have college-level reading skills (American College Testing Program, 2006). If students do not attain grade-level proficiencies, particularly in math and reading by the eighth grade, they are much less likely to acquire the needed skills in high school (Nunez & Cuccaro-Alamin, 1998).

Nationally, only 60 percent of students take the minimum coursework for college (Venezia, Kirst & Antonio, 2003). A study completed at Kapi'olani Community College in 2004 indicated that 78 percent of students taking remedial and developmental math courses did not take a math course higher than Algebra II in high school, and only 38 percent of students enrolled in remedial/developmental math courses indicated that they took math through their senior year of high school (Korey-Smith, 2004). According to the data collected from the *High School Survey of Student Engagement (HSSSE)*, "many high school seniors are not prepared academically for college-level work and have not developed the habits of the mind and heart that will stand them in good stead to successfully grapple with more challenging intellectual tasks. The senior year in particular seems to be a wasteland: the overall engagement of high school seniors is much lower than that of any previous year" (Kuh, 2007, p. 5).

Data from Florida community college students as well as institutions participating in the national Achieving the Dream project suggest that about 17 percent of students



who start at a two-year college either drop out or do not earn any academic credits during the first academic term (Kuh, Kinzie, Buckley, Bridges and Hayek, 2007 ). Only about half of students who begin their postsecondary career at a community college attain a credential within six to eight years (Hoachlander, Sikora, and Horn, 2003).

Three-fifths of students in public two-year colleges require at least one year of remedial/developmental course work (Adelman, 2005; Horn and Berger, 2004; U.S Department of Education, 2004). As the number of required remedial and developmental courses increases,

**Risk Factors That Threaten Persistence and Graduation for College**

- Being academically underprepared for college-level work
- Not entering college directly after high school
- Attending college part-time
- Being a single parent
- Being financially independent
- Caring for children at home
- Working more than thirty hours per week
- Being a first generation college student

so do the odds that the student will drop out (Burly, Cejda, and Butner, 2001; *Community College Survey of Student Engagement*, 2005). Being academically underprepared for college is considered a major risk factor in research on retention at postsecondary institutions.

However, of the 45 percent of students nationally who start college and fail to complete their degree (Kuh, Kinzie, Buckley, Bridges and Hayek, 2007), less than one-quarter are dismissed for poor academic performance. Most leave for other reasons. According to the *Community College of Student Engagement* (2005), non-cognitive risk factors that threaten persistence and graduation from college are 1) not entering college directly after high school; 2) attending college part-time; 3) being a single parent; 4) being financially independent; 5) caring for children at home; 6) working more than thirty-hours per week; and 7) being a first generation college student. Students with two

or more of these characteristics (including being academically underprepared) are more likely to drop out than their peers (Choy, 2001; Muraskin & Lee, 2004, State Higher Education Executive Officers, 2005).

The research consistently shows that delaying postsecondary enrollment, for whatever reason, reduces the odds that the student will persist and complete a degree program (Adelman, 2006). Delayed entry is one of the seven major risk factors that threaten persistence and graduation (Berkner, Cuccaro-Alamin, & McCormick, 1996; Carroll, 1989; Horn and Premo, 1995). In fall of 2005, the going rate of Hawai'i high school graduates was 33 percent in contrast to national rates which average in the mid-to-upper 50 percent ranges (*University of Hawai'i Measuring Our Progress*, 2006).

According to Rajasekhara and Hirsch (2000) full-time first-year students are more likely to persist than part-time students. Research has shown that the more actively engaged students are with faculty and peers at an institution the more likely they are to learn at higher levels (Braxton, Hirschy, and McClendon, 2004). Part-time students are less likely to meet with their instructors and advisers, as well as utilize learning assistance programs such as tutoring.

For non-traditional students who have children, the time commitments associated with attending college may negatively affect the family, so students who do not receive support and encouragement from significant others are likely to withdraw from the postsecondary institution (Braxton, Hirschy, and McClendon, 2004).

Since 1990, the number of students with unmet financial need attending college has increased dramatically (National Center for Public Policy and Higher Education, 2002). Unmet financial need and insufficient amounts of institutional aid provided by

public institutions may force students to work considerable hours to finance their college education. Choy (1999) found that students who worked fifteen or fewer hours were more likely than students who worked more to attend a full year of college, suggesting that working more than fifteen hours negatively affects persistence. In academic year 2004-2005, first-time freshman at the UHCCs receiving financial aid ranged from 53 percent (HawCC) to 29 percent (KapCC) (*University of Hawai'i Measuring Our Progress*, 2006).

Family and community support foreshadow a student's likelihood of attending and succeeding in college (Perna & Titus, 2005). Planning for college and postsecondary activities as early as the eighth grade increases the prospects for completing college (Swail, Cabrera, Lee & Williams, 2005). Parental expectations were the strongest predictor of predisposition to college among eighth-graders who attended low-income schools, and parental education level influences the amount of support students receive (Hamrick & Stage, 2004). High school teachers also may diminish students' aspirations as teachers' expectations for their students were lower than those of parents and students themselves (U.S. Department of Education, 2004).

In addition to the above risk factors, more students are starting college with psychological, behavioral, social, and emotional problems that, if left unattended, can have a debilitating effect on their academic performance and social adjustment (Rouche & Rouche, 1999). Many counselors and faculty at postsecondary institutions do not have the expertise to address students with complex problems. Berger and Milem (1999) found that students who had social, emotional, and family issues had a difficult time adjusting to college, and many withdrew within the first year.

*Defining Remedial and Developmental Education.* Historically, the terms remedial and developmental have been used interchangeably to label preparatory programs or courses of study that have as their central purpose the development of basic skills to such levels that students can profit from instruction in college-level courses (Rouche & Rouche, 1999). In practice, however, many educators make a distinction between the two terms, using developmental to describe instruction that prepares students for specific college courses or programs (e.g. studying effectively, thinking critically), and remedial to describe instruction that has or should have been provided in the past (e.g. arithmetic and basic grammar) (Arendale, 2005). Through the years, remedial/developmental education has evolved from detached efforts to rectify individual skill deficiencies to more complex, organized efforts to develop the cognitive and affective talents that describe the whole student.

In the 1980s, the National Association of Developmental Education (NADE) not only shifted its focus from using *remedial* to *developmental* as its preferred descriptor for any and all below college-level courses, but expanded developmental education to include all forms of learning assistance, including tutoring, mentoring, Supplemental Instruction, personal/career counseling and academic advising. This shift in defining a remedial/developmental program as a group of reading, writing and math courses to a larger, more inclusive group of courses and support services recognized the reality that student learning and the barriers to such learning were not limited to the classroom. In 1995, NADE expanded its definition of developmental education even further to include all postsecondary learners, even those in college-level courses, because almost all learners could develop and benefit from tutoring and other learning assistance programs.

NADE's motto is to "help underprepared students prepare, prepared students advance, and advanced students excel."

The WPG members unanimously support NADE's holistic views of education, believe that the best practices and many of the recommendations discussed in this report would benefit all students, and prefer the term *developmental* rather than *remedial* to describe targeted courses. However, both terms are used in this report because they are the accepted and traditional descriptors for the English and math courses offered on the seven campuses (see Appendix C for the description of courses). In general, the remedial designation is used for students who have lower COMPASS placement test scores and for courses that have fewer skill prerequisites and more basic learning outcomes than the developmental courses. Students enrolled in remedial courses tend to have more severe learning difficulties and/or personal problems, have shorter attention spans, and in general, benefit from highly mediated learning environments.

*The Controversy with Remedial and Developmental Education.* Remedial/developmental education programs continue to generate controversy in higher education. Although remedial/developmental education is a way of providing opportunities to first-year college students who, for whatever reasons, are not completely prepared to succeed in college, remedial/developmental education has come to symbolize much of what is wrong in secondary, as well as higher education.

Proponents of remedial/developmental education point to it as an example of how colleges and universities have embraced the challenge to equalize higher education, providing students not only access to higher education but also a reasonable chance of success and an opportunity to overcome the barrier of lack of adequate preparation

(Ellifson, Pounds, Stone, 1995; Roueche and Roueche, 1999). For others, however, remedial/developmental education has come to symbolize decaying admissions and academic standards, and it continues to be at the center of conflicting objectives regarding higher education:

- Open access policies as the embodiment of egalitarian principles versus the tradition of higher education as a tool to stratify the population.
- The commitment to success of all students versus the presumption that rigorous academic standards separate the more able from the less able.
- The value of what the college can do for the student versus the value of what the student brings to college as a measure of institutional quality.

Remedial/developmental education has become the institutional fulcrum that balances the commitment to access and student success with the commitment to program quality and high academic standards (Roueche and Roueche, 1999). As a result, when appropriate questions are asked about the effectiveness of developmental education programs, it is often difficult to separate a question of purpose (e.g. should such programs exist?) from questions of utility and effectiveness (e.g. are these programs achieving their goals?). The challenge for postsecondary institutions is to provide remedial/developmental education programs that maintain academic standards, while providing the support necessary for underprepared students to succeed.

## The Study

### *Literature Review*

The National Center for Education Statistics found that 42 percent or more of college students are underprepared at two-year institutions (Warburton, Bugarin, and Nunez, 2001). Roueche and Roueche (1999) reported that about 50 percent of all first-time community college students test as underprepared for the academic demands of college-level courses and programs and are advised to enroll in at least one developmental/remedial course. Boylan (1998) estimated that in addition to those enrolled in developmental/remedial courses, an additional one million students participate in tutoring programs and learning centers nationwide. Additionally, the National Center for Education Statistics found that underprepared students at two-year colleges spent an average of more than one year on developmental courses (Warburton, Bugarin, and Nunez, 2001).

Although it is well documented that underprepared students have the highest attrition rate of any group, at the same time, numerous studies also have reported the positive effects of developmental education for this group (Cross, 1971; Roueche and Kirk, 1973; Grimes and David, 1999). Developmental education has positive effects on underprepared students' persistence, grade point average, and the average grade in first college-level courses (Boylan and Bonham, 1992; Boylan and Saxon, 1998; Gerlaugh, Thompson, Boylan, and Davis, 2007).

A recent national study of developmental education at two-year community colleges, conducted by the National Center for Developmental Education, found a clear relationship between participation in developmental programs and retention for

underprepared students (Gerlaugh, Thompson, Boylan, Davis, 2007). Kulik, Kulik, and Shwalb (1983) in a meta analysis of 300 programs found that a substantial majority of the studies reported positive effects for developmental education programs including improved GPA and short term persistence. Burley's 1994 meta analysis of thirteen studies reported improved retention rates and improved GPA. A recent report from the Blue Ribbon Commission (2006), an ad hoc task force whose purpose was to provide a strategic analysis of developmental education for The American Council of Developmental Education Associations (ACDEA), reported that "increased academic achievement and persistent rates have been improved through learning assistance programs"(p.3).

An evaluation study by Walleri (1987) compared participants in Mt. Hood Community College's required "Guided Studies" program with a comparable group of students who attended the college prior to introduction of the program. He found that persistence was significantly higher in the Guided Studies group (41% vs. 19% after two years) but GPA was about the same in both groups. Thornley and Clark (1998) compared developmental and non-developmental students at Trident College and found that developmental students had higher persistence rates than non-developmental students over a three-year period but slightly lower cumulative GPAs. Sinclair Community College (1994), in a three-year study comparing students who participated in remedial courses with students who were recommended but chose not to participate in remedial courses, also found that persistence was significantly higher in the cohort of students who chose to enroll in remedial coursework.



The most current and extensive data about programs at two-year community colleges is the 2004 study done by the National Center for Developmental Education (Gerlaugh, Thompson, Boylan & Davis, 2007). In its survey of 29 institutions in various regions of the United States, the retention rates in developmental courses were 83 percent in reading courses, 83 percent in writing courses, and 80 percent in math courses. The successful completion rates were 76 percent for reading courses, 73 percent in writing courses, and 68 percent in math courses.<sup>2</sup> The pass rates in the first college-level courses were 69 percent from reading courses, 64 percent from writing courses, and 58 percent from math courses.<sup>3</sup>

#### *Limitations of the Study*

Research on developmental education is often criticized for its limitations in terms of generalizability. A basic dilemma is how colleges define the minimum standard of readiness for college level work. The WPG committee found the same to be true for the UHCCs. Underpreparedness is, by definition, relative to an expected norm, but that norm varied from campus to campus and from discipline to discipline within a single college. The committee found that the UHCCs do not offer all the same remedial and developmental courses; only ENG 22 is offered at all UHCCs.<sup>4</sup> Additionally, the topics, assessment, and outcomes for the remedial and developmental courses are not the same at each campus. The committee also found that the use of COMPASS scores for placement into remedial and developmental courses varied campus to campus. Because of the variability of students, standards, and programs throughout the UHCC system, data

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<sup>2</sup> Successful completion is defined as a C or higher.

<sup>3</sup> Students who passed a developmental course and enrolled in and received a C in the subsequent college-level course.

<sup>4</sup> Math 25 was offered at all CCs through spring 2007.

collection was difficult, slowed the progress of this study, and made comparisons among campuses problematic.

The committee also believes that measuring the effectiveness of a developmental program should be based on whether students can meet or exceed the institution's academic standards, such as maintaining a 2.0 GPA or meeting core competencies and outcomes. In other words, effectiveness cannot always be measured by comparing students who partook in developmental coursework to those who placed directly into college-level courses. It is unrealistic to expect developmental students to equal or surpass the GPAs of their better-prepared peers, even though it is a convenient benchmark and even though research shows that they often meet the benchmark. The ideal comparison groups are developmental students who did not register for the recommended courses. However, because of the UHCC mandatory assessment and placement policies, there would be few students in this comparison group, so based on prior studies and on recommendations from Frank Abou-Sayf, Director of the Office of Institutional Research at KapCC, the committee compared students who were in developmental education courses with those who placed into college-level courses for some data sets.

The committee found that the UHCC system lacks a streamlined and consolidated information system, and this greatly affected the amount and consistency of the data that the committee had access to. Furthermore, even though the committee had funds to hire someone to extract data from Banner, it was difficult to locate an experienced researcher who could devote the necessary hours to this project and deliver the data to the committee in a timely manner. Therefore, although the committee wanted to evaluate the

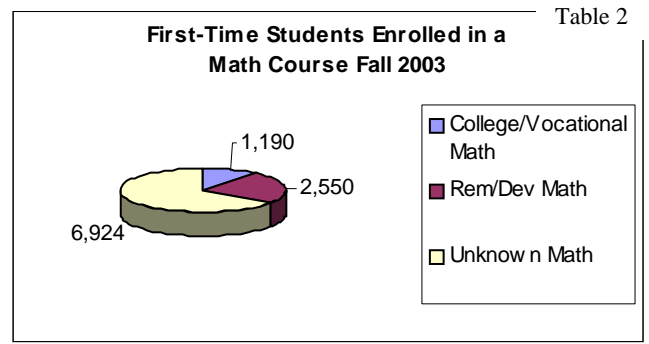
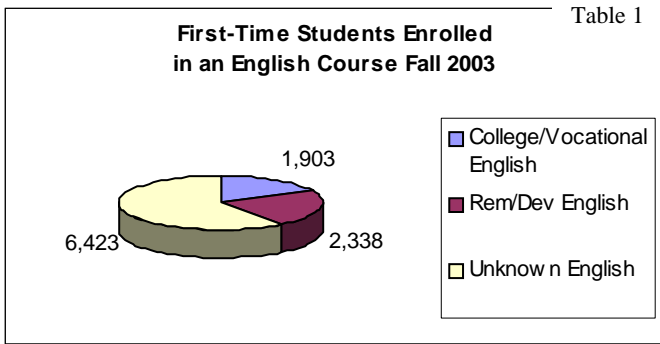
academic performance of students enrolled in remedial/developmental courses in terms of persistence rate, academic status, successful course completion rates at 100-level and above, success in English and math at the 100-level, and GPA, the committee only received and therefore analyzed two data sets: persistence and success in English and math at the 100-level.

The systemwide data that were collected did not always match the data at the individual campuses, and COMPASS data were completely inaccessible to the committee. For example, the committee wanted to compare the number of students who place into remedial/developmental courses with those who actually enroll in the courses, thus revealing the gaps between two points in the educational pipeline; however, the reports were too difficult and time consuming to generate.

Additionally, although the entire system uses Banner, it was difficult to track students who were repeating or taking subsequent courses at other campuses; therefore, students who left a campus, but not the system, are not accounted for in the following data sets. If students started in a remedial/developmental course at one campus and then continued into college-level courses at another campus, that would be a successful transition. However, because of the missing piece of data, those transfer students are counted as failures when calculating persistence rates.

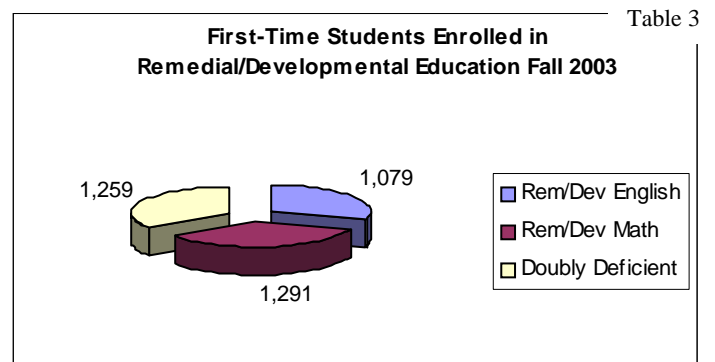
In this era of accountability in education and the emphasis on data-driven decision making, there appears to be a disconnect between theory and practice, between what should be done and what is being done. Certainly, the lack of data in this study is evidence of an information management system that needs refurbishment.

*A Profile of UHCC Students in Remedial and Developmental Education*



There were 10,664 first-time students in the UHCC system in fall 2003.<sup>5</sup> Table 1 indicates that of those first-time students, 1,903 students enrolled in college English, 2,338 students enrolled in remedial/developmental English, and 6,423 students were not enrolled in any English course. Table 2 indicates that of the 10,664 first-time students, 1,190 students enrolled in college math, 2,550 students enrolled in remedial/developmental math, and 6,924 were not enrolled in any math course.

Of the students who enrolled in remedial/developmental English and math courses, as indicated in Tables 1 and 2, 1,079 students enrolled in remedial/developmental English only, 1,291

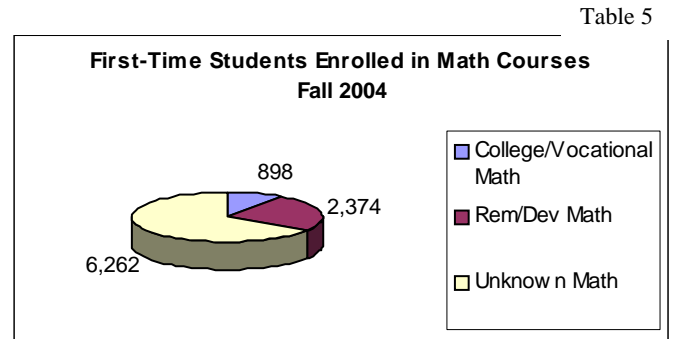
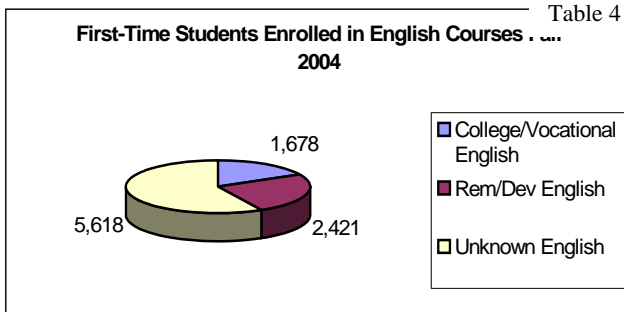


enrolled in remedial/developmental math only, and 1,259 were doubly deficient.<sup>6</sup>

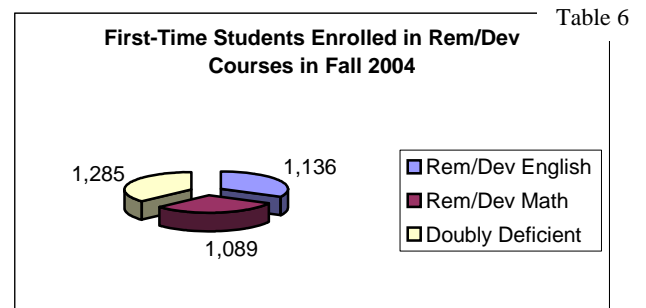
<sup>5</sup> Data is from Banner ODS – Students not enrolled in any English or Math course are defined as unknown.

<sup>6</sup> Doubly deficient is defined as being enrolled in both a remedial/developmental English and math course. If a student is taking a remedial/developmental math course at one campus and a remedial/developmental course at another campus, he/she are not included in the doubly deficient category. Also if a student placed into both remedial/developmental math, but only enrolled in a remedial/developmental math course, he/she are not included in the doubly deficient category.

In 2004, there were 9,717 first-time students (see Tables 4 and 5).<sup>7</sup> Of these, 1,678 students enrolled in college English, 2,421 enrolled in remedial/developmental



English, and 5,618 were not enrolled in any English course (see Table 4). As Table 5 indicates, 898 students enrolled in college math, 2,374 students enrolled in remedial/developmental math, and 6,262 students were not enrolled in any math course.

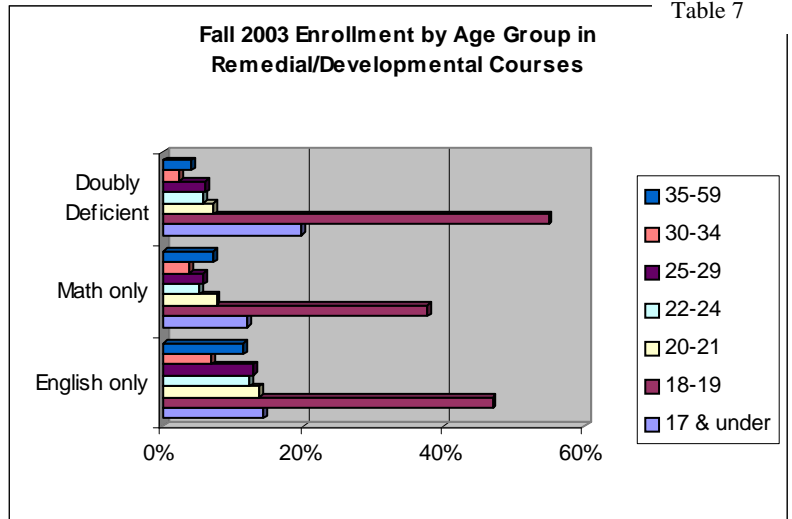


Of the students enrolled in remedial/developmental math and English (Tables 4 and 5), 1,136 students were enrolled in remedial/developmental English only, 1,089 were enrolled in remedial/developmental math only, and 1,285 were doubly deficient. McCabe (2000), wrote that “deficient students had a 43 percent successful remediation rate, whereas only 20 percent of seriously [doubly] deficient students were successful. More than half of deficient students earned more than 20 credits, while 5 percent of seriously deficient students earned more than 20 credits. Only 18 percent of deficient students enrolled in more than 12 remedial credits, while 45 percent of seriously deficient students do so” (p. 38). One-third of students enrolled in remedial/developmental education in the

<sup>7</sup> Data are from Banner ODS. Students not enrolled in any English or math course are defined as unknown.

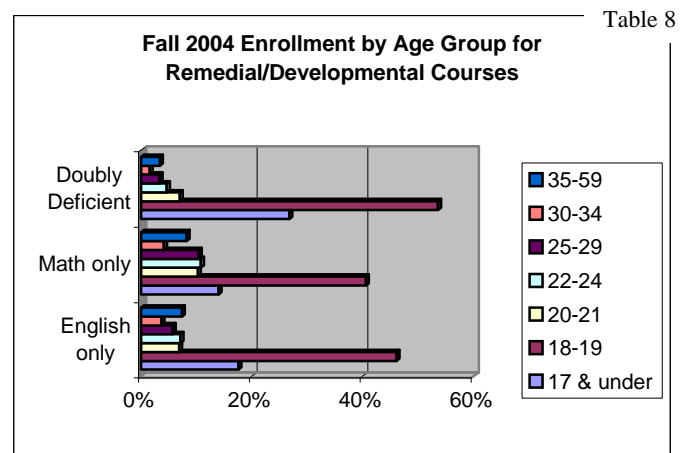
UHCC system are doubly deficient and would benefit from teaching methodologies and support services designed specifically for this sub-group.

Tables 7 and 8 show the combined campus enrollment by age group for remedial/developmental students. 18-19 year-olds were the most prevalent group participating in remedial/developmental courses, making up an average of 47 percent



of the remedial/developmental population for both fall 2003 and fall 2004. For students not enrolled in remedial/development courses, 18-19 year-olds accounted for 22% of the population, and 35-59 year-olds accounted for 18 percent of the population. Data disaggregated by campus can be found in Appendix D.

The committee was unable to determine how many of the 18-19 year-olds entering the UHCCs and enrolling in remedial/developmental courses during these fall semesters had a high school diploma or equivalent. It is likely that many of these students were coming from



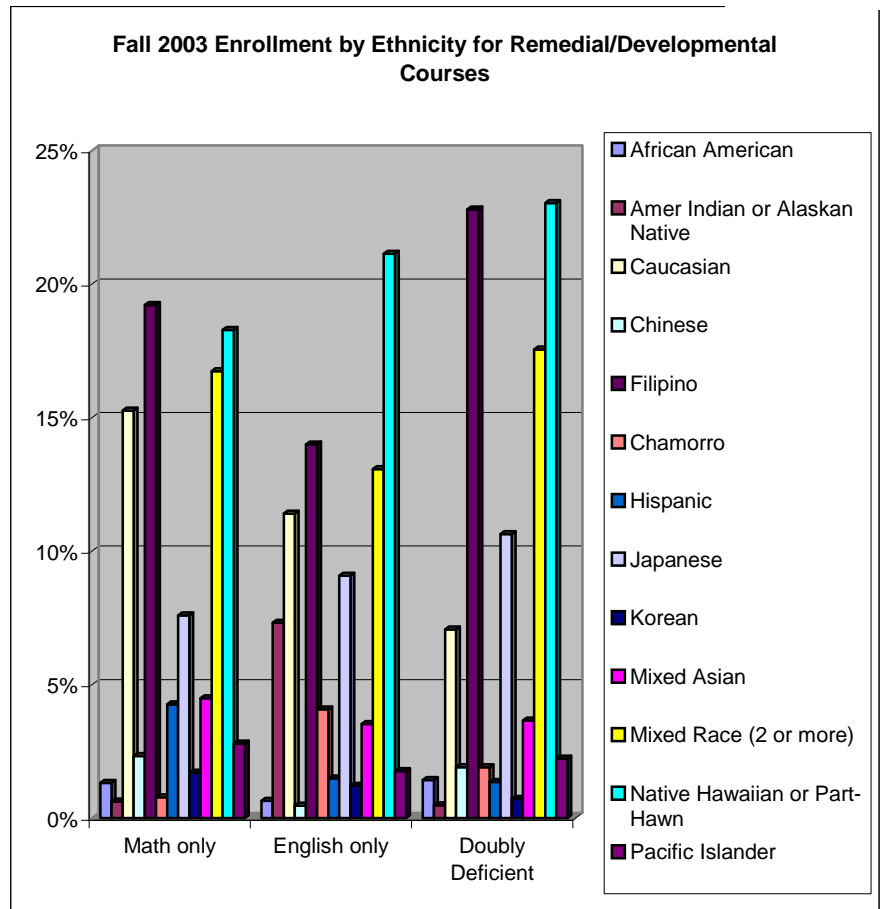
the high schools, and if so, it suggests that there may be a qualitative difference in academic expectations and cognitive independence between high school and college, and

it appears many students need help in understanding and meeting these expectations.

Another hypothesis is that those who graduated from high school did so with only minimum competency levels, and these levels were not high enough for college-level work.

Table 9

Tables 9 and 10 show enrollment by ethnicity. Ethnicity data disaggregated by campus can be found in Appendix D. Native Hawaiian and Filipino students were the largest population groups participating in remedial/developmental courses. In fall 2003, Native Hawaiian students enrolled in remedial/developmental courses averaged 21 percent, and for fall 2004, both Native Hawaiians and

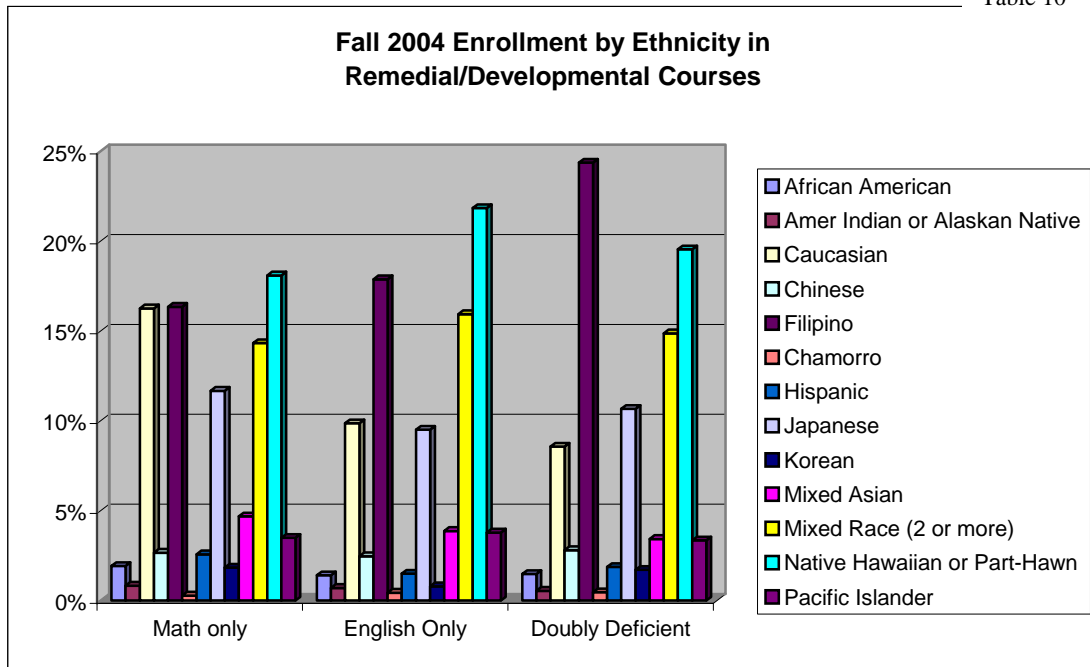


Filipino population groups each accounted for 20 percent of the total remedial/developmental population. Of those students not enrolled in remedial/developmental education, 19 percent were Native Hawaiian, 14 percent were Filipino, and 22 percent were Caucasian.

In the UHCC system students taking remedial/developmental courses are, most likely, not English to Speakers of Other Languages (ESOL) students since most of the

community colleges have separate programs for these students; however, many students taking remedial and developmental courses speak a language other than English at home. National studies (Knopp, 1995) indicate that 25 percent of students taking a remedial or developmental course speak a language other than English at home. These students often have problems with reading and writing in English compared to listening and speaking.

Table 10



Previous research has shown ethnicity as a predictor of attrition, with minority groups such as Native Hawaiians being especially at risk at the postsecondary level. Native Hawaiian students may benefit from services designed especially for them that focus on retention and learning assistance throughout their postsecondary careers.

As Tables 11 and 12 indicate, more females enrolled in remedial/developmental courses than males. For fall 2003 and fall 2004, females accounted 56 percent and 55 percent of the remedial/developmental population. This parallels national trends that



indicate that females account for 57 percent of remedial and developmental education students (Koski & Levin, 1998). For students not enrolled in remedial/developmental courses, females accounted for 60 percent and males accounted for 40 percent of the population. Data on gender disaggregated by campus and semester can be found in Appendix D.

Table 11

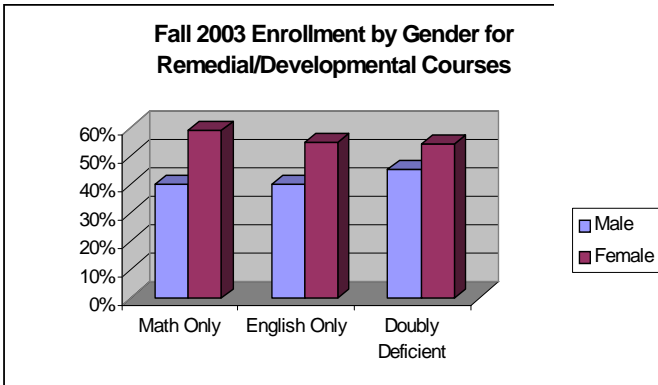
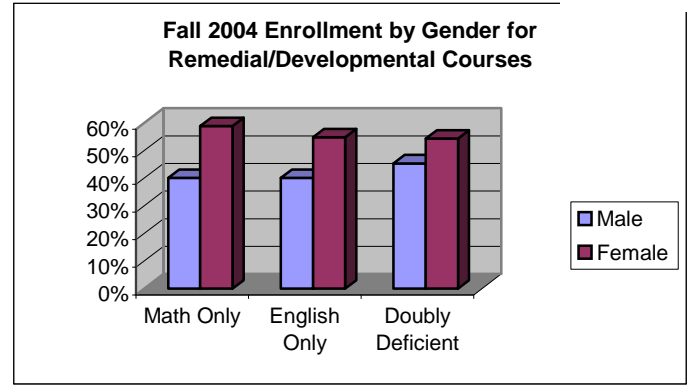


Table 12



*Analysis of Quantitative Data*

The committee examined the outcomes of developmental education at all seven campuses. It collected data over a two-year period and compared the academic performance of remedial and developmental students with the rest of the college in terms of persistence rate and success in English and math at the 100-level.

*Persistence.* As trends in previous research suggest, students in remedial/developmental courses persist at rates similar to those enrolled in college-level math and English courses. As Tables 13 and 14 indicate, the 4-semester persistence rate after fall 2003 and fall 2004 continually decreases for college-level math and English, remedial/ developmental math only or English only, and the doubly deficient groups.<sup>8</sup>

<sup>8</sup> Semester 1 (sp04), semester 2 (f04), semester 3 (sp05), semester 4 (f05).

After four semesters, the doubly deficient group had the highest persistence rate at 27 percent. For the fall 2004 cohort, 31 percent of the doubly deficient students persisted after four semesters. Data disaggregated by campus can be found in Appendix E.

Table 13

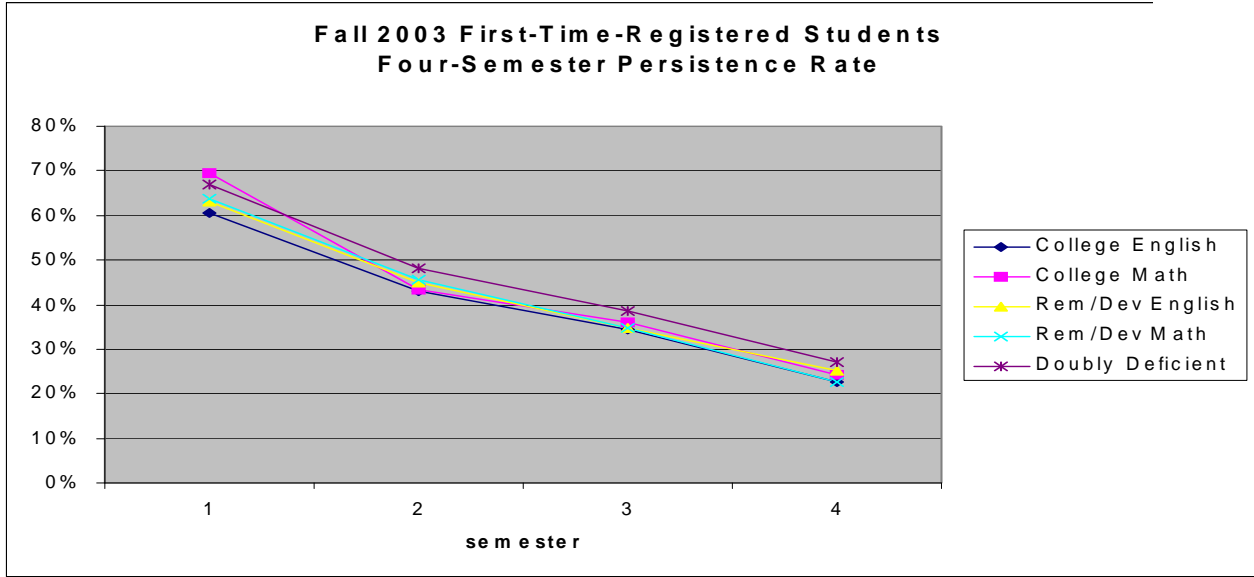
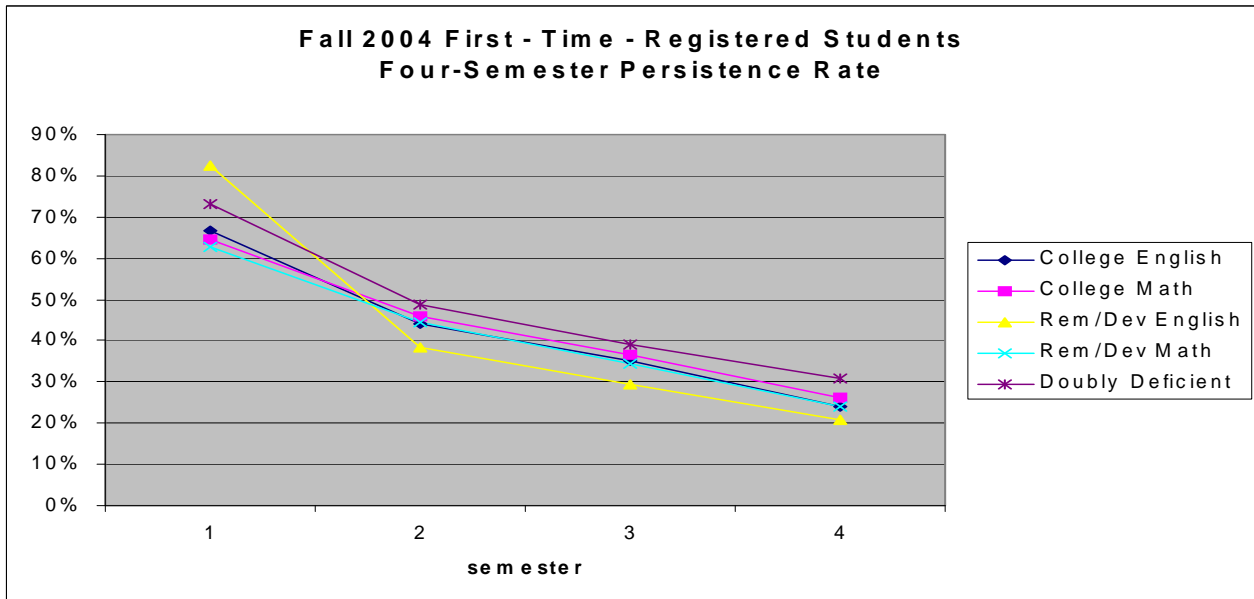


Table 14



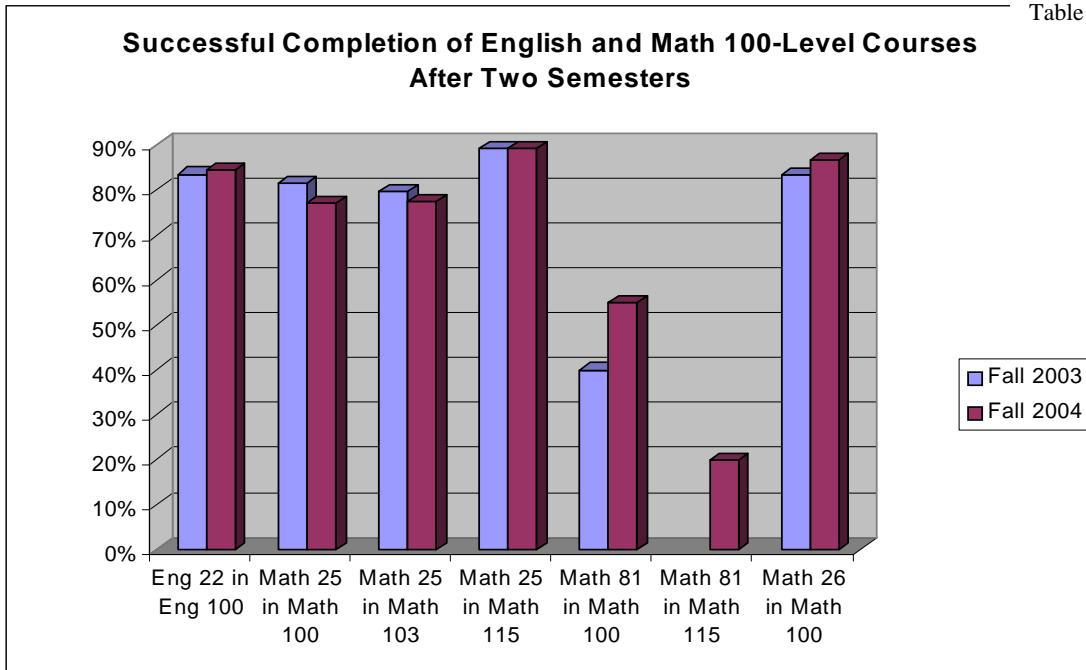
One possible explanation for the consistently higher persistence rates of remedial/developmental students is that completion of college-level courses is delayed because some students remained in remedial/developmental courses for four or five semesters, and they did not take college-level courses which may have been more difficult. Another explanation is that students enrolled in remedial/developmental programs receive a high level of support that improves student motivation and self-esteem and prevents enrollment in courses in which students are destined to fail or drop out of. Students enrolled in remedial/developmental courses might also persist because they feel more prepared. Additionally, students starting in college-level English or math may have already transferred to a four-year institution or completed the necessary courses for their two-year degree or certificate by the third or fourth semester after starting college.

*Successful Completion of 100-Level English and Math Courses.* Overall successful completion includes only students who passed the 100-level course in spring, summer, and/or fall after completing the prerequisite developmental course in the fall semester (2003 or 2004).<sup>9</sup> Table 15 indicates that 84 percent and 85 percent of students who enrolled in English 100 after successfully completing English 22 were successful after two semesters. These percentages are higher than national data that found 76 percent of students were successful in English 100 or equivalent after two semesters (Gerlaugh, Thompson, Boylan, and Davis, 2007).

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<sup>9</sup> Successful completion is considered to be a C or higher in both the developmental course and 100-level course.

Table 15



The overall successful completion rates for college level math (Math 100, Math 103, and Math 115) were 75 percent for those who took the prerequisite developmental math course in fall 2003 and 68 percent for those who took the prerequisite developmental math course in fall 2004. These percentages are comparable to national data that found 79 percent of students were successful in Math 100 or equivalent after two semesters (Gerlaugh, Thompson, Boylan, and Davis, 2007).

These data suggest that if students successfully complete the remedial/developmental coursework, they have the foundational skills necessary to successfully complete 100-level courses. However, the number of students who passed developmental English and math courses and went on to enroll in 100-level English and math courses is low (1,777 for English and 965 for math for fall 2003 and 2004 cohorts combined). The goal for the UHCC system is to increase the number of students who successfully

complete remedial/developmental courses and enroll in college-level English and math while maintaining the high success rates indicated in Table 15.

### *Current State of Affairs*

Following is a synopsis of what is happening on the campuses in four areas: courses, tutoring, course-based learning assistance and counseling and advising. Campus reports, written by the respective WPG committee members, can be found in Appendix B.

#### *Courses*

The UHCCs offer remedial and developmental courses in reading, writing, and mathematics. Most of these courses are offered as semester-long, three-credit, on-campus lecture courses; in addition, KapCC offers online mathematics courses, and LCC offers online English 22 courses. Many instructors reported using different teaching modes to present material in a class period. Examples of some of these approaches are individualized instruction, peer review of student work, collaborative learning, computer-based instruction (e.g. *Math Lab* and *My Skills Lab*), lecture/discussion, and small group work. Several instructors also used the UH Portal and WebCT to send messages, post supplemental materials, and continue class discussions.

However, many campuses also reported not spending class time on learning strategies, study skills, and coping strategies (for addressing anxiety and efficacy issues), and relying too much on lecture and drill-and-skill approaches as the main mode of instruction. Levin and Calcagno (2007) stated that “This style of pedagogy [drill-and-skill] has many drawbacks, including the fact that many remedial students have serious attitudinal obstacles to learning in this way. Often it is the same style that the students

were exposed to in high school, which may have contributed to their difficulties in the first place. Beyond that, its abstract and isolated nature may prevent students from seeing its usefulness in real-world situations and from applying the skills that are learned to later academic and vocational coursework” (p.5).

Maximum class sizes range from 20-28 students in remedial and developmental courses. The national average is around 20-25 students (Gerlaugh, Thompson, Boylan and Davis, 2007) with more students enrolled in math than reading or writing courses.

Some courses use a diagnostic test such as TABE, Nelson-Denny, writing samples, and the Elementary Algebra Skills Test to ensure a student is appropriately placed, but not all courses required the use of a diagnostic test, and none of the campuses are individualizing a program of study based on the students’ strengths and weaknesses as indicated by the diagnostic test. HawCC and KapCC have common exit tests or portfolios for some courses in the remedial and developmental sequence although the exit tests at KapCC need to be rated for reliability and validity.

Most of the course descriptions focused on skill development, such as recognizing the main idea and supporting details of a text and solving and graphing equations; however, none explicitly stated the development of “how to learn” strategies and/or affective principles. A few courses explicitly stated the development of study skills, such as note taking and time management.

Most of the remedial and developmental courses are taught by full-time faculty and long-time lecturers; however, KapCC uses casual hires to teach its remedial reading/writing and math courses. Casual hires are paid less and are not eligible for benefits as are many lecturers; however, the casual hires are evaluated as rigorously as

lecturers, and the casual hires who teach Pre College Communications (PCC 20) have the same minimal qualifications as lecturers. Overall, the WPG committee feels that the faculty, lecturers, and casual hires teaching remedial and developmental courses are dedicated to their students.

All campuses except for KapCC have a decentralized organizational model with the remedial and developmental courses being housed in the Language Arts and Math/Science Departments. KauCC has piloted a centralized remedial cohort program, and developmental courses are offered through the Language Arts Department. KapCC has a centralized organizational model that includes reading, writing, and math faculty and counselors who work mostly with students in remedial and developmental courses. On all campuses, some faculty teach both college-level courses as well as remedial and developmental courses. What course an instructor teaches is dependent on his/her interests and the minimum qualifications as established by each institution.

### *Tutoring*

All of the campuses offer some form of tutoring for students taking remedial and developmental courses. HawCC, MCC, KauCC, HonCC and KapCC have learning centers through which both math and English tutoring are offered whereas LCC and WCC have two separate centers, one for math and one for English. HonCC has a College Skills Center for their remedial students. KauCC is developing a math/science lab resource center for all postsecondary students, and KapCC provides math/science tutoring for 100 and above students through its STEM Center. KapCC's Holomua Learning Center provides tutoring to students enrolled in remedial and developmental

courses, but not for college-level students. TRIO also provides tutoring for students who qualify for its programs.<sup>10</sup>

The majority of tutoring programs are staffed with upper-level students from the campuses. Most of the campuses use volunteers from the community as well as service learning students and faculty as much as possible. HawCC and KapCC, because of their location, utilize UH Hilo and Manoa students as tutors. Most of the tutors at the community colleges are commuters and are usually balancing a full-time course load and at least part-time employment outside of the institution; as a consequence, there are fewer tutors available to be trained and less time available to train them.

Most of the campuses reported experiencing severe budgetary constraints which greatly inhibit the tutoring programs. There are fewer tutors available to students, and for fewer hours; many campuses have cut back on tutor training in an attempt to cope with dwindling funds and increased demands.

All the campuses agreed that students taking college-level courses are more likely than students taking remedial or developmental courses to seek out tutoring. About 49 percent of the students receiving tutoring in writing at KapCC are taking college-level courses although the learning center's primary focus is on students taking remedial and developmental courses. Many faculty teaching remedial and developmental courses strongly recommend tutoring so that students are introduced to this type of peer learning.

#### *Course-Based Learning Assistance*

Some of the campuses provide course-based learning assistance. Supplemental Instruction (SI) is one of the most successful peer learning initiatives because it targets "at risk" courses rather than "at risk" students. SI offers regularly scheduled, peer-

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<sup>10</sup> Not all campuses have TRIO, a federal program serving disadvantaged students.



facilitated study sessions. The study sessions are informal seminars in which students compare notes, discuss assignments, practice problem solving, and develop organizational strategies. Students learn how to integrate course content with critical thinking and study skills. SI sessions are facilitated by SI leaders, who have successfully completed both the targeted course as well as more advanced courses in the subject. In addition to facilitating SI sessions, SI leaders model successful learning strategies. Both LCC and KapCC funded SI through Perkins monies; however, neither campus is able to sustain SI without Perkins or other grant funds. LCC discontinued its SI program in spring 2005. KauCC also offers structured learning assistance similar to SI, and it has classroom-based tutors for some courses.

All campuses reported having summer bridge programs as well as other programs like peer mentoring, but none of these programs were specifically for students placing into remedial/developmental courses; however, some of the students in these programs were enrolled in remedial/developmental courses.

### *Counseling and Advising*

All of the campuses focus on providing effective academic advising to all postsecondary students. The colleges also provide special services for the diverse student populations that they serve and the special needs of each of these groups. Some of the many populations on the campuses with special needs and issues are undecided students, underprepared students, Native Hawaiian students, transfer students, adult learners, first generation students, and students with disabilities. Because KapCC has a centralized remedial and developmental program, it has four counselors who work primarily with students enrolled in remedial and developmental courses.

The student-counselor ratio at all the institutions is high, making mandatory counseling and advising impossible with the current resources. Additionally, online registration enables students to register for courses without conferring with a counselor, so more students, including those that are underprepared, are overlooking opportunities to develop the personal relationships that existed between counselors and students in the past.

## Review of Best Practices in Remedial/Developmental Education

### *Program Organization*

There are two organizational models prevailing for developmental education courses and services. One is a *centralized* program in which all courses and services are provided under a single administrative unit with its own director or coordinator. The other is a *decentralized* program in which developmental courses are offered through individual academic departments. In decentralized programs, support services are either provided by academic departments or through a learning assistance center separate from academic departments. Data from the *National Study of Developmental Education II* (2007) documented that 42 percent of institutions had a centralized program while 56 percent had a decentralized program. Research supports a centralized developmental education program (McCabe, 2000); however, decentralized programs are successful when developmental education faculty meet on a regular basis, when the programs are coordinated, and when the programs have representation in higher level decision-making meetings (Roueche & Roueche, 1999). All programs, regardless of organizational structure, should have a guiding vision and mission (Boylan, 2002).

### *Course Models*

The traditional three R model of developmental education, which focuses on mandatory courses in reading, writing, and mathematics, is still in place in many institutions, but is now often complemented by other service delivery models (Commander, Stratton, Calahan and Smith, 1996; McDade, 2002). Other course models include *packaged courses* in which cohorts of students take a college-level course, an academic success/study skills course, and a developmental math or English course

together. *Learning communities*, in which a developmental course is paired with a college-level course, are also useful. The literature suggests packaged courses and learning communities are successful because students can directly apply the skills being taught in the developmental course to the college-level course (Maxwell, 1998). Arendale (1998) argues that offering traditional developmental education classes that are isolated from other course content is not in step with research. Other research suggests that skills taught in isolation are less likely to be applied productively to further coursework (Levin and Calcagno, 2007). Developmental courses in the traditional model usually do not bear any graduation credit, which may negatively impact student motivation. In packaged courses and learning communities, students can potentially receive some graduation credit. In traditional and alternative models, class size was limited to 18-25 students (Boylan, Bliss and Bonham, 1997; Gerlaugh, Thompson, Boylan, and Davis, 2007).

At some institutions, first-year students who test into developmental writing courses are enrolling in college-level composition classes that are taught by developmental education instructors who embed skill development in regular composition course content (Gess and Klindworth, 2002; Wambach and delMas, 1998). Much less common are programs that provide expanded developmental course offerings in the sciences (Best and Lees, 2000).

At the University of Georgia, as the Division of Developmental Studies underwent its transition to the Division of Academic Assistance (Higbee and Dwinell, 1998) and later to the Division of Academic Enhancement, it shifted its focus from required developmental courses for first-year students to a broad array of elective courses taught by developmental reading, writing, mathematics, and counseling faculty and

available to all students at the institution (Higbee, Dwinell, and Thomas, 2002). Some examples of these courses included Writing the Research Paper and Preparation for Precalculus. For the latter, students who were failing or simply find themselves in over their heads could switch without penalty from precalculus to the prep course. This was accomplished through a section change rather than a drop/add process. The policy allowed students to break the attrition cycle because they were able to build the background they needed in math before enrolling in precalculus rather than signing up again the next term no better prepared to succeed than they had been before.

### *Pedagogy*

Developmental education promotes the cognitive and affective growth of all postsecondary learners at all levels of the learning continuum (National Association for Developmental Education, 1995). Proficiency in the subject matter (math, reading, and writing) is critical for developmental education teachers, but since developmental students have generally been unsuccessful with traditional instructional methods and materials, effective developmental teachers must use a wide variety of instructional methods, including class discussions, group projects, modeling, and various types of mediated learning. Most importantly, teachers need to be able to address the diverse learners who participate in developmental education programs.

Some educators advocate that instruction in higher-order thinking skills be included in remedial and developmental course curriculum (Chaffee, 1992; 2004). Levine and Calcagno (2007) state that “critical thinking, complex problem solving, and abstract reasoning have long been the hallmarks of programs aimed at the academically gifted, but such skills are traditionally considered not within the realm of immediate possibility for

most remedial students, who are assumed to need to acquire basic skills first. Some educators have challenged this notion, however, and have asserted that instruction in critical thinking can benefit all students, including remedial students” (p.8).

Students in developmental education programs often carry many non-academic problems with them when they enroll in college. Therefore, developmental education specialists must develop the whole student rather than solely deal with cognitive skill deficits (Astin 1985); successful developmental education programs must deal with students’ affective as well as cognitive needs.

Developmental educators recognize the role institutions play in retention/attrition. According to Arendale (2005), institutions as a whole need to encourage “a staying environment” through curriculum and instruction and through peers and environment. One reason that packaged courses and learning communities are successful is because groups of courses are taken together by the same cohort of students with the purpose of establishing student communities around learning. These approaches are based on research that persistence and success in higher education depend not only on the quality of instruction, but also on the integration of students into the social and academic life of the institution (Tinto, 1993).

Successful developmental educators also support metacognitive skill development by employing classroom assessment techniques that encourage students to think about and monitor their own learning.

**Factors that Effect A Staying Environment**

<b>Academic</b>	<b>Social/Psychological</b>
- Progress toward education career goals	- Feeling of belonging/ supportive learning environment.
- Academic success	- Social integration
- Program options are clear	- Personal involvement
- Advising and support services available	- Positive identity
	-High self esteem

Arendale, 2005

Additional strategies/techniques that successful developmental educators employ within developmental/remedial courses are using graphic organizers, practicing test preparation and test taking strategies, debriefing exams, sharing strategies for textbook reading, and incorporating “how to learn” along with “what to learn” (Arendale, 2005).

Chickering and Gamsom (1987) in their article “Seven Principles for Good Practice in Undergraduate Education” underscore seven categories of effective educational practices that directly influence student learning and the quality of students’ educational experiences: student-faculty contact, cooperation among students, active learning, prompt feedback, time on task, high expectations, and respect for diverse talents and ways of learning. In general, the more students engage in these kinds of activities, the more likely they are to persist and graduate from college.

### *Learning Support*

Under the expanded umbrella of programs and services that are now defined as developmental education (National Association for Developmental Education, 1995), professionals provide learning support for students at all levels of postsecondary education. The pertinent question is no longer “Who is the developmental student?” (Boylan Bonham, and Bliss, 1994; Higbee, 2000) but “Who is not?” Campus tutorial services and learning centers (Arendale, 1998, 2004; McDaniel, James and Davis, 2000) often provide skills assessments, one-on-one and

#### **Course-Based Learning Assistance Programs**

- Accelerated Learning Groups (University of Southern California)
- Peer –Led Team Learning (City University, NY)
- Structured Learning Assistance (Ferris State University)
- Supplemental Instruction (University of Missouri-Kansas City)
- Video-Based Supplemental Instruction (University of Missouri-Kansas City)

small group tutoring, peer mentoring, academic advising, early alert systems, computer assisted instruction, workshops on learning/study skills, videotaped instruction, and Supplemental Instruction, all of which recognize that all learners can be “at risk” at different periods in their postsecondary careers (Arendale, 2004; Boylan Bonham, and Bliss, 1997; Casazza and Silverman, 1996; Martin and Blanc, 2001; Maxwell, 1987; Tinto, 1993) .

According to a recent study done by Gerlaugh, Thompson, Boylan, and Davis (2007), offering learning support outside of the classroom is important for student success. This study found that 89.3 percent of institutions surveyed offered tutoring, 78.6 percent offered academic advising, 64.3 percent offered study skills workshops, 60.7 percent offered freshman seminars/orientation, and 25 percent offered Supplemental Instruction.

### **Hierarchy of Learning Improvement Programs**

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**Level 4: Comprehensive Learning Systems**

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**Level 3: Course-Related Learning Services**

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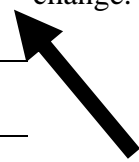
**Level 2: Learning Assistance for Individual Students**

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**Level 1: Remedial/Developmental Courses**

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Higher Potential  
for improved  
learning and  
instructional  
change.



Lower  
Potential

Keimig, *Raising Academic Standards*, 1983

Louisiana State University at Eunice (LSUE) and Durham Technical Community College (NADE’s 2006 Outstanding Developmental Education Program) have programs whereby new student orientation, academic advising and counselor assisted registration are mandatory. In addition, program participants enrolled in developmental coursework



must meet an academic counselor at least three times a semester. This is supported by research that suggests that structured academic counseling is important for helping students find their way through college (Cohen & Brawer, 1996) and that structured advising positively affects retention and graduation (Tinto, 2004). Advisers and counselors are particularly important in helping students to plan their educational programs (McCormick, 2003) and to provide career exploration for students who are undecided.

The Durham Technical Community College institutional research office calls every student who stops attending class to find out why. Durham Tech faculty and counselors encourage students to come forth with problems that are interfering with school. They promise to help solve students' problems, and they do; the foundation director has established an emergency fund which helps students to pay for childcare, bus passes, books, electrical bills, and even car problems – anything that interferes with school. Research suggests that providing even small amounts of money at key times can improve student retention and success rates (Roueche & Roueche, 1999).

The Durham Technical Community College foundation also has established an “adopt a student” program so community members can sponsor a student as he/she pursues his/her postsecondary goals. Institutions such as Durham Tech have made student success important to everyone at the institution as well as in the community at large.

Durham Tech and LSUE provide a mandatory orientation for their students in remedial and developmental courses. The orientation programs are intended to facilitate students' transition to college and provide information to help them manage in a new environment. Durham Tech shows a video (produced by Durham Tech) to all of their

students in remedial and developmental courses during the first week of classes. The video explains what remedial/developmental education is through interviews with faculty and former students in the remedial/developmental program. The tape is not only used to educate students but is also used to inform board members and legislators about the Durham Tech Developmental Program. LSUE provides an all-day orientation for students who place into developmental or remedial coursework.

Durham Tech also established a peer mentor project: new students in remedial/developmental courses are assigned a peer mentor for the first year of college. The peer mentor helps the new student to navigate through the first, and most critical, year of college. Peer mentors are also in the developmental classroom and work with an entire class by giving fifteen-minute presentations on goal setting, notetaking, test taking, and other study skills.

Early alert systems are especially important for students who are enrolled in remedial or developmental courses. Early alert systems that incorporate a network of individuals (faculty, mentors, academic support units, peer support groups) are most effective at helping students address early adjustment difficulties (Kuh, Kinzie, Schuh, Whitt and Associates, 2005). Student retention and progression to a degree are fostered when “at-risk” students are identified early and intervention strategies are employed (Nettles, Wagener, Millert, & Killenbeck, 1999).

### *Evaluation*

Accrediting agencies require institutions to offer support services, but they want to know that the services provided are delivered effectively and efficiently. In addition, many institutions place students at the center of their goals and missions, and as they do

so, they need to ensure that students are best served to meet institutional goals and missions. The NADE Professional Standards and Evaluation Committee has spent more than ten years researching and developing best practice Self-Evaluation Guides to assist programs to perform self-study activities that lead to the improvement of delivery of services to students. Such guides have a firm foundation, having been based on categories of the Standards and Guidelines for Learning Assistance Programs developed by the Commission for the Advancement of Standards in Higher Education. Use of the Self-Evaluation Guides provides a first step in achieving NADE Certification at any level. Certification ensures that programs have examined their goals, strengths, and weaknesses, and helps programs to address weak areas (National Association for Developmental Education, 1995).

### *Community Partnerships*

Remedial/developmental educators need to be part of high school-college collaborations. The Education Trust is one such partnership. Other collaborative efforts include the Diploma Project, whose purpose is to assure that all students who graduate from high school are prepared to transition into college and work; Helecap, which is working towards alignment between high school and college curriculum and expectations; and Achieving the Dream, which will focus on retaining Native Hawaiian students through postsecondary education. Other partnerships include a variety of types of bridge and outreach programs.

Remedial/developmental programs should develop effective linkages with adult education programs (Saxon, Boylan, McBroom, 2006). Each program provides something the other lacks: adult education programs can work with students at a level

below college preparatory, while typically remedial/developmental programs do not provide this type of instruction or struggle to provide it because of limited resources. Developmental programs provide a logical next step for those completing adult education but are not yet ready for college; they offer a stepping stone to college curriculum.

### *Professional Development*

Ongoing professional development is essential for developmental educators. Arendale (2000) encourages developmental educators to attend conferences and read widely in areas related to learning assistance. He also encourages developmental educators to work on advanced degrees, which he says are critical for establishing credibility with colleagues and upper level administrators. Gardner (1999) states that developmental educators need to elevate to a higher priority the role of research in developmental education, which is challenging because many members of the profession are on the frontlines actually working with students and have little time to dedicate to research. However, research and scholarship are essential to the field of developmental education, which needs to continue to develop its theoretical and research base in order to increase its effectiveness (Arendale, 2006).

Gardner (1999) also states that the people who are involved with remedial/developmental education and learning assistance need to think more about recruiting undergraduate students who will go to graduate school and enter this profession. The goal should be to hire professionals who specialize in developmental education and learning assistance.

A second aspect of professional development is a move towards developmental educators becoming more involved in faculty development within higher education.

Developmental education specialists, because of their background in education and learning theory, should facilitate workshops for content area instructors. Additionally, those within the field of developmental education need to become more intentional about educating the people who set academic policy and allocate resources about developmental education (Gardner, 1999).

## Recommendations

The recommendations set forth by this committee are based on research that suggests that good remedial/developmental education results from an institutional commitment to the concept of educational development. Remedial/developmental education professionals operate most effectively in an environment that values what they do. In such an environment, remedial/developmental education is seen as an integral part of the campus academic community and is considered a high priority in campus planning efforts (Boylan and Bonham 1992).

Research also consistently suggests that the more comprehensive the services of a developmental program, the greater its likelihood of promoting student success (Boylan, Bonham, and Bliss, 1994). Remedial/developmental courses alone, tutoring alone, counseling alone, or academic advising alone are less effective than a combination of those services. The most effective developmental education is comprehensive. Therefore, the following recommendations need to be implemented as a whole to promote the cognitive and affective growth of students desired by the WPG committee.

1. *Students need to have rigorous, intensive precollege academic preparation. If students do not perform well and in the right kinds of courses in high school, including four years of English, advanced mathematics, and science courses, later interventions can only have modest effects on their chances to succeed and complete a postsecondary degree. Additionally, family and community support are essential to raising a student's educational aspirations, becoming college prepared, and persisting.*

The committee recommends:

- Develop a comprehensive statewide college readiness strategy that addresses the educational needs of all students.
- Align high school curricula with college performance standards (a collaborative effort between secondary and postsecondary institutions).
- Develop efficient ways for the UHCCs to report back to the high schools their graduates' college performance and use the information to narrow the transitional gap.
- Increase the quantity of information to students and families who lack adequate information about going to college.
- Develop college encouragement and transition programs that work with students and their parents starting in middle school.
- Develop alternative schools (small, personalized learning centers) in partnership with the University of Hawai'i for high school students who fall behind in credits after their freshman and sophomore years.
- Develop dual enrollment programs like *Running Start*, but targeting middle to low achieving students who are not generally seen as college bound.
- Provide release time to remedial and developmental educators at the UHCCs to participate in P-20 initiatives.

2. *The UHCC System needs to focus on student success by creating a learner-centered culture that helps all postsecondary students attain their educational goals.*

The committee recommends:

- Identify remedial/developmental education as an institutional priority and create opportunities for faculty outside of remedial/developmental education to learn about it and understand its importance.
- Develop mandatory orientation programs for all new students.
- Offer pre and post COMPASS advising for all potential students.
- Develop peer mentor programs to help new students transition into a new environment.
- Help students to find a mentor, activity, or academic interest that connects them to the postsecondary environment so that they persist and achieve their educational objectives.
- Work towards a comprehensive learning assistance program that addresses assistance for individual students (tutoring) as well as course related learning assistance such as structured learning assistance, Supplemental Instruction, and video-based instruction. A comprehensive program should also include counseling and peer mentoring, career exploration, and development of an educational plan.
- Form a campus retention committee that includes students and focuses on retention, persistence, and student success issues and policies.

- Train all faculty and staff so that they are knowledgeable about the affective and psychological issues that distress students.
- Encourage effective educational classroom practices and focus assessment efforts on student success.
- Offer targeted study skills courses for math, chemistry, and physics courses.
- Provide ongoing training for all faculty and students involved with any type of learning assistance program.
- Employ advocate counselors who specialize in working with students who are at risk or have special needs.

3. *Remedial/developmental education programs, either centralized or decentralized need to be heavily coordinated.*

The committee recommends:

- Create a UHCC developmental education mission statement that guides the work of all remedial/developmental educators in the system.
- Create a mission statement and goals that are widely shared for remedial/developmental programs, whether centralized or decentralized, at each campus.
- Work together throughout the UHCC System to share resources and streamline services for students.
- Assign faculty to be coordinators for developmental and remedial courses at all the campuses. These coordinators should facilitate curriculum development for developmental courses and ensure that all remedial/developmental courses and instructors address the cognitive and affective development of students.
- Include remedial/developmental coordinators at high-level campus meetings to advocate on behalf of remedial/developmental education students, faculty, and programs.
- Encourage faculty teaching developmental/remedial courses to meet regularly with each other to discuss the issues that are relevant to remedial/developmental education.
- Require remedial and developmental coordinators in the UHCC system to meet bi-annually to discuss the issues, such as compliance drift and course articulation, that are relevant to developmental/remedial education.

4. *Mandatory assessment and placement is critical; however, no assessment instrument is 100 percent accurate for all students.*

The committee recommends:

- Make available pre COMPASS testing advising to all students.
- Provide free test taking workshops to all students getting ready to take the COMPASS test.



- Mandate post COMPASS testing advising and counselor assisted registration for all students who tested into remedial or developmental courses.
- Allow students who do not feel they were placed accurately to retest or provide an alternative test (provided the students have met with a counselor or faculty advisor).
- Use diagnostic testing (in addition to COMPASS testing) to determine where and to what extent learning gaps exist for those who place into remedial/developmental courses.

5. *The UHCCs must do everything feasible to help their students who matriculate without the requisite skills and competencies to perform at satisfactory level.*

*Different approaches should be developed to address different types of learners, and mandatory advising sessions should help students decide what approach is right for them.*

The committee recommends:

- Develop and offer self-paced remedial/developmental courses by using advanced technology programs that allow appropriate students to work autonomously and in a self-directed manner. Mediated learning should still occur in self-paced environments.
- Develop and offer accelerated remedial/developmental courses for students who want the option of completing the developmental math and English curriculum more quickly, but in a structured format.
- Develop and offer problem-based math courses for those students who learn better in groups and in high-context environments.
- Develop and offer preparatory courses for students who are not passing a particular course so that they can build their background knowledge before enrolling in the course again.
- Develop and offer more learning communities by linking remedial/developmental courses with a college-level or vocational course so that students can apply the strategies being taught in the remedial/developmental course to the college-level course.
- Embed “how to learn” and active learning strategies into all remedial and developmental courses.
- Integrate remedial/developmental courses with labs to allow for more time on task and support for a course.
- Develop cohort programs for doubly deficient students in math and English.
- Implement a trimester system for remedial/developmental programs which will help students to move more briskly through the program.

6. *Provide a range of high-quality learning support systems to help students enrolled in remedial/developmental courses to persist and succeed in their postsecondary careers.*

The committee recommends:

- Develop clear and streamlined career pathways from remedial/developmental programs into college-level technical degree programs. Each UHCC should specialize in specific pathways that students testing into remedial/developmental programs can realistically achieve.
- Provide mandatory and structured academic counseling and advising, which includes helping students to register, solve problems that interfere with school, develop career goals, and design educational plans.
- Employ advocate counselors to help doubly deficient students to address personal and academic challenges.
- Enable counselors to help learners to manage the affective and psychological issues that distress students.
- Help students to find solutions for child care, transportation, housing and family problems.
- Provide faculty teaching remedial/developmental courses with release time to serve as faculty advisors who meet with students on a regular basis.
- Provide face-to-face and online tutoring services for all postsecondary students.
- Provide peer mentors to help students navigate through their first year of college.
- Provide course-based learning assistance such as Supplemental Instruction, peer learning groups, and video-based supplemental instruction for any course that has high withdrawal rates and low success rates or that a department or program identifies as a high-risk course, for all postsecondary students.
- Develop early alert systems for students enrolled in remedial/developmental programs to help students address adjustment difficulties at each campus.

7. *Develop systematic evaluation techniques for remedial and developmental programs to ensure that the programs improve and continue to meet institutional goals.*

The committee recommends:

- Use a variety of qualitative and quantitative measures to evaluate the remedial/developmental programs on each campus.
- Focus evaluation data on retention, persistence, and successful completion of courses and programs rather than enrollment numbers.
- Define terminology so that the same definitions exist across the system.
- Establish reasonable benchmarks that remedial/developmental programs can be measured against.

- Explore non-cognitive barriers to achievement and use information to improve student learning and learning environment.
- Review periodically remedial/developmental programs, which should include courses, tutoring, and course-based learning assistance, to see if they align with college-level and vocational courses.
- Use data to make improvements to courses and programs.
- Improve the UH System information management system so that information is accessible.
- Develop common final exit tests, portfolios, or projects and grading rubrics in English 22 and Math 25/83 as well as English 100 and Math 100 and 103 within the institution.

8. *External and internal partnerships are an essential part of remedial and developmental programs.*

The committee recommends:

- Provide contracted remedial courses to business and industry.
- Provide release time for remedial/developmental faculty to participate in P-20 initiatives.
- Establish partnerships with other programs and initiatives on campus, such as first year experience (FYE) program to marginalize the stigma associated with remedial/developmental education.

9. *Encourage and support professional development for faculty who teach remedial and developmental education courses.*

The committee recommends:

- Establish a mentoring system for new instructors teaching remedial and developmental education courses.
- Develop a manual for new faculty that outlines policies and procedures as well as pedagogy and techniques for learners enrolled in remedial/developmental courses.
- Work with the education departments at the UH 4-year campuses to establish a specialization in developmental education at the graduate level. The specialization could be made up of nine to twelve credits focusing on learning theory, cognitive and affective principles, and learning assistance. The specialization, along with graduate-level math, reading and writing courses, would prepare instructors to work in developmental and learning assistance programs at the UHCCs.
- Support faculty seeking out professional development opportunities. The plethora of strategies and knowledge that they return with is vital to the changing needs of remedial and developmental students.

*10. Provide sufficient financial and human resources to provide learning assistance to all postsecondary students who need learning assistance to succeed and reach their educational objectives.*

## Implementation Plan

As stated earlier, to be effective, the changes recommended by the WPG committee in program organization, assessment and placement, curricula and delivery methods, learning support systems, evaluation, partnerships, and professional development must be done in concert rather than piecemeal. What is taught and learned in remedial and developmental classes cannot be isolated from learning assistance, tutoring, and counseling and advising. The combination creates a comprehensive learning system truly capable of helping students enrolled in remedial/developmental education succeed at the postsecondary level. If all of the recommendations were fully funded, implemented, and stabilized for at least five to ten years, with heartfelt support from top to bottom of the academic chain of command, the committee members are confident that the student success rates would improve dramatically.

The WPG committee believes it has been accurate in describing the current affairs on the seven campuses and in the system, in reviewing the literature and studying the best practices found on other campuses, and in assessing what needs to be done to “increase the number of students enrolling in and successfully completing the necessary developmental work preparatory to the community college technical and transfer programs” (the Vice-President for the University of Hawai’i Community Colleges’ original charge). After all of the stakeholders have read and reflected upon this report, the recommendations will more be intentionally outlined and prioritized. The WPG committee hopes there is serious and widespread interest in, commitment to, and funding for improving the remedial/developmental education programs on the seven campuses.

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## APPENDIX A

### DEVELOPMENT OF THE REMEDIAL/DEVELOPMENTAL EDUCATION WHITE PAPER

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## **APPENDIX B**

### **CURRENT STATE OF REMEDIAL/DEVELOPMENTAL PROGRAM**

The following reports describe the campuses' programs and were written by the individual White Paper Group members working at the respective campuses.

**APPENDIX B**  
**Honolulu Community College**  
**Current State of Remedial/Developmental Program**  
**Diane Caulfield and LeiLani Hinds**

At Honolulu Community College, the current state of affairs for remedial-developmental education follows a placement test and mandatory placement approach. When students apply to HonCC, they are required to take the Compass Placement Test. Based on their test scores, they are placed in remedial (English 20 and math 20 series) developmental (English 22, math 24, 25) or college-level (100 and above) math and English classes.

The vast majority of the time, students who are placed in remedial-developmental classes take them if they register at HonCC. Computer registration includes pre-requisites in the “fields”, so students cannot bypass placement on their own. Occasionally, students who protest their placement discuss it with their instructors or counselors and are placed in a higher-level class, if they offer evidence of their ability to the teacher/counselor, but this is fairly rare.

Various courses and programs at HonCC have certain minimum pre-requisite and graduation levels of English and math. These levels are determined by the department or the program and approved by the Division Curriculum Committees and College Programs and Curriculum Committee through the curriculum process. Some courses/programs require English 100/math 100 as either pre-requisites or graduation requirements; others require English 22—60; others require English 20/math 20. There are some courses/programs which do not require English or math pre-requisites. One example of this is the Fashion Technology program.

Remedial classes are offered through the College Skills Center (CSC) and include the English 20 and Math 20 series. Developmental level (English 22, math 24, 25) and college-level (English 100 and the 250 series and Math 100 and above) classes are offered through the Language Arts and Math Departments.

**COURSES**

**English**

***Placement into English Courses***

Placement testing on the COMPASS test is used to place students in the remedial/developmental courses, using the following scores:

Courses	Scores
English 20BCDE and English 51	0—39
English 22, 60, or 51	40—73



About the Compass placement scores for English 51, there is a history and explanation for the seeming discrepancy. I was told when the English writing faculty across the community colleges met to decide Compass test scores for the community colleges, they were focusing only on writing and since English 51 is only taught at HCC, they didn't think about the ramifications of requiring a writing test for English 51 Technical Reading and required the same writing score for it as for English 22. I am the English 51 instructor and was not told that the test would no longer include reading. Later when this became a problem because the students English 51 was intended for were no longer qualified to enroll in it, HCC technical program faculty, counseling staff, and I met to decide how to solve this problem, and we agreed that students could enter the class with scores between 0 and 73.

Initially developed as open-entry open-exit courses, English 20 BCDE are entry-level credit courses taught by full-time faculty and lecturers. Courses are offered for credit thereby keeping the cost affordable. Each module, English 20B, 20C, 20D, and 20E, is a one-credit course or module and is taken as a series of courses credit/no credit. All classes are taught in a combination lecture and lab format. English 20BCDE meets for 3 hours twice a week. Students initially register for the complete series of courses. If students do not complete a module, they are eligible to retake the remaining modules the next semester. Students are allowed to take the each course no more than twice. Students are serviced by the instructor, student assistants, and educational specialists. Packets of assignments created by English 20BCDE faculty are reviewed each year and updated during the summer. The instructors and lecturers utilize the same packet for all classes. The sale of these packets generates revenue to support the cost of tutor services to our students. Packets are designed with clear instructions so that students are provided information to complete assignments on their own, in order to encourage them to be self-directed learners. Each year, English 20 classes serve over 275 students.

***Quantitative Indicators – English 20BCDE***

Registration Data

ENG 20BCDE	Spr 04	Fall 04	Spr 05	Fall 05	Spr 06
# Courses Taught	6	7	5	6	4
Ave. Class Size	13	29	14	28	27
Fill Rate	43%	98%	47%	93%	87%
Semester Hours	24	28	20	24	16
SSH	630	312	802	270	660
Course FTE	42	21	53	18	44

Prior to Spring 2004, there was only one collective section listed for each course with a maximum enrollment of 500, and that resulted in very low fill rates. Since Spring 2004 when courses were offered as separate sections and the class maximum enrollment was set to 30, fill rates have been much more reasonable at above 90% for fall semesters and above 40% for the spring semesters. Prior to that, fill rates fluctuated between 16% and 32%.

Because of consistent low enrollments for spring semesters, course offerings were reduced by one course resulting in an increased fill rate from 45% in Spring 2005 and 43% in Spring 2004 to 87% in Spring 2006.

***Assessment – English 20BCDE***

Student Profile

At the beginning of each semester, students in English 20BCDE complete a student profile survey. The survey requests the following information: major, native language, disability, gender, reason in college, educational goal, number of semesters at HonCC, ethnicity, marital status, military status, parents’ education, current employment, and credit load.

Approximately 64% of the students are technical-occupational majors, and 28% are majoring in liberal arts. The percentage of students with disabilities indicates an upward trend over the recent semesters:

Percentage of Students with Disabilities in English 20BCDE

Spring 02	Fall 02	Spring 03	Fall 03	Spring 04	Fall 04	Spring 05
24%	25%	24%	29%	23%	30%	30%

This trend indicates that instructors need to address this growing population. From the Fall 2005 semester, taped recordings of reading selections have been made available to all ENG 20BCDE students.

Over the years, the number of first-generation college students has varied from a low of 47% to a high in the most recent Spring 2005 semester of 58%. This year, our college has received a federal grant aimed to service first-generation, low-income college students. It is hoped that these students in English 20BCDE and Math 20BCD classes will benefit from this program, and there will be higher completion rates in courses.

The largest ethnic student population in our English 20BCDE courses has been consistently the Filipinos at 33% followed by Hawaiians at 24%. Group work or teamwork plays an important role in both cultures as well as the workplace in our society, and this aspect has been integrated into course assignments.

### Completion Rates

Students must complete English 20E in order to advance to their program major or subsequent English course. Therefore, completion rates for English 20E have been evaluated in detail.

#### Enrollment and Completion Rates in English 20E

<b>Semester</b>	<b># of students enrolled</b>	<b>% of completion</b>
Fall 2000	172	30%
Fall 2001	158	31%
Fall 2002	152	34%
Fall 2003	164	54%
Fall 2004	194	58%
Fall 2005	140	61%
<b>Semester</b>	<b># of students enrolled</b>	<b>% of completion</b>
Spring 2000	131	28%
Spring 2001	81	38%
Spring 2002	106	39%
Spring 2003	107	45%
Spring 2004	82	40%
Spring 2005	70	60%
<b>Semester</b>	<b># of students enrolled</b>	<b>% of completion</b>
Summer 2000	33	64%
Summer 2001	25	60%
Summer 2002	20	65%
Summer 2003	28	71%
Summer 2004	18	83%

Enrollment and completion data have been separated by semesters so the numbers can be more accurately compared since the demand for courses varies between semesters.

Over the past five years, the enrollment for fall semester ENG 20E classes averaged 163 students, spring semester classes averaged 96 students, and summer session classes averaged 25 students. Class enrollments by semester have remained relatively stable over the semesters.

Prior to Spring 2004, all ENG 20BCDE classes were listed in the schedule as “hours arranged” with no class times listed. Students needed to physically go to the College Skills Center to sign up for a certain class time. This procedure was instituted originally to provide students with a “true” open-entry, open-exit model. However, when Banner, the computerized student registration system, was instituted, many students were

able to register online. To provide ease in registering for classes, English 20BCDE listed scheduled sections.

This scheduling provided student and instructor with a clear association between meeting time, teacher, and enrolled students. In the first semester of the scheduling change, Spring 2004, the completion rate dipped to 40% from 45% the previous Spring 2003 semester. However, in Spring 2005, the completion rate rose to 60%. In addition to the change in the scheduling of classes, through the Perkins Vocational-Education grant, a retention specialist, whose primary focus is to increase the retention rates of students in technical-occupational majors, was hired to work in the CSC. A combination of improvements such as restructuring of class scheduling, hiring a retention specialist, developing and implementing assessments, and a continual revising of the assignments for the courses have resulted in increased completion rates.

Completion rates have been trending upwards for all semesters and summer sessions. For fall semesters, completion rates have increased from a low of 30% in Fall 2000 to a high of 58% in Fall 2004. For spring semesters, completion rates increased from a low of 28% in Spring 2000 to 60% in Spring 2005. Finally, summer session completion rates increased from a low of 64% in Summer 2000 to 83% in Summer 2004.

It has been noted that on the student profile survey administered each semester, even though the percentage of students who declare that they have a disability has increased from 24% in Spring 2002 to 30% in the Fall 2004 and Spring 2005 semesters, the overall ENG 20E completion rates for the courses have been increasing over these semesters.

Compared to completion rates in other English courses on campus, English 20E is generally lower, but this may be due to English 20E having no minimum placement score or lower-level course requirements.

#### Completion Rates for HonCC English Courses

	Fall 2004	Spring 2005	Grades Included
English 20BCDE	58%	60%	Credit
English 22	67%	68%	A - D
English 51	63%	83%	A - D
English 60	68%	68%	A - D
English 100	62%	49%	A - D

In Fall 2004, comparisons were made between equivalent basic English courses cross three major Oahu campuses.

Pass Rate (CR or Grades A – C) and Number Enrolled in Fall 2004

	HonCC	KapCC	LeeCC
ENG 20BCDE, PCC 20 or equivalent	58%	63.1% (non-credit)	58.9% (non-credit)
# enrolled	194	57	61
ENG 22	63.8%	59.6%	60.4%
# enrolled	371	471	475
ENG 100	56.8%	56.9%	56.7%
# enrolled	387	790	820

Of note, ENG 20BCDE course enrollment is over two times the enrollment at the other two community colleges, which offer comparable non-credit courses to students.

Knowledge Survey

Prior to the start of the Fall 2005 semester, faculty teaching the English 20BCDE courses attended a workshop presenting the incorporation of the knowledge survey to assess student learning outcomes. As a result, a sample knowledge survey was tested for English 20D in Fall 2005, and full implementation began in Spring 2006.

Course Outcome and Objectives for Eng 20BCDE

The two full-time faculty members for the English 20 BCDE courses have developed the course outcome and performance objectives with measures for each objective.

- Course Outcome  
Students demonstrate skills required to meet all student learning outcomes in ENG 20BCDE in one semester.
- Performance Objective #1
  - Students will provide input via a mid-term survey on the learning environment and rate each item on the learning environment at 4.0 or higher.
  - If the rating falls below 4.0, an analysis will be conducted to determine changes needed to improve the situation.
    - Measures: student satisfaction survey of learning environment.

Student satisfaction surveys were administered in English 20BCDE classes for three semesters (Fall 2004, Spring 2005, Fall 2005)

## English 20BCDE Satisfaction Survey Summary

Administered at mid-semester

5 = very satisfied 1 = very dissatisfied

	Fall 2004	Spring 2005	Fall 2005
Air-conditioning in lab	3.625	4.475	4.27
Space in lab	3.170	4.195	3.69
Quietness in testing room	4.081	4.390	4.46
Physical environment of lab		4.415	3.81
	Fall 2004	Spring 2005	Fall 2005
Availability of computers	3.585	4.463	3.55
Functioning of computers	3.382	3.902	3.27
Word processing software	3.597	4.220	3.49
Service by tutors in timely Manner	3.644	4.537	4.21
Skill level of tutors		4.463	4.38
Attitude of tutors		4.220	4.27
Behavior of other students in lab		4.317	3.92
Space in classroom	2.985		4.15
Quietness in lab	3.485		
Satisfaction of service by tutors	3.780		

For Fall 2004, using a score of 1 for “very dissatisfied” to 5 for “very satisfied,” the lowest average was 2.985 for “Space in classroom.” The next lowest score was for “Space in lab.” Previously, English 20BCDE classes were held in a computer lab with 30 students seated at 18 computers and study tables, creating a very crowded situation. To address student concerns of space issues, additional space was acquired during summer 2004 so that Math 20BCD classes are now being held on the fourth floor, and this opened up a classroom for English 20BCDE classes. For the Fall 2005 semester, students received their lectures in a classroom and proceeded to the computer lab next to the classroom to continue with their assignments. The space for English 20BCDE has expanded by one classroom and has resulted in students spending more time in the computer lab and classroom, thereby allowing more space for them and for the Math 20BCD students who utilize the large open lab which in past semesters has been overcrowded. Subsequent to the change in room, the satisfaction level for the same

survey item, "Space in classroom," increased from a low of 2.85 in Fall 2004 to 4.5 in Fall 2005.

In Spring 2005, "Functioning of computers" received the lowest score at 3.902 among all items. In addition, some of the comments from students included:

- Provide more upgraded computers (3 students)
- More computers (2 students)
- Fix some computers (2 students)
- Better computer software

In addition, a focus group session, conducted on April 12, 2005, by the College's Self-Study committee evaluating the College Skills Center, also indicate that computers need upgrading. Comments by the students in the focus group included the following:

- The computers...are always freezing.
- Need new updated computers.
- Better computers – at least 50.

The computers indicate that all of them have the same specifications (Win 2000, PIII 400 MHz, 9.53 GB hard drive) and are dated 1998-2000. These computers all fell far short of the recommended specifications from the College's Information Technology Center. Computer problems are now being recorded. Data on computers is being compiled to verify the need for replacements.

- Performance Objective #2
  - 75% of students who complete ENG 20BCDE classes will earn credit in their next English class.
    - If the measure is below 75%, the ENG 20BCDE courses will be reviewed to determine if any changes should be made.
      - Measures: Completion rates of ENG 20BCDE completers at the next English course.

Data received from the college show that of students who completed English 20E in Fall 2002, 83% of those that enrolled in an English 22, 51 or 60 course completed their next English course. In the following Fall 2003 and 2004 semesters, 76% and 80% of the students, respectively, completed their next English course. The goal of 75% was reached for Fall semester students. However, spring semester students did not fair as well. In Spring 2003, the completion rate was 60%, and in Spring 2004, the completion rate was 71%. Analysis of other data will be conducted to determine why there is a discrepancy between the semesters.

### ***Curriculum Revision and Review – English 20BCDE***

In Spring 2004, entry-level English courses were changed from an independent lab format to a combination class and lab format to facilitate ease of online registration, which was implemented in Summer 2002. The change in course delivery was approved by the Committee on Programs and Curricula and entailed having classes scheduled with a combination lecture-lab format at 3 hours twice a week for English 20BCDE. In the

previous format, faculty could be assigned 50 students to a class, which resulted in a difficult learning situation for students. Under the current scheduled format, classes are now limited to 30 students, and lecturers are hired as needed to increase sections beyond the credit load for faculty.

Review of the change in format for English 20BCDE courses indicates that there is an increase in completion rates.

### *Analysis – English 20BCDE*

#### Alignment with mission

English 20BCDE aligns with HonCC’s Mission and CSC’s mission by offering affordable learning-centered credit courses with a flexible offering of day and evening classes and lecture-lab format delivery system to develop responsible, self-directed learners.

#### Evidence of quality student learning

Despite an increase in the percent of students with disabilities in classes, overall course completion rates have increased and completion rates of English 20BCDE completers at the next level of English have been at a respectable rate (76%, 80%).

#### Technical Issues

Based on student satisfaction surveys and focus group responses, student computers needed to be upgraded, and this item was put in the college’s strategic plan. The average age of computers for student use was 7 years old. A log of computer problems in Fall 2005 showed numerous problems such as “wouldn’t start,” “froze,” and “disk drive malfunction.” In addition, student satisfaction surveys rank the “functioning of computers” at the lowest of the items to evaluate. To maintain these computers, qualified technical support personnel was needed to maintain current computers and prepare new computers for operation in the CSC, this was put in the strategic plan, and the person was hired.

### Mathematics

#### *Placement Testing*

Placement testing on the COMPASS test is used to place students in the remedial/developmental courses, using the following scores:

Math 20 BCDE pre-algebra	0—46
Math 24, 50, 53 pre-algebra	47—100
Math 24, 50, 53 algebra	0—33
Math 25, 50, 53	34—49
Math 25, 50, 53, 100, 115	50—55

Although the scores for the math classes appear to be contradictory and seem to place students with higher scores in lower classes and, conversely, place students with lower scores in higher classes, this is not the case. It was explained by counseling staff at HCC



that the raw scores above are not the same score and that they are caused by the placement test which allows students to start in the test where the students think they place, but when students miss too many questions, they are then “sorted” to another lower level of questions. Students may end up with several math scores, for pre-algebra, algebra, and college algebra, which counselors then use to help students choose the best course for them.

Initially developed as an open-entry open-exit course, Math 20BCD are entry-level credit courses taught by full-time faculty and lecturers. Each module, Math 20B, 20C, and 20D is a one-credit course and is taken as a series of courses. Math 20BCD meets for approximately two hours twice a week. Students initially register for the complete series of courses. If students do not complete a module, they may retake the remaining module the next semester. Students are not allowed to take each course more than twice. Students are serviced by the instructor, student assistants, and educational specialist. Packets of assignments created by Math 20BCD faculty are reviewed each year and updated during the summer. The instructors and lecturers utilize the same packet for all classes. The sale of these packets generates revenue to support the cost of tutor services to our students. Each year, Math 20BCD classes serve approximately 700 students.

***Quantitative Indicators – Math 20BCD***

Registration Data

Math 20BCD	Spr 04	Fall 04	Spr 05	Fall 05
# Courses Taught	9	12	8	12
Ave. Class Size	24	31	30	28
Fill Rate	79%	105%	100%	94%
Semester Hours	27	36	24	36
SSH	640	1132	719	1011
Course FTE	42.7	75.5	47.9	67.4

In Fall 2001 and Spring 2002, Math 20BCD was taught in a lab-format style with tutors, faculty and staff working individually with students who needed help with more difficult math concepts. To better service our students and to increase success and retention, we created mandatory lecture and lab class sessions in Fall 2002. Students signed-up for a class in room 7-313 after registration. In Fall 2004, mandatory class/lab sessions were written up in the schedule of classes.

## *Assessment – Math 20 BCD*

### Student Profile

At the beginning of each semester, students in Math 20BCD complete a student profile survey. The survey requests the following information: major, native language, disability, gender, reason in college, educational goal, number of semesters at HonCC, ethnicity, marital and military status, parents' education, current employment, and credit load.

Approximately 68% of the students are technical-occupational majors, and 31% are liberal arts majors. The percentage of students who declared having a learning disability fluctuates each semester.

#### Percentage of Students with Disabilities in Math 20BCD

Spring 02	Fall 02	Spring 03	Fall 03	Spring 04	Fall 04	Spring 05
29%	19%	19%	20%	19%	21%	18%

In order to address this population, hands-on assignments are incorporated in the assignments. Math 20 lab also gives students an opportunity to get individual help in understanding math concepts. The disability services provided in the College Skills Center has been invaluable. They provide tape recordings of the exams given to students after each module and appropriate testing accommodations.

#### Percentage of Students in the Work Force

Spring 02	Fall 02	Spring 03	Fall 03	Spring 04	Fall 04	Spring 05
25%	25%	26%	26%	27%	30%	36%

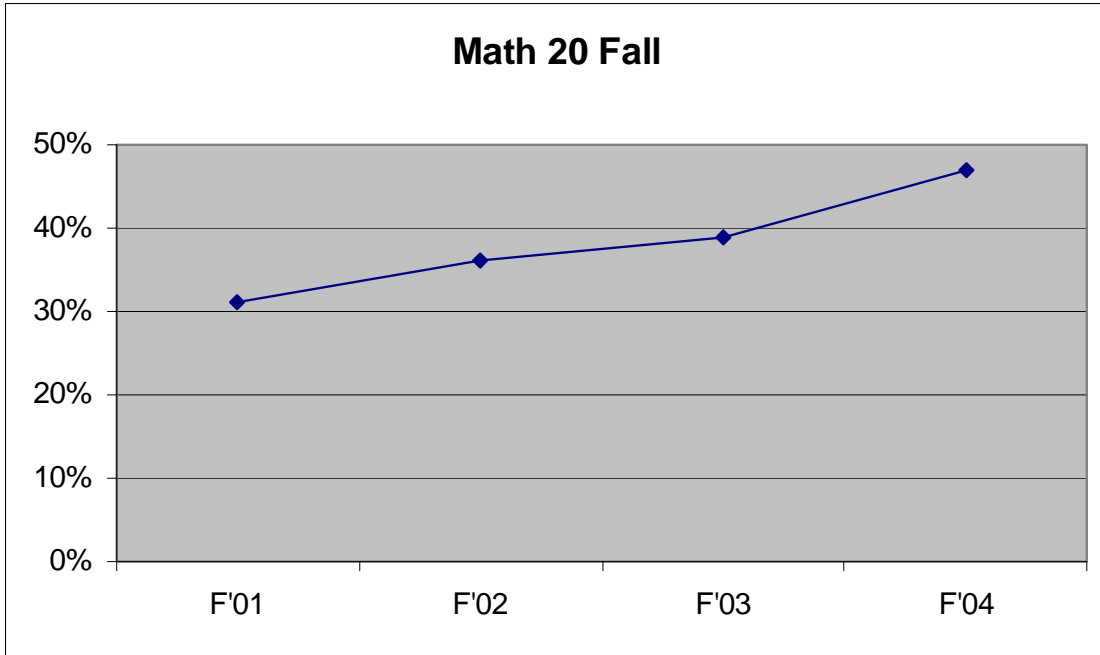
According to the survey, the percentage of Math 20BCD students who work increased each semester.

### Completion Rates

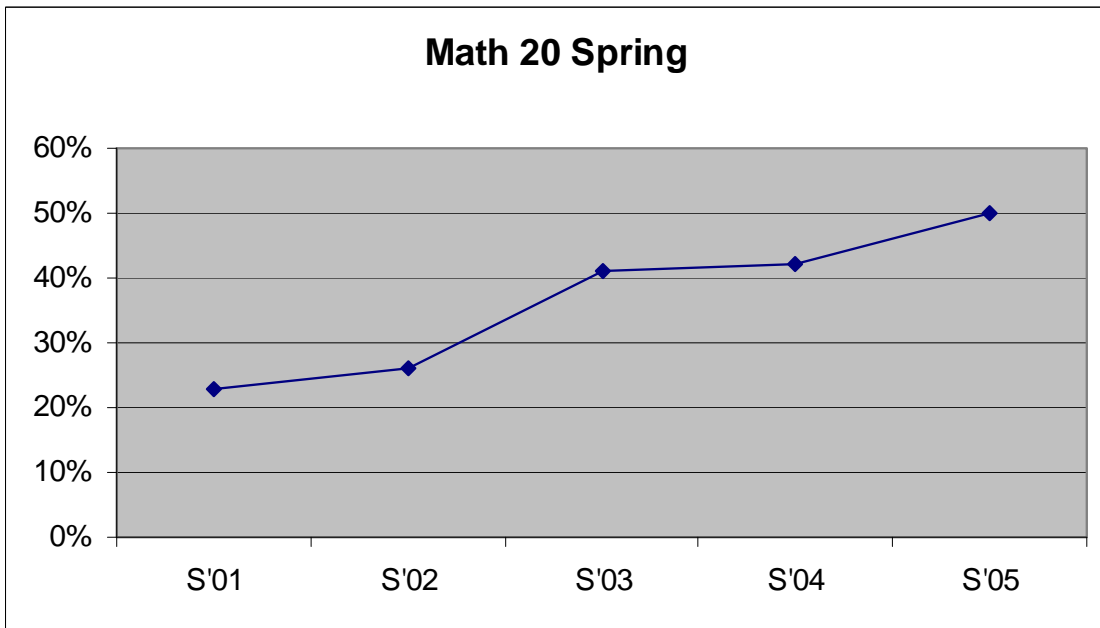
Student learning outcomes have traditionally been measured using completion rates for Math D. Students must complete Math 20D in order to enter their program major or move on the next Math course.

#### Enrollment and Completion Rates in Math 20D

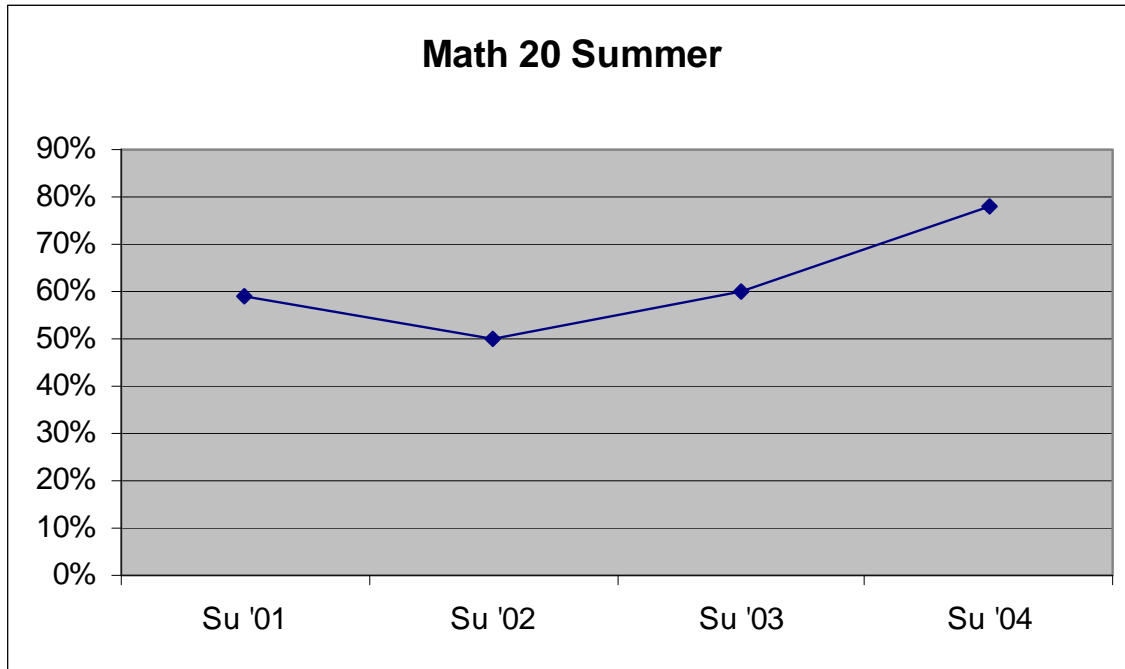
Semester	# of students enrolled	% of completion
Fall 2001	370	31%
Fall 2002	374	36%
Fall 2003	374	39%
Fall 2004	372	47%



Semester	# of students enrolled	% of completion
Spring 2001	258	23%
Spring 2002	275	26%
Spring 2003	256	41%
Spring 2004	225	42%
Spring 2005	246	50%



Semester	# of students enrolled	% of completion
Summer 2001	87	59%
Summer 2002	78	50%
Summer 2003	88	60%
Summer 2004	68	78%



Enrollment and completion data are separated by semesters since the numbers can be more accurately compared because the demand for courses varies between semesters.

Over the past five years, the enrollment for fall semester classes averaged 379 students, spring semester classes averaged 264 students, and summer session classes averaged 87 students. Class enrollments by semesters started relatively high in 2000 and then have remained relatively stable over the remaining semesters.

Completion rates have been trending upwards for all semesters and the summer session. Completion rates have increased to a high of 47% in Fall 2004 compared to a low of 31% in Fall 2001. For Spring 2005, the completion rate was 50% compared to a low of 23% in Spring 2001. Finally, for Summer 2004, the completion rate was 78% compared to a low of 50% in summer 2002.

It has been noted that on a student profile survey administered each semester, about 19% of the students declare that they have a disability, which may contribute to a lower completion rate for all classes.

### Knowledge Survey

Prior to the start of the Fall 2005 semester, faculty teaching the Math 20BCD courses attended a workshop incorporating a knowledge survey to assess student learning outcomes. As a result a sample knowledge survey was given to Math 20BCD students in fall 2005. Full implementation began in Spring 2006. The two full-time Math 20BCD faculties have developed the course outcome and performance objectives with measures for each objective.

### Course Outcome and Objectives for Math 20BCD

Students demonstrate skills required to meet all student learning outcomes in Math 20BCD.

### Performance Objectives

- Students will provide input via a mid-term survey on the learning environment and rate each item on the learning environment at 4.0 or higher.
  - If the rating falls below 4.0, an analysis will be conducted to determine changes needed to improve the situation.
  - Measures: student satisfaction survey of learning environment.

Student satisfaction surveys were administered in Math 20 BCD classes for two semesters (Spring 2005, Fall 2005).

### Math 20 BCD Satisfaction Survey of Learning Environment

<b>Math 20 BCD Satisfaction Survey Summary</b>	
Spring 2005 (87 students)	
Administered at mid-semester	
5 = very satisfied 1 = very dissatisfied	
Air-conditioning in lab	4.301
Space in lab	4.118
Quietness in testing room	4.208
Physical environment of lab	4.217
Availability of materials in lab	4.253
Service by tutors in timely manner	4.181
Skill level of tutors	4.337
Attitude of tutors	4.11
Behavior of other students in lab	3.978

In Spring 2005 the lowest average was 3.978 for “behavior of other students in lab.” The next lowest score was for “attitude of tutors.” The issue of student behavior is addressed during orientation on the first day of class each semester. The staff discusses

and/or gives students the sexual harassment pamphlet and talk about how to properly conduct themselves in the math lab. Before each semester, a training session is conducted for all math tutors. The session is used to discuss about problems encountered the previous semester and how to address them. The staff also uses this time to go over new problems or to work with new hands-on materials.

Before the satisfaction survey was administered for Fall 2005, the questions were revised to better reflect data the staff wanted to collect and to make the questions easier to comprehend. The following data reflects those changes.

<b>Math 20 BCD Satisfaction Survey Summary</b>	
Fall 2005	
Administered at mid-semester	
5 = very satisfied 1 = very dissatisfied	
Air-conditioning in lab	3.571
Space in lab	3.099
Space in classroom	3.344
Quietness in lab	3.429
Quietness in Testing Room	4.121
Availability of hands-on materials	3.598
Service by tutors in a timely manner	3.573
Attitude of tutors	4.11
Behavior of other students in lab	3.978

In Fall 2005, the lowest average was 3.099 for “space in lab.” The next lowest score was for “space in classroom.” Previously, Math 20BCD classes were held in room 320. Space was acquired during the summer so that Math 20 classes are now being held on the fourth floor. The satisfaction level for the same survey items, “space in classroom,” and “space in lab” was assessed in mid Spring 2006 to see how these changes impact students in Math 20BCD.

#### Performance Objective

- 75% of students who complete Math 20BCD classes will earn credit in their next math class.
- If the measure is below 75%, the Math 20BCD courses will be reviewed to determine if any changes should be made.
  - Measures: Completion rates of Math 20BCD completers at the next math course.

Data show that of students who completed Math 20 in Fall 2002, 83% of those that enrolled in Math 24, 50, or 53 course completed their next Math course. In Fall 2003 and 2004 semesters, 73% and 64% of the students, respectively, completed their next math course. The goal of 75% was not reached for two consecutive semesters. However, spring semester students did not do as well. In spring 2002, 2003, and 2004 semesters, 72%, 52%, and 56% of the students, respectively, completed their next math course. The goal of 75% was almost reached for fall semesters, but more analysis of other data will be conducted to improve the percentage and determine the discrepancy between semesters.

### Goals

1. Equip students with the foundation in math and problem solving skills that allows them to enter their Technical-Occupational or Liberal Arts programs.
2. Provide opportunity for students already enrolled in their programs to strengthen ability in areas of need.
3. Allow community members to improve their math skills for personal reasons.
4. Provide developmental instruction to building skills necessary to pursue educational objectives.
5. Ensure general competency in basic skills and problem-solving

### Program Data

#### Measures of SLOs

1. Surveys
2. Attendance Record
3. Academic records in Banner through institutional research personnel
4. Locally produced test
5. Assignments

### Measures of Effectiveness

According to the data gathered, the number of students who successfully completed Math 20BCD steadily increased each semester. The Math 20BCD lab held directly after the lectures help students to process and apply what was learned in class. Students having difficulty with math concepts are tutored by student assistances, faculty, or staff during lab. In order to accommodate the different learning styles of our student's manipulatives such as weights and scales are utilized, and math videos are also available.

### Measures of Efficiency

1. Number of FTE faculty  
2 full time faculty and 1 full time APT
2. Faculty to student ratio  
1:30

### ***Curriculum Review and Revision***

In the spring semester of 2004, the format for the Math 20BCD courses was changed from an independent lab format, listed in the schedule of classes as “TBA,” to a scheduled lecture/lab format, listed with specific start and end times in the schedule of classes. This was done to facilitate ease of registration, which went to an online method in the summer of 2002, as well as to provide students with a scheduled lab time to increase retention and completion. The changes in the courses were approved by the Committee on Programs and Curricula and created a lecture/lab class that met twice a week for 2 hours. In the previous format, faculty could be assigned 50 or more students in a single class, which resulted in a difficult learning situation for students. Also, the students were responsible for coming in on their own time to do assignments in the lab. This resulted in many students leaving much of their assignments undone until later in the semester when the amount of work became insurmountable. Under the current scheduled format, classes are now limited to 30 students, and lecturers are hired as needed to increase sections beyond the maximum credit load for faculty. The scheduled lab times also required students to spend quality time after class completing assignments.

Review and revision of the text and assignments is done each academic year to address the needs of the students and changes in the curriculum in the Math Department.

### ***Analysis***

Math 20BCD’s mission aligns with the campus’ mission in serving the community as a learner centered, open-door program. Math 20 curriculum and SLO’s are revised annually to meet the needs of the students and programs.

Students enrolled in Math 20BCD are recent high school graduates, adults looking for entry-level work positions in the work force, or adults returning to school after many years. Many of the students work part-time and are full-time students. Despite an increase in the percent of students with disabilities in classes, overall course completion rates have increased.

Math 20’s student learning outcomes are adequately measured through assignments and exams with a passing rate of 70% or more, and a knowledge survey could provide further information. An increase in students’ passing rate could result by providing tutoring services for students at the next math level and to continue addressing the needs of students with learning disabilities.

### ***The Language Arts and Math Departments: Developmental and College-Level Courses***

The Language Arts and Math Departments offer English 22, 100, 250 series and Math 24, 25, 100, 103, and 140 courses in the regular schedule. These courses are 3-credit courses, usually meeting 2.5 hours a week, taught by full-time staff and lecturers. Most of the courses are offered in a classroom setting, and some of them have been developed for Oceanic cable and on the Web under Distance Education (DE). English 22/60 courses have 24 students, English 100 and above have 20 students, and math classes have 30 students. The extra assistance and “scaffolding” offered by the CSC for the English 20/Math 20 students is not offered by the Language Arts or Math



Departments. Thus, extra tutoring, onsite counseling, special workshops, and so on, available at the remedial level are not provided at either the developmental or college-level.

Every semester approximately 360 students register for English 22, 300 register for Math 24, and 180 register for Math 25.

### ***Syllabi and Student Learning Outcomes***

English 22, 100, and the 250 series, and Math 24, 25, 100, 103, and 140 have common course outlines and Student Learning Outcomes across all sections. Each instructor is responsible for the syllabus for his or her own course. This syllabus includes instructor information, textbooks, SLO's, course content, assignments, exams, and grading. Faculty within the disciplines decide among themselves as a discipline on the exit criteria for courses, which are based on the basic entry knowledge required at the next level. At the end of the semester in English, there are common assessments at each level of student progress through grammar tests and writing tests. In math the instructors create individual final assessments for their classes, based on the common SLO's decided by the department.

## **TUTORING**

Tutors in the College Skills Center are student assistants who check English 20/Math 20 students' assignments, homework, and tests, but who have limited time to provide in-depth one-one-one tutoring to the English 20/math 20 students. Tutoring is offered by faculty during their office hours, but there is none currently available on an across-the-board basis through the CSC because of a series of budget cuts through the years. However, there is tutoring offered across campus through faculty volunteers who are recruited and whose services with subjects and times available are advertised on flyers posted on campus. The tutors offer writing and math tutoring, but not specifically remedial/developmental writing and math tutoring. The list of tutors and their specialties varies from semester to semester because faculty join and depart from this service based on personal decisions, frequently related to work load, teaching schedules, committee assignments, and other college service. Tutoring is also available to Native Hawaiian students at the Native Hawaiian Center.

## **COUNSELING and ADVISING**

Counseling is that available to all students. Counselors are located in Student Services in Building 6 and are available at the request of the student during normal business hours. The primary missions of the Admissions unit is to provide information and assistance to prospective students, as well as international students, families, secondary school counselors, and community agents, regarding the academic and financial requirements of the College. The primary mission of the Academic Counseling unit is to empower students to develop and attain college success strategies. Counselors do a one-hour presentation on "Survival Tips for College- Things you need to Know" prior to each new student registration session. All new students to the college are invited

to attend these sessions. Counselors have attempted to initiate a referral form for faculty in the technical programs to use to refer students to the counselor for follow up when a student is not doing well in class. The primary mission of Career Counseling is to assist students through all phases of their career development. The career counselor has sent out letters to all “unclassified” students inviting them to see her for career planning.

### ***Special Counseling at the English 20/Math 20 level***

During the first week of school in each semester, counselors do a short presentation in all of the College Skill Center classes to introduce themselves, their services, and a little bit about financial aid. (The CSC faculty suggested that the first week is when most of the students would be attending class.) The counselors also encourage students to come and see them early in the semester before the peak period. It is important to make an early face-to-face connection with these students who are mostly new to HonCC. The counselors used to make another class visit during the week before early registration to explain the registration process, timeline, and deadlines. Counselors felt that this was not needed since there is "Retention Specialist" at the CSC. In the Fall 2006 semester and Spring 2007 semester, counselors met with students in the College Skills Center (math and Eng 20s) in certain majors for a Continuing Student Registration Session. Students were grouped by majors and counselors assisted them in understanding their program requirements and selecting courses for the next semester or summer. Counselors are guest speakers each semester in the Learning Skills Class and provide information on a variety of topics, such as time management, values clarification and other topics as requested by the instructor. A career/life planning class is taught each semester- enrollment in these classes is predominantly students who place into the basic skills level in math and English.

### ***Counseling at the English 22/Math 24/25 level***

There is no required advising or counseling specific to or specialized to the needs of developmental students. Students are not required to see a counselor in order to register for classes. The vast majority of counselors at HonCC have a counseling philosophy that focuses their services on academic counseling (helping students choose courses and the like) and which does not address counseling for personal, non-academic issues, such as child care, transportation, housing, domestic abuse, substance abuse, or family problems. Most of the counselors state these issues need to be addressed by the students with off-campus counselors, psychologists, and social service agencies.

Counseling is also available at the Native Hawaiian Center to assist Native Hawaiian students at every level in their academic progress. The Native Hawaiian Center counselors/staff support students with personal issues and make referrals to outside agencies/counselors for serious problems. In the past the Native Hawaiian Center offered a Summer Bridge Program to prepare students for their entry to HonCC, but the grant funding ran out, and this activity was discontinued. Starting in Fall 2007, The Native Hawaiian Center will be focusing on the first-year experience in order to improve efforts to recruit, retain, and graduate students; integrate opportunities for the study of Hawaiian language, culture, and history; and provide support Native Hawaiian students by providing services that address an array of needs. They will be creating learning

communities in the liberal arts area, pairing courses such as English 22 with Psychology 100, so that students are supported in achieving success in their liberal arts courses with academics pertaining to their needs. Although this starts as a first-year experience, students will continue in the learning communities throughout their academic career at HonCC. In five years time, the Native Hawaiian Center plans to have eight learning community course clusters, with a student tracking system to monitor the academic success of Native Hawaiian students, which they hope will improve.

**APPENDIX B**  
**Hawaii Community College**  
**Current State of Remedial/Developmental Program**  
**Gwen Kimura**

At Hawaii Community College, the terms “remedial” and “developmental” are most closely associated with specific math and English courses that are grouped as “below college-level courses.” Hawaii Community College (HawCC) follows a decentralized organizational model where these “below college-level courses” are housed in the Liberal Arts Division along with the college-level courses in reading, writing, and math. The Academic Support Services and Counseling and Student Support Services, housed separately, also work with students enrolled in these remedial and developmental courses to help them be successful in their college experience. Faculty feel that HawCC’s decentralized organizational structure is effective because it is highly coordinated with VCAA Douglas Dykstra meeting regularly with the Department/Division Chairs from Liberal Arts, Hospitality, Nursing & Applied Health, Business Education & Technology, and Applied Technical Education Instructional Units and the two Assistant Deans to discuss courses and services. In addition, Chancellor Rockne Freitas meets once a month with the College Council, consisting of campus-wide representation, to discuss and share campus-wide issues. This report will provide a description of what each area is currently doing to address and service the needs of this population.

**COURSES**

**English**

At HawCC, students may select from twenty-seven different programs of study, culminating in nine certificates of completions, sixteen certificates of achievement, fifteen Associate of Applied Science degrees, five Associates of Science degrees, an Associates of Arts degree, and two Associate of Arts degrees with an academic subject certificate. Requirements for each certificate and degree are determined by the department or the programs. Many of these programs require English 100, English 102, English 22, or English 21 for graduation requirements. For example, students in the A.A. program must complete English 100 (Expository Writing) as well as English 102 (College Reading Skills) as part of their core degree requirement. Therefore, depending on their COMPASS placement scores and prerequisite requirements, students may go through a reading sequence starting with ENG 18 (Reading Essentials), ENG 20R (Reading and Learning Skills), or ENG 21 (Developmental Reading), and a writing sequence of ENG 20W (College Writing and Grammar), or ENG 22 (Introduction to Expository Writing) before they are able to take ENG 102 or ENG 100. In the following table for Fall 2006, the number of students and sections are indicated.

ENG Courses	Number of Students	Number of Sections
Eng 18	18	1
Eng 20R	29	2
Eng 20W	69	5
Eng 21	210	12
Eng 22	168	10
Total	487	30

Based on HawCC's COMPASS placement scores for the Fall 2006 semester, 74 students were placed in Eng. 18; 94 into Eng. 20R; 136 into Eng. 20W; 314 into Eng. 21; and 230 into Eng. 22. During any given semester, an average of 60% of students who take the COMPASS Reading Test and 72% of those who take the COMPASS Writing Test are placed into these below college-level courses.

### **Reading**

For the Reading classes, students are given the Test of Adult Basic Education (TABE) during the first week of instruction to determine grade reading levels and placement into the Alternative Instructional Management System (AIMS) lab component. AIMS is a competency-based and individualized program with tests and lessons for levels of reading ability ranging from very easy to very difficult. AIMS is an extension of the classroom where students are required to pass a designated competency (student learning outcomes) before progressing to the next level course. This type of mastery learning is a highly effective instructional technique for remedial/developmental students. It gives the students the opportunity to learn materials at their own pace and allows them to spend the necessary time on task to practice and reinforce reading skills. AIMS was originally developed and used by all reading instructors system-wide in 1989 as a competency based standard for ENG 21. Due to shifts in funding, support, campus priorities, and faculty turnover AIMS may have been eliminated or modified to fit the needs of each campus. HawCC has continued to maintain and enhance the AIMS program by refining and updating tests and creating appropriate lessons and assignments. In addition, distance reading lab materials were created through the use of WebCT to utilize a different mode of instruction and to provide students more access to other supplemental learning activities.

An article in *The Journal of Developmental Education*, Winter 2004, by Michele L. Simpson, Norman A. Stahl, and Michelle Anderson Francis stresses the importance of using both qualitative and quantitative measures to evaluate course effectiveness. The article, "Reading and Learning Strategies: Recommendations for the 21<sup>st</sup> Century," states that "effective program evaluation studies should assess the perception of the students, the major stakeholders in this venture" (citing Bradley, Kish, Krudwig, Williams & Wooden, 2002; Maxwell, 1997). Each semester since Spring 1996, Reading Lab Evaluations have been distributed to all reading students. Listed below are results from the Spring 2007 semester for the following statement, "My work in the Reading Lab is helping me become a better reader in my other academic courses."

- 91% of the students in Eng. 20R gave it ratings in the Strongly Agree and Agree categories.
- 81% of the students in Eng. 21 gave it ratings in the Strongly Agree and Agree categories.

These results show student perceptions that English Reading Lab work has helped them become better readers and increased their preparedness for college-level classes.

## **Writing**

For the Writing classes, on the first day of class students are given a writing sample to determine whether they are appropriately placed. The English Department uses departmental examinations for its finals in all remedial and developmental courses. The writing faculty members work as a group to set procedures and policies for the final exams, develop grading rubrics, and conduct grading sessions. Instructors maintain consistency by participating in grade norming of sample papers from each course. Writing faculty members regularly review the departmental exams to validate their effectiveness in measuring student learning and minimizing test biases.

By department agreement and in conformity with system-wide articulation agreements, all English 100 students must write a minimum of 5000 words of finished prose. All HawCC English 100 classes require a minimum of six major writing assignments. A survey of HawCC English 100 instructors showed that all instructors require substantial reading to complete from four to six of these assignments. In addition, students need to assess the relevance and credibility of source materials, which is a higher-level reading skill essential for success in writing documented essays or research papers. Because English 100 has a substantial reading component, essential to success in the course, faculty maintain the importance of having ENG 21 as a prerequisite for ENG 100. In fact, because the writing faculty see such a strong connection between reading and writing skills, through the Academic Senate's curriculum process, ENG 20W and ENG 22 have reading prerequisites for those courses also.

At the close of the Fall 2006 semester, students enrolled in HawCC Eng. 21 were surveyed to measure their views on the extent to which they apply Eng. 21 reading skills to other college courses and the extent to which they believe the course's reading skills will support their success in college. Below are some of the results of the survey:

- 95% rated strongly agree/agree that *"I have used the reading skills learned in this class in my other classes.*
- 88% rated strongly agree/agree that *"In terms of writing, the reading skills learned in this class have helped me in writing assignments for my other classes.*
- *"I feel more confident in my other classes. My writing grades have definitely gotten better. Thank you for this class!"*
- *"This course has helped me have better grades in my English 22. It has helped me better understand reading and writing."*
- *"I use the skills in my writing expository class."*

The results show that students regard English 21 as an effective class which helped them in their writing courses and also prepared them for other college classes.

The majority of HawCC’s full-time, reading and writing tenure track faculty and part-time, non-tenure track lecturers teach the full sequence of classes from remedial to college-level. All full-time faculty and lecturers are encouraged to attend department meetings, in-service training, and workshops that are held during the semester. Most remedial and developmental reading and writing classes use the same textbook to standardize the curriculum. In addition, student learning outcomes, sample syllabi, model lesson plans, activities, and handouts are kept in a departmental binder and shared with faculty and lecturers teaching the course for the first time. Faculty and lecturers use a variety of teaching and delivery methods and resources such as lecture, computerized programs, textbooks, workbooks, WebCT, individualized and small group activities, and TLC tutoring to reach their remedial and developmental students. In 2005, the English Department wrote a justification for capping the English classes to 20 students and was pleased to have this request approved.

**Mathematics**

At HawCC, Math 1 (ABCD) (Basic Mathematics), Math 22 (Pre Algebra Mathematics), Math 24x (Elementary Algebra I), Math 25x (Elementary Algebra II), Math 26 (Elementary Algebra), and Math 27 (Intermediate Algebra) are considered remedial or developmental courses. In the following table for Fall 2006, the number of students and sections are indicated.

Math Courses	Number of Students	Number of Sections
Math 1 (ABCD)	88	4
Math 22	112	5
Math 24x	75	4
Math 25x	9	1
Math 26	65	3
Math 27	20	1
Total	369	18

Based on the HawCC’s COMPASS placement scores, 342 students placed into Math 1A-D; 207 into Math 22; 109 into Math 24X; and 130 into Math 26. During any given semester, an average of 94% of students who take the COMPASS Math Test placed into these below college-level courses. For some of the Math classes, depending on the instructor teaching the course, students are given the Elementary Algebra Skills Test by ETS or another diagnostic pre-test to determine appropriate placement and skill competencies. For Math 1 (ABCD), students need to demonstrate mastery of skills by completing modules at 70% or above before going on to the next level. During the Fall 2006 semester, an additional class was added during the registration period because of the large number of students who needed to take this basic remedial course.

Like English, a majority of the full-time, tenured track faculty and part-time, non-tenure track lecturers teach the full sequence of math classes from remedial to college-

level Since such a large percentage of students are placed in remedial and developmental courses at HawCC, the math faculty would like to retain the continuity of students' education and the collegiality of math faculty, by retaining all math courses, from basic mathematics through calculus courses, in the Math and Natural Sciences Department.

Many of the instructors employ a variety of teaching delivery methods and resources to reach their students. They use lecture, Eduspace and MyMathLab, individual and collaborative group work, the Learning Center, team teaching, power point demonstrations, and WebCT to accommodate the diverse student population that are at this remedial and developmental level. Math instructors feel that remedial and developmental students perform better when they take classes in frequent, shorter periods of time. In addition, they feel the cap of 25 students is essential to ensure the quality and effectiveness of teaching and maintaining the success and retention of these "at risk" students.

HawCC's Math 26 (Elementary Algebra) is an intensive elementary algebra course that covers the same material as Math 24X and Math 25X in one semester instead of two. Students may utilize this course as a quick review of elementary algebra and then continue into Math 27, 100, or 120 to complete their degrees in a shorter period of time. This course allows students an alternative to the Math 24X/25X sequence of courses.

## **TUTORING**

### **The Learning Center (TLC)**

TLC provides academic support services for both HawCC and UH at Hilo students and faculty. Services include tutoring in reading, writing, math, English as a second language, content subjects, and learning skills. TLC's services also include instructional computer programs which faculty use as an extension of their classrooms and a multimedia classroom that can be scheduled for presentations and instruction. HawCC faculty who serve as Lab instructors are assigned to TLC in reading, writing, math, and English as a second language. These assigned faculty provide tutor training in their respective content areas and oversee the development of resource materials for classes and students. All students in remedial and developmental reading courses (ENG 18, 20R and 21) are required to go to TLC to work on AIMS to improve their reading skills. During this individualized reading Lab time, instructors can work one-on-one with students who are having difficulty with specific reading skills. In addition, students get exposed to a variety of instructional methods that increase their chances of academic success. Some writing faculty require their remedial or developmental students to go to the writing lab to work on specific problem areas. Lab instructors and other instructors who hold their office hours in the lab can be seen working with students who need assistance. Data from TLC statistics indicate that the number of student contact hours for the 2005-2006 academic year was 10,355 for reading, 1,818 for writing, and 4,298 for math.



## **Hale Kea Advancement and Testing Center (HKATC)**

The HKATC includes a test environment that is secure and allows for paper and pencil as well as online placement testing, make-up testing, distance education testing, and community testing. All students go to HKATC for placement testing and are given information on the classes they qualify to register for based on their results. They are then advised to see a counselor to register for their classes. Besides testing, the HKATC is a place where students go to meet instructors who hold their office hours there. In addition, students use the computers to work on their assignments

## **Office of Continuing Education and Training (OCET)**

The Office of Continuing Education and Training (OCET) was established in 1992 to deliver opportunities for continuing education and training. The OCET unit delivers non-credit Basic Skills Development, Employment Preparation, Apprenticeship Training, Intensive English, International Programs, and Workforce Development Training on a regularly scheduled basis. One of the areas where OCET supports the remedial and developmental students is through The Foundations in Reading, Writing, and Math Program (FIRWM.) The FIRWM Program offers non-credit developmental classes in reading, writing, and math. Instruction consists of lecture, lab, and computer assignments. The classes are individualized, self-paced, and competency based. During Spring 2007, the Academic Enhancement Program was developed through a partnership with HawCC and Hilo Community School for Adults. This Program was formed to help students refresh their academic skills in reading, writing, or math. The development of these basic skills is designed to prepare students for the COMPASS, ASVAB, or general employment tests. It is a non-credit open entry program with flexible night time hours for the working student.

## **COURSE-BASED LEARNING ASSISTANCE**

### **Supplemental Instruction (SI)**

During the 2005/06 academic year, a full-time faculty member was sent to the University of Missouri, Kansas City, the center for SI training. SI has been in existence since 1973 and it has been proven to increase academic retention rates and student success in high risk courses. SI is different from other student support services because it targets courses, not students, as being high risk. Entry level or preparatory courses in disciplines such as mathematics are often those where SI can help raise average grades and minimize withdrawal rates through voluntary student participation in peer-led study groups.

In Spring 2007, HawCC's VCAA supported the implementation of SI for one section of a math course. Due to low enrollment, the class could not be offered but is scheduled to be piloted again this coming Fall 2007.

## **Learning Communities**

In 1989, an exchange faculty from Evergreen Community College piloted the first learning community for remedial students at HawCC. Remedial reading and math along with trade and industry courses were offered as a Vocational Prep Learning Community (LC). Students registered as a cohort and attended classes in blocked out schedules from 8:00 a.m. to 2:00 p.m, Monday through Friday. Faculty teaching in the LC met regularly to discuss and plan integrated lessons. Both faculty and students involved felt the LC was effective in contributing to students' success, performance, and retention of these "high risk students." Since then, HawCC continues to offer LC in various forms such as paired courses which are usually faculty initiated.

## **Library**

The Edwin Mookini Library is shared by HawCC and the University of Hawaii at Hilo. Students in remedial or developmental English courses use the Library for various class projects or requirements. For example, in 1994, reading instructors and HawCC Librarian Ellen Okuma developed the READ Collection for students in ENG 18, ENG 20R, ENG 21, and ENG 102 classes. The READ Collection, consisting of 450 + titles, and its web site are used by all of these classes each semester. Another area where remedial and developmental students receive assistance is through the information literacy project named LILO (Learning Information Literacy Online.) Students are given an orientation to the Library resources, and services, and instruction on how to access LILO.

## **COUNSELING AND ADVISING**

Counseling and support services are designed to help all students develop academic and personal skills in order to succeed in college. Support services are available for students who are low income, academically under-prepared, displaced homemakers, and returning older nontraditional students. In addition to responding to student requests for assistance, the Counseling and Support Services staff reach out to students with special needs through a cooperative arrangement with faculty. For example, students who are observed early in the semester as having difficulty in a course may be referred to Counseling and Support Services. At the start of each semester, students (new, returning, and transfer) receive a notice to attend a Student Orientation, Advising and Registration (S.O.A.R.) session. Counselors believe that this orientation is one of the best opportunities to educate new students about essential information they need to succeed at HawCC, but only one in four students participates. Many of the students choose to do their orientation on-line, but they still need to meet with their program advisor or a counselor to register.

Counselors also feel that academic advising and planning supports student retention. Based on the 2006 CCSSE Report, half of all students actually seek advising/planning from counselor and advisors. Counselors assist students with college

success skills which include study skills and non-academic responsibilities, but in most cases the student must seek out the counselor or come up on the counselor's radar screen because of poor performance (academic probation or referral from faculty.) A case management model including prescreening to identify non-academic responsibilities and other "at risk" factors probably would offer more support. Currently, the counseling department requires that students on academic probation (students with GPAs below 2.0) or continued probation attend mandatory academic advising sessions.

HawCC counselor-to-students ratios are more than twice the Council for the Advancement of Standards in Higher Education (CAS) recommendations. For 2006-2007, general funded counselors included 2 eleven-month, 1 nine-month for specific majors, and 1 nine-month who served as counselor/career center coordinator. Based on an enrollment of 2,100 students, it would take seven full time counselors to meet CAS standards.

The Counseling unit goal for 2006-2009 is to help develop and implement a HawCC Strategic Enrollment Management Plan that will include identification of and case management service for at-risk students. To develop Strategic Enrollment Management, the counseling unit will focus on the first-year experience and will develop retention strategies such as: academic advising, freshman college success courses, assistance in the development of a career and academic plan, early identification of high risk students and high risk courses, and generally assistance with financial aid – FAFSA – and scholarships. Counselors will be collecting data to see what percentage of academically at-risk students was taking at least one remedial or developmental course when they ended up being on warning, probation, or continued probation.

**APPENDIX B**  
**Kapi'olani Community College**  
**Current State of Remedial/Developmental Program**  
**Kristine Korey-Smith (English) and Sang Don Chung (Mathematics)**

At Kapi'olani Community College (KapCC) remedial/developmental education is offered through the Holomua Department which provides support to students as they prepare for college-level courses. To assist these students, the curriculum integrates learning and study skills with academic instruction in math, reading, and writing. The Holomua department is made up of counselors, mathematics and English teachers, and learning support staff who attend to the cognitive, social, and emotional growth of the Holomua students. *Holomua* is a Hawaiian word that means to move forward, make progress, and improve.

The mission of the Holomua department is to support KapCC's open access policy by providing students with high quality, learner-centered instruction in developmental reading, writing, mathematics, and study skills to ensure their successful transition to college-level courses. The department is also committed to helping students increase their self-confidence; develop a positive attitude toward learning; and explore their educational and career goals by providing collaborative counseling and learning support that will lead to their academic and work place success.

The department meets on a monthly basis, and each discipline, headed by a discipline coordinator, meets monthly to discuss issues regarding curriculum, data, retention etc. The coordinators also meet with the department chair on a regular basis to discuss issues pertinent to the department.

**COURSES**

The Holomua department offers courses in math and English, and as stated earlier, the curriculum integrates learning and study skills with academic instruction. Appendix C has the outcomes/competencies for each course. In general, the reading and writing courses tend to integrate learning and study skills more heavily than the math courses excluding Pre College Math (PCM 23).

Holomua has 19 full time math and English faculty and counselors. It also employs nine lecturers to teach developmental courses, and four casual hires who teach PCM 23 and PCC 20.

Between January 14, 2006 and August 25, 2006 a total of 1,035 students tested into remedial/developmental math at KapCC; however, only 518 of those students registered for math for the fall 2006 semester at any UHCC campus. For English, 720 students tested into remedial/developmental courses at KapCC, but only 364 students enrolled in an English course at any UHCC campus.<sup>1</sup> The Holomua department recognizes the "leak", but due to budgetary constraints has been unable to do anything about it.

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<sup>1</sup> Data is from the KapCC Institutional Research Office

## **English**

The Holomua Department offers three English courses: PCC 20, an integrated basic reading and writing course, English 21, a developmental reading course, and English 22, a beginning composition course.

Overall about 30 percent of students who started at the PCC 20 level in fall 2004 completed English 100 successfully within three years. 36 percent of students starting in Eng 21 in the fall 2004 semester completed Eng 100 successfully within two years.<sup>2</sup> Some of the students who start in PCC 20 and Eng 21 switch to the ESOL track which accounts for some of the leakage; however, the department acknowledges there is a problem with retention and it needs to address problem, but it does not have the monetary or human resources to research the problem in depth. The average successful completion rate of Eng 22 students in the subsequent course (Eng 100) is about 69 percent from fall 2003-fall 2006.<sup>3</sup>

PCC 20 and Eng 22 use portfolios for programmatic and student assessment. The portfolios are graded by groups of faculty. Overall, the sharing of student assignments and writing have strengthened the Holomua English program. Additionally, the faculty have been using the discipline meetings to improve the alignment between the three courses.

The Holomua department offers different types of English courses including learning communities, Service Learning, and an Eng 22 course specifically for those repeating Eng 22. The learning communities tend to have a higher pass rate and lower withdraw rates, and Holomua faculty would like to offer more learning communities in the future. The faculty find Service Learning to be a powerful tool and have adopted a campus recycling project that some teachers incorporate into the curriculum. A second Service Learning project that the department has embraced is tutoring at Palolo Elementary School. Holomua will be offering an online Eng 22 in fall 2007. The department used to offer Eng 21V, a variable credit developmental reading course, which allowed students to repeat parts of the Eng 21 course rather than the whole course. What a student repeated was based on his/her strengths and weaknesses. The department discontinued the variable credit course because the variable credit option was not compatible with the Banner registration system, but all of the reading teachers would like to return to the variable credit option.

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<sup>2</sup> Data is from the KapCC Institutional Research Office

<sup>3</sup> Data from the Banner – Operational Data Stores (ODS).

## Mathematics

Passing Rates for the Holomua math courses and subsequent college-level math courses are shown below:

<b>PCM 23</b>	<b>FALL 2004</b>	<b>FALL 2005</b>	<b>FALL 2006</b>
n =	261	224	205
Pass Rate	57.85	55.80	56.10
Withdraw Rate	7.66	12.95	9.76

<b>MATH 24</b>	<b>FALL 2004</b>	<b>FALL 2005</b>	<b>FALL 2006</b>
n =	416	351	371
Pass Rate	41.35	40.74	43.40
Withdraw Rate	17.79	15.10	15.36

<b>MATH 25</b>	<b>FALL 2004</b>	<b>FALL 2005</b>	<b>FALL 2006</b>
n =	452	491	446
Pass Rate	47.57	40.33	48.21
Withdraw Rate	16.59	17.72	20.40

<b>MATH 81</b>	<b>FALL 2004</b>	<b>FALL 2005</b>	<b>FALL 2006</b>
n =	37	86	94
Pass Rate	70.27	62.79	56.38
Withdraw Rate	10.81	13.95	17.02

<b>MATH 100</b>	<b>FALL 2004</b>	<b>FALL 2005</b>	<b>FALL 2006</b>
n =	270	258	247
Pass Rate	50.37	51.94	54.25
Withdraw Rate	19.26	14.34	21.05

<b>MATH 103</b>	<b>FALL 2004</b>	<b>FALL 2005</b>	<b>FALL 2006</b>
n =	295	319	275
Pass Rate	44.75	45.77	48.73
Withdraw Rate	20.00	22.57	22.91

<b>MATH 115</b>	<b>FALL 2004</b>	<b>FALL 2005</b>	<b>FALL 2006</b>
n =	58	58	39
Pass Rate	72.41	67.24	64.10
Withdraw Rate	17.24	18.97	20.51

The overall pass rates for Math 24 and Math 25 are low.<sup>4</sup> The department is working to improve the pass rates while keeping the integrity of the courses intact, but more work needs to be done to improve successful completion rates and decrease withdraw rates. Most instructors use a present/practice instructional approach in the classroom, and although some instructors are using other techniques including group work, service learning, portfolios, and/or WebCT in their courses, more work needs to be done to provide different types of instruction to address the different types of learners that take Math 24 and Math 25. Holomua math faculty created the Math 81 course in 2001 to give students another pathway, besides Math 24 and Math 25, to complete their math requirements. Math 81 is a 5-credit course that leads into Math 100, Math 115 or Business 100. The course emphasizes collaborative and mediated learning and has been very successful thus far.

In a recent effort to understand how long it takes for Holomua students to proceed through the Holomua program, the KapCC institutional research office tracked the flow of new students starting each fall since 1999. The study found that for fall 2004 of the 227 students enrolled in PCM 23, 150 (66.1 percent) students passed the course. 98 students took Math 24 within 1 year and 65 of them passed Math 24 (while 35 took Math 81 and 26 students passed). 64 out of 65 students took Math 25 within 2 years and 34 students passed. 18 students out of 34 advanced to Math 103 within 3 years and 9 students passed. As a result, 227 students started from PCM 23 in fall 2004 and 9 students (approximately 4 percent) successfully passed Math 103 within 3 years<sup>5</sup> (The data on how many students advanced to Math 100 and passed is not available at this point). For those who start in Math 24, 7.4 percent successfully complete Math 103 within two years. The study helped the faculty to identify “leaks” in the Holomua math program.

In Spring 07, there were 8 sections of PCM 23, 12 sections of Math 24, 16 sections of Math 25, and 4 section of Math 81. Fewer sections of math 24 were offered because: (1) there were not enough instructors and (2) some instructors preferred teaching Math 25 rather than Math 24. The Holomua Department is hoping to hire more math instructors; however, it is difficult to find qualified instructors who understand the needs of students enrolled in developmental courses.

The Holomua Department offers online Math 24 and Math 25 classes, and most semesters it offers one section of an accelerated Math 24 and one section of an accelerated Math 25 course.

## **TUTORING**

The Holomua department offers free tutoring for those students enrolled in Holomua and ESOL Courses. Due to budgetary constraints the department does not provide non-Holomua and non-ESOL students tutoring; however, if a non-Holomua or non-ESOL student comes to the learning center the tutors will assist. Currently, about 49

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<sup>4</sup> National Pass Rates are above 50 percent for developmental math courses.

<sup>5</sup> Data is from KapCC Institutional Research Office

percent of students who receive tutoring are at the 100-level or above. This number decreased slightly since the STEM center provides math tutoring for 100 and above math courses. KapCC needs to provide learning assistance, such as tutoring, to all postsecondary students as evidenced by the number of 100-level and above students who seek out tutoring at the Holomua Center. The Holomua department also piloted Smartthinking, an online tutoring program, for English 22 students. The department was able to correlate higher student grades (in Eng 22) with the number of tutoring sessions, online and/or face-to-face, that a student attended.

### **COURSE BASED LEARNING ASSISTANCE**

The Holomua Department implemented Supplemental Instruction (SI) as a way to address the low pass rates in Math 24 and Math 25. SI is a nationally recognized, institution-wide approach to retention. SI offers regularly scheduled, peer-facilitated study sessions. The study sessions are informal seminars in which students compare notes, discuss readings, practice problem solving, and develop organizational strategies. Students learn how to integrate course content with reasoning and study skills. SI sessions are facilitated by “SI Leaders,” who have successfully completed both the targeted course as well as more advanced courses in the subject. In addition to facilitating SI sessions, SI leaders model successful learning strategies. SI is funded through Perkins funds. The department has offered 20 sections of Math 24 and 25 with SI attached since fall 2005. The average grade for students attending SI sessions was higher than those who did not attend SI. The department would like to see the Supplemental Instruction program grow, and for SI to be offered for all high-risk courses.<sup>6</sup> The Holomua department believes the goal is to help the students perform satisfactorily in traditionally difficult courses (regardless of the level of the course). SI is designed to increase student academic performance and have an indirect positive effect on student retention and ultimately graduation.

The Holomua department, through a Title III grant, provided a 4-week college readiness course for students testing in remedial/developmental courses, but the department was unable to sustain this program after the grant ended.

### **COUNSELING and ADVISING**

The college has a mandatory orientation for new students who just graduated from high school, which allows the faculty, counselors, and staff to provide advising to some first-year students prior to registration; however, counselor assisted registration is not mandatory. Students who have not taken the COMPASS and/or have holds on their registration do not register for classes during orientation.

There are currently three full-time Holomua counselors. The fourth is on sabbatical leave and will return in August. The Holomua counselors serve a multitude of students’ needs by providing daily the following services: Counseling (personal,

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<sup>6</sup> The definition of high-risk courses relates to a single factor: the percent of students who complete the course successfully (C or better).



academic, personal, career, financial aid, transfer, probation, testing placement and disability referrals; classroom visitations (introductory, early self-assessment, midterm, registration, brain gym, time management, team building, and cognitive strategies). The counselors also set up a counseling reception table to answer student questions and help to connect students with campus resources. In general, the counselors work to help students to remove barriers that tend to impede academic progress, facilitate activities that examine personal, educational, and social values; help students to respond to life's challenges and establish realistic (career and academic) goals.

Holomua also offers an LSK course that focuses on affective principles and helps students to take more responsibility for their own learning. This course was developed and is taught by Holomua counselors. The counselors have also offered workshops on stress management and anxiety although, at this time, these are not offered on a regular basis. Holomua does not require students to meet with counselors. Faculty refer students who are having a difficult time either academically or personally to a counselor, but whether or not a student meets with a counselor is up to the student.

Holomua is a relatively new department (since 2001) so faculty and counselors are still trying to create ways to integrate counseling services in the classroom and curriculum and essentially utilize the each person's expertise to facilitate student learning. The counselors have been developing a counseling plan that includes six pieces: student engagement, personal development, career/life planning, transition to college, academic advising, and student success. The counselors are also designing activities to address each of these pieces.

**APPENDIX B**  
**Kauai Community College**  
**Current State of Remedial/Developmental Program**  
**Lynn Napier**

**COURSES**

**English**

At Kauai Community College (KauCC), the sequence of courses for remedial and developmental English includes English 18, Reading Essentials; English 19, Writing Essentials; English 21, Introduction to College Reading; and English 22, Introduction to Composition. To support students in these courses, writing tutoring is available through a Writing Lab service in the Learning Center, and the English Department also is planning to increase its utilization of a separate lab in the Liberal Arts division.

**Mathematics**

The college offers remedial math education to students through cooperation with the state Department of Education. Classes are held on the KCC campus, and instructed either by part-time college faculty or DOE instructors. Successful completion of ABE math typically leads to enrollment in Math 22 for Liberal Arts students and Math 50 for vocational/technical students. Students in all remedial and developmental math courses are encouraged to make use of tutoring resources in the Learning Center and computer-assisted instruction also available in the Learning Center. The college also is in the process of developing a math/science lab to support students in these courses with staff and peer tutoring.

The sequence of courses for developmental math includes Math 22, pre-algebra; Math 24, Elementary Algebra I; Math 25, Elementary Algebra II; and Math 26, Elementary Algebra, a course recently developed to accelerate the developmental math progression for more advanced students.

**TUTORING**

**Learning Assistance and Tutoring – The Learning Center**

**I. OVERVIEW OF THE PROGRAM**

**A. *Mission of The Learning Center:***

To help empower students to become efficient, confident, and independent learners and develop requisite skills they need to succeed in obtaining their academic, career, and personal goals, thus enabling them to lead self-directed and productive lives now and in the 21st century.

**The goals of The Learning Center are the following:**

- ❖ To provide resources and assistance to segments of the student population who need to improve their academic skills so that they may attain successful experiences in post secondary education, thus empowering them to become productive members of society.
- ❖ To support the faculty, staff, and administration in the effort to prepare students to be creative and analytical thinkers, system thinkers, problem solvers, and creative citizens.
- ❖ To continue to work with Instruction and Student Services so that students will increase their chances to master basic concepts and develop attitudes and skills required for life-long learning and gainful employment.
- ❖ To encourage and promote the use of technology for instructional delivery and to teach students technological skills needed by an educated citizenry.
- ❖ To recognize, cultivate, and promote an evolving inquiry-centered learning environment, and to encourage students to be actively involved in the learning process.
- ❖ To help students enhance their skills in reading, writing, math, and study skills
- ❖ To provide tutorial services in content area courses
- ❖ To help students become independent learners
- ❖ To provide students with computer equipment and software needed to complete their coursework and broaden their learning experience
- ❖ To assist students with basic computer skills
- ❖ To provide placement, make-up, and distance learning testing services as well as community proctoring services
- ❖ To support faculty in meeting student learning outcomes
- ❖ To provide a user-friendly study environment conducive to learning and thinking

Tutoring is provided for remedial, developmental, as well as all interested students at Kauai Community College through the Learning Center and College Success Program. Tutoring is available in a broad range of subjects and occasionally limited due

to the lack of tutor availability, although every effort is made to provide services in all requested subjects.

In the Learning Center, tutoring is offered by trained peer student tutors, center staff and faculty members, volunteer division faculty, and by volunteer community members. Tutoring sessions are conducted in both one-on-one and group settings, either by appointment or walk-in.

A new Math/Science Lab is in the process of development; during spring semester, 2007, a limited service was begun, with staff and peer tutor availability in a variety of science and math subjects.

### **COURSE-BASED LEARNING ASSISTANCE**

In addition, a variety of other tutoring services are offered, including in-class peer tutors for remedial and developmental cohorts and learning communities; a lab tutor/monitor in the Hawaiian Language Lab; and peer tutors in Supplemental-Style Instruction programs (currently Focus Labs for Liberal Arts classes and the Peer Assistant Program for vocational/technical courses, all of which are identified for support based on a “high-risk” status due to historically low success rates).

The Learning Center also offers an emphasis on writing tutoring with a limited Writing Lab service and an ESL/ELI program for students whose second language is English.

COMPASS Brush-Up courses are available in math and English, and in the summer, are held in conjunction with a Summer Bridge program for new students.

### **COUNSELING and ADVISING**

In 2004, a campus-wide Case Management Committee issued a number of recommendations for the improvement of the retention and success of all students, with a particular emphasis on providing new programs and services to foster the success of under-prepared students and increase the success of students enrolled in pre-program studies. As a result of the committee’s recommendations, a number of steps were taken, including the creation of remedial and developmental cohorts and learning communities, with paired and linked courses; and a number of “intrusive advising” strategies, including a case management approach to coordinate all learning communities, with teams composed of a counselor and individual instructors as well as deans and coordinators who meet on a regular basis to provide a holistic service to under-prepared students and closely monitor their progress.

In addition, the college’s Title III program and Student Services have instituted an Early Alert system to help identify struggling students and provide them with appropriate services as soon as possible each semester; and the Title III Implementation Group investigates and implements programs and services which meet the primary goals of the

Title III grant – to serve under-prepared students as well as the needs of a diverse student population.

Student Services offers comprehensive advising and counseling; career guidance and assessment; and new student orientation. This orientation includes a comprehensive as well as “user-friendly” introduction to the campus community, and features a custom KCC handbook and planner for all students and a variety of engaging workshops, activities, and presentations. To help ensure that students remain integrated past the orientation week and throughout their college careers, KCC currently is piloting a faculty mentorship and advising program.

In addition, Kauai Community College collaborates closely with the Hawaii State Department of Education (DOE) to offer adult education classes in remedial math at the college campus; and actively participates in articulation efforts, both with the DOE and University of Hawaii system.

**APPENDIX B**  
**Leeward Community College**  
**Current State of Remedial/Developmental Program**  
**Gail Levy and Eric Matsuoka**

At Leeward Community College (LCC), the terms “remedial” and “developmental” are most closely associated with specific English and math courses classified as “below college-level courses.” These courses aim to prepare underprepared students for the cognitive and affective demands and expectations of higher-level college or technical courses offered throughout the UH system. (See Appendix C, Tables 5a and 5b, for a description of LCC’s remedial and developmental courses.) Students are placed into the remedial and developmental English sequence and/or the math sequence primarily on the basis of their COMPASS placement test scores, although counselors, division chairs, and/or instructors may make exceptions and grant waivers if they believe that the placement scores are not valid.

Students enrolled in these remedial and developmental courses may be eligible or targeted for intensive counseling and tutoring services as members of a “special population” or “at-risk” group (e.g., students with disabilities, displaced homemakers, ex-convicts and parolees, Native Hawaiians, etc.), but they generally are not identified as “remedial” or “developmental” students when they use the support services available to all LCC students. Therefore, tracking the progress of students who begin their college careers at the remedial or developmental levels and assessing the kinds and degrees of services they need, for the most part, have not been done at LCC. In addition, the on-going administrative turnover has made it even more difficult to sustain any longitudinal examination of and improvements in the College’s remedial/developmental program.

**COURSES**

**English**

***Placement into English Courses***

Given the College’s mandatory testing and placement policies, the scores students achieve on the COMPASS Reading and Writing Tests are the primary determinants of the students’ first English courses and the levels at which they start their college careers. In addition to the COMPASS scores, ENG 21 is a co/prerequisite for ENG 22 and ENG100. There is an on-going systemwide debate about which and how many prerequisites are needed to ensure student success, and other community colleges may not have reading prerequisites for their writing courses. However, Leeward’s Language Arts Division believes that reading is such an important component of the researching and writing from sources required in ENG 100, that it has made ENG 21 a prerequisite for ENG 100.

Course	COMPASS Placement Scores	Prerequisite Course
ENG 8, Reading and Writing Basics	0-45 in Reading Test OR 0-24 in Writing Test (placement of 85 students)	None
ENG 18, Reading Essentials	46-55 in Reading Test (placement of 201 students)	OR ENG 8, completion with C or better
ENG 19, Writing Essentials	25-39 in Writing Test (placement of 371 students)	OR ENG 8, completion with C or better
ENG 21, Introduction to College Reading	56-78 in Reading Test (placement of 530 students)	OR ENG 18, completion with C or better
ENG 22, Introduction to Composition	40-73 in Writing Test (placement of 519 students)	OR ENG 19, completion with C or better; AND ENG 21, simultaneous enrollment or completion with C or better OR 79-100 in Reading Test
ENG 100, Composition I	74-100 in Writing Test (placement of 712 students)	OR ENG 22, completion with C or better; AND ENG 21, completion with C or better OR 79-100 in Reading Test
ENG 102, College Reading	79-100 in Reading Test (placement of 869 students)	OR ENG 21, completion with C or better

Between 1/14/06 and 8/25/06, of the 1,718 who took the COMPASS tests, 85 were placed into ENG 8; 201 into ENG 18; 371 into ENG 19; 530 into ENG 21; 519 into ENG 22; 712 into ENG 100; and 869 into ENG 102. Thus, for the fall 2006 semester, roughly 1,706 tested into the *below college-level* English courses, compared with the 1,581 who tested into the *college-level* English courses. The percentages did not total 100% because many students were counted twice, once for placement into a reading course and once for placement into a writing course. Even so, the potential number of those who tested into remedial and developmental courses seemed to be slightly more than the number who tested into college-level courses.

Because the same COMPASS tests are given at all the community colleges in the UH system, not all students who take the COMPASS tests at LCC register for courses at this campus. Also, not all students who are placed into specific English courses by COMPASS register for them. If the scores are thought to be invalid, unreliable, or very close to the next higher course in the sequence, students are able to re-take the COMPASS Reading Test or write an essay to obtain another measurement. The direct writing samples are assessed by at least two writing instructors who then decide whether or not to override the COMPASS test results, but many of these override decisions are made by the counselors without consulting or notifying the instructors beforehand. Very little follow-up is done to assess whether these override decisions result in students successfully completing the courses to which they are reassigned. Actually,

very little follow-up is done at all to determine the relationships between the COMPASS placement scores and student success in the remedial and developmental English courses.

Given the possible discrepancies between the numbers who take the COMPASS tests and the numbers who register for courses at LCC, in the fall 2006 semester, there appeared to be a higher rate of students who tested into the *developmental* courses and then enrolled in them (68% in ENG 21 and 83% in ENG 22) than the rate of students who tested into the *remedial* courses and then enrolled in them (48% in ENG 8, 37% in ENG 18, and 49% in ENG 19). These percentages lead to questions about where students go between testing and registering, especially those considered to be most “at risk.”

***LCC Remedial and Developmental English Courses***

Although the English courses, except for the 6-credit ENG 8, may seem to separate reading and writing skills, in fact, these skills are tightly interconnected; both reading and writing skills are taught and learned in every remedial and developmental English course. The differences are that (1) more reading done in reading courses and more writing done in writing courses and (2) reading processes and strategies are consciously and systematically taught and learned in reading courses and writing processes and strategies are consciously and systematically taught and learned in writing courses.

Within the reading and writing course sequences, the texts that students read and the compositions they write tend to progress from short paragraphs to longer essays, from personal narratives to more socially oriented issues. From ENG 8 to ENG 22, what students read and write become more complex and require more critical thinking. With a cap of 20 students in all the remedial, developmental, and college-level reading and writing classes, teachers have the opportunity and flexibility to use various methods of instruction, ranging from lectures, small and large group discussions, workshops, electronic media, projects, and presentations. If students progress through the reading and writing sequences, they should be equipped with the cognitive skills to handle reading and writing from and about sources, the focus of ENG 100. However, what goes on outside the classroom--the non-academic, affective factors--appear to play a significant role in the lack of success in this and other college-level courses.

***Student Success in English Courses***

The following were the enrollment figures at the beginning of the fall 2006 semester:

Course	Number of Students	Number of Sections
ENG 8, Reading and Writing Basics	41	2
ENG 18, Reading Essentials	75	4
ENG 19, Writing Essentials	182	9
ENG 21, Introduction to College Reading	363	17
ENG 22, Introduction to Composition	429	21
ENG 100, Composition I	813	42
ENG 102, College Reading	NA	NA



In the *below college-level* courses was a total enrollment of 1,090 students. In comparison, when another 310 students enrolled in the 200-level English courses were added to the 813 in ENG 100, 1,123 students were enrolled in the *college-level* English courses. The difference was 33 students, suggesting that the Language Arts Division's resources were generally evenly divided between below college-level and college-level groups of courses and students.

Of note is the fact that although many students are placed into ENG 102 by the COMPASS Reading Test (869 for fall 2006), there are usually not enough students registering for this college-level reading course to fill even one section. Unless ENG 102 is packaged with ENG 100, which is required for all Associate degrees, students are reluctant to register for this elective reading course. That same lack of interest in registering for reading courses filters down to the remedial and developmental levels and is the main reason why the Language Arts Division decided to make ENG 8 a combined reading and writing course and ENG 21 a prerequisite for ENG 100. Even though students may not want to take reading courses, English instructors see a great need to have some mandatory reading course or requirement because of the weaknesses in many students' reading comprehension skills.

When the students who eventually enrolled in the remedial and developmental English courses were tracked for student achievement data, the data were as follows (data for ENG 8 were excluded by the College's Institutional Researcher because only one instructor taught all ENG 8 sections):

ENG 18: Percentage of Grades Given

	n	A	B	C	D	F	W
Fall 2004	78	28%	28%	14%	9%	13%	8%
Spring 2005	55	22%	20%	13%	20%	13%	13%
Fall 2005	73	32%	12%	10%	16%	18%	12%
Spring 2006	34	12%	26%	12%	26%	21%	3%
Total	240	25%	21%	12%	16%	15%	10%

ENG 19: Percentage of Grades Given

	n	A	B	C	D	F	W
Fall 2004	183	15%	22%	18%	14%	23%	8%
Spring 2005	76	13%	25%	20%	7%	24%	12%
Fall 2005	180	13%	18%	23%	14%	23%	9%
Spring 2006	142	8%	14%	14%	18%	32%	14%
Total	581	12%	19%	19%	14%	25%	10%

ENG 21: Percentage of Grades Given

	n	A	B	C	D	F	W
Fall 2004	250	21%	29%	20%	10%	12%	6%
Spring 2005	214	16%	30%	21%	7%	15%	10%
Fall 2005	253	18%	28%	24%	12%	13%	4%
Spring 2006	209	18%	25%	22%	7%	15%	13%
Total	925	18%	28%	22%	9%	14%	8%

ENG 22: Percentage of Grades Given

	n	A	B	C	D	F	W
Fall 2004	475	17%	22%	21%	12%	18%	9%
Spring 2005	400	16%	18%	19%	11%	24%	12%
Fall 2005	467	20%	22%	16%	10%	22%	11%
Spring 2006	362	19%	23%	21%	7%	15%	15%
Total	1701	18%	21%	19%	10%	20%	12%

To calculate the completion/retention rate (the number of students still on the enrollment rosters at the end of the semester), the number who officially withdrew is subtracted from the number enrolled at the beginning of the semester. From fall 2004-spring 2006, the average completion rate for ENG 18 was 90%; for ENG 19, 90%; for ENG 21, 92%; and for ENG 22, 88%. Completion rates, however, often give a false sense of optimism because they include the “ghost” students who might not have attended class and therefore received an F grade, as well as the students who did attend class, could not meet the exit criteria, and therefore received an F grade.

A more valid indicator of student success is the percentage of students who pass the course with a grade of C or higher. (At LCC, students cannot progress to the next course in the sequence if they receive a D grade.) From fall 2004-spring 2006, the average success rate for ENG 18 was 58%; for ENG 19, 50%; for ENG 21, 68%; and for ENG 22, 58%. Still, instructors’ grades are somewhat subjective and usually encompass too many factors—product, process, and progress—to be clearly understood by others.

“Student success,” whether for an individual student or group of students, is better understood when there is sufficient quantitative and qualitative data for triangulation and a high confidence level. In addition to the grades given in a course, it would also be helpful to know how many students progressed from the lower remedial ENG 8 course to the college-level ENG 100 and ENG 102 courses at LCC. If data on placement, enrollment, and success in a particular course and the subsequent course could be collected on the same cohort of students and for several years, the conclusions would be far more valid and reliable. However, the data collection capacity at LCC is extremely limited and piecemeal. With the recent retirement of the College’s Institutional Researcher, good data collection and analysis are even less viable on this campus.

### ***Organizational Model***

Following a decentralized organizational model, the below college-level courses are housed in the Language Arts Division along with the college-level courses in reading, writing, speech and communication, and foreign languages. As with all courses in this division, a mix of full-time, tenured-track faculty (23 in the Reading and Writing Disciplines) and part-time, non-tenured-track lecturers (approximately 9 a semester) teach the remedial and developmental English courses. The Division Chair develops everyone’s teaching schedule based upon a combination of instructors’ preferences, past enrollment trends, availability of classroom space, and budget allocations.

Not only are the faculty who teach the remedial and developmental English courses well integrated into the cultures of the disciplines and division, but their students are also very much a part of a larger community. Although students receive only institutional credit for these remedial and developmental courses, those credits count towards full-time student status and eligibility for student loans and grants. The remedial and developmental courses and the students who enroll in them are therefore an integral part of the sequence of reading and writing courses leading up to and including the college-level courses that count towards an associate's degree.

Although there are benefits to following a vertical decentralized model, at times the remedial and developmental courses get lost in the constant juggling of college and division priorities. Although each course has specific student learning outcomes, there are no overarching and unifying program goals and objectives for all the English and math remedial and developmental courses. Nor is there a designated person to coordinate such a program and network with other campus and systemwide constituencies on behalf of the students enrolled in these below college-level courses.

## **Mathematics**

### ***Placement into Math Courses***

The prerequisite policy agreed to by the systemwide Mathematics Program Coordinators' Council more than twenty years ago dictates that students must have either taken an articulated college mathematics course or earned a qualifying score on a placement test within the past two years in order to register for any developmental mathematics course. The remedial course Math 1B, Basic Math Through Problem Solving, has no prerequisite.

The score an incoming student achieves in the "placement domain" of the COMPASS placement test is the primary determinant of the student's first mathematics course. After LCC revised its MATH 24 (currently MATH 73) and MATH 25 (currently MATH 83), there is no remedial or developmental mathematics course that is offered systemwide; however, MATH 23 (Maui), MATH 73 (Leeward), and MATH 24 (other campuses) share the minimum score of 47 in the Pre-Algebra placement domain.

Course	COMPASS Placement Scores	Prerequisite Course
MATH 1B, Basic Math Through Problem Solving	0-20 in Pre-Algebra Test	None
MATH 22, Introductory Algebra with Geometry	21-46 in Pre-Algebra Test	C or better in MATH 1B
MATH 73, Algebraic Foundations I	47-100 in Pre-Algebra Test OR 0-35 in Algebra Test	C or better in MATH 22
MATH 83, Algebraic Foundations II	36-49 in Algebra Test	C or better in MATH 73 OR MATH 24
MATH 100, Survey of Mathematics (college level)	50-100 in Algebra Test	C or better in MATH 83 OR MATH 25

At one time, a legacy written placement test was used for students who questioned their COMPASS results, but that practice was discontinued when the Assessment Specialist retired in 2004.

Students no longer go through mandatory counseling, so even first-time students who place into the lowest math course can register for courses on their own and without seeking any professional advice. On the other hand, some students are aware that they can request overrides of the COMPASS placement recommendations that they felt was too low. Counselors and Division Chairs are empowered to grant such overrides to students who present a sufficiently compelling argument. Many students are granted such waivers, but the faculty teaching the courses involved are not consulted or informed of such waivers.

In a Mathematics Discipline meeting held on March 2, 2007, to discuss developmental education issues, the consensus was that students who are waived into courses higher than the COMPASS placement test recommendations are noticeably over represented among the students who withdraw from and fail the courses. Although data regarding such students and their success rates (compared with the success rates of students taking the recommended courses) have frequently been requested from the College's Institutional Researcher, no data were ever provided, and so only anecdotes and case studies are currently available.

### ***LCC Remedial and Developmental Mathematics Courses***

Currently, all remedial and developmental mathematics courses are offered as semester-long, three-credit, on-campus lecture courses.

*MATH 1B: Basic Math Through Problem-Solving.* For many years, MATH 1J: Basic Math Through Problem-Solving was offered as a 3-credit course. In fall 1997, following a UHCC system prohibition against offering remedial credit courses, the course alpha was changed to MATH 1B but the title was retained. While still a non-credit course, the course title was changed in fall 2001 to Preparatory College Mathematics. After the prohibition against remedial credit courses was lifted, in fall 2004, LCC reinstated the course as a 3-credit course and changed the course title back to the historical Basic Math Through Problem-Solving.

*MATH 22: Introductory Algebra with Geometry.* LCC created MATH 22 in part as a response to the aforementioned UHCC system prohibition against remedial credit courses. Students who scored at or above the U. S. Department of Education ATB (Ability to Benefit) minimum eligibility requirements but below the systemwide MATH 24 minimum of 47 on the COMPASS Pre-Algebra domain were, and continue to be, placed into MATH 22. Now that MATH 1B is once again a credit course, MATH 22 continues to bridge the gap between the strictly-arithmetic MATH 1B and the strictly-algebra course MATH 73 by reinforcing the arithmetic operations, extending them to signed numbers, and introducing algebraic terminology and techniques.

*MATH 73-83: Algebraic Foundations I-II* (formerly known as MATH 24-25: Elementary Algebra I-II). Students who complete MATH 73 and 83 at LCC will have been exposed to essentially the same material (at least 80% common) as students who complete MATH 24 and 25 at other community college campuses; however, the order of topics is quite

different in the two sequences. LCC chose not to follow the order of topics and course alpha and titles used by the other campuses because the LCC faculty felt that would be academically irresponsible to the students to make such changes simply for the purposes of consistency and uniformity.

The other campuses offering MATH 24-25 have adopted a “sequential” approach to the topics, while LCC is using the “spiral” approach in MATH 73-83. The sequential approach separates the topics into the two courses with no overlap or review, which means that the two courses function more as two halves of a yearlong course rather than as stand-alone semester courses. The spiral approach used at LCC introduces only simpler cases of a greater number of topics in the first course and then follows up with the more complicated cases, along with new material, in the second course. Thus, spiral-approach courses are more self-contained within semesters. However, both approaches are nationally recognized, and educational research does not “prove” that either one is universally superior to the other.

The biggest difference between the two approaches can be seen when a student is placed into the second course. Because most placement instruments (including, but not limited to, COMPASS) use an overall, composite score to place students into courses, the individual topics that a student has mastered are not identified. Students who place into MATH 83 definitely benefit from the spiral approach because many topics introduced in MATH 73 are reviewed in MATH 83 before being extended to the more complicated cases. This review makes it less likely that an unknown topic will be completely missed by a student in MATH 83.

Kapiolani CC students who placed into MATH 25 have sometimes been advised to take MATH 24 to make sure that the gaps in their background knowledge are filled in before they enter MATH 25. To avoid similar problems, Hawaii CC does not currently place students into MATH 25 but instead created MATH 26, which covers the algebraic topics from both MATH 24 and MATH 25. Perhaps these problems are not severe at campuses placing few students into MATH 25, but because a large number of LCC’s MATH 83 students are placed directly into this course, the Mathematics Discipline feels it is vital that the course sequence give students the best opportunity to succeed.

In addition, there are some topics included in the other campuses' MATH 24 syllabi that the majority of our faculty feel is beyond the level of sophistication of a typical student in an elementary algebra course. For example, finding equations of lines meeting some set of criteria is a topic in the other campuses' MATH 24 syllabi, but the majority of LCC students struggle with the far less sophisticated task of identifying such criteria for given lines even in our *second* course, MATH 83. As do other campuses, LCC includes this topic as part of the MATH 103 syllabus; however, unlike the other campuses, the topic is covered as genuinely new material at LCC rather than as a rehash of a MATH 24 topic. In fact, one of the representatives from another campus said that she had used some of the *same* problems on her MATH 103 and MATH 24 exams.

Data obtained for this report confirm that LCC’s spiral approach is no worse, and is arguably better, than the sequential approach used at other campuses. The following table lists the percentages of students who successfully completed MATH 103 after successfully

completing MATH 25 (since renumbered to MATH 83 at LCC) in the fall 2003 and fall 2004 semesters. Campuses that do not offer MATH 103 and campuses that offer MATH 103 but had no students attempting the course have no percentages listed. LCC's percentage is the largest in each year.

Campus	Completed MATH 103 after MATH 25 in fall 2003	Completed MATH 103 after MATH 25 in fall 2004
HawCC		
HonCC	72.73%	74.19%
KapCC	74.29%	65.66%
KauCC		
LCC	86.73%	88.78%
MCC		
WCC	85.71%	83.33%

The following table lists the percentages of students who successfully completed MATH 100 after successfully completing MATH 25 in the fall 2003 and fall 2004 semesters. To prevent overly small samples from skewing the results, the percentages of campuses with fewer than 10 students enrolling in MATH 100 are not listed. LCC's percentages are the second largest for each year.

Campus	Completed MATH 100 after MATH 25 in fall 2003	Completed MATH 100 after MATH 25 in fall 2004
HawCC		
HonCC	66.67%	100%
KapCC	77.03%	60%
KauCC		
LCC	92.11%	95%
MCC		
WCC	100%	93.33%

***Proposed Course Model***

The Mathematics Discipline has long recognized that that the traditional course model may not be a good fit for the increasing number of students whose backgrounds do not lend themselves to semester-long courses. Students who feel they are beginning their mathematics education at too low a level often lose interest in a course or do not feel the need to put in the study time needed to learn the nuances they might lack. Such students often withdraw or even fail their first math course despite their familiarity with the topics covered.

To remedy this problem, the mathematics faculty envisioned open-entry, open-exit, software-based courses offered through the Math Lab with expanded hours, additional tutors, and improved computer availability. The software included in these courses would allow for individualized educational programs--impossible in a traditional setting--and the expanded Lab

services would provide students with the support needed to succeed in such a self-paced, student-centered environment.

Such open-entry, open-exit courses would also provide a means for retaining students who, during the course of the semester, found that their present mathematics course was more demanding than they had initially thought. Without such open-entry, open-exit courses, a student who failed the first exam in a traditional course would have no option other than to withdraw from the course and to wait for the next semester to try again. However, open-entry, open-exit courses would allow such a student to fall back into the prior course even half way through the semester. This alternative would probably reduce the number of students lost to inappropriate over-placement.

Plans for such open-entry, open-exit remedial and developmental course options have been included in LCC's strategic plan for more than ten years. Further, several tenure-track developmental mathematics instructor positions advertised in the past three years specifically listed such courses as a possible part of a regular teaching schedule. Despite this, the college administration has neither encouraged nor funded the development or support of such courses. Open-entry, open-exit developmental courses were also the central features of a Title III grant application in 2006, but it appears that the grant application was not approved.

### ***Organizational Model***

Following a decentralized model, the below college-level mathematics courses are offered through the Mathematics and Natural Sciences Division along with the college-level courses in mathematics, natural sciences, and computer science. A mix of full-time, tenured and tenure-track faculty and part-time lecturers teach the remedial and developmental mathematics courses.

The Mathematics Discipline faculty is made up of 19 members. Six are lecturers and 13 are full-time, tenured or tenure-track faculty. All six lecturers teach developmental courses exclusively. It should be noted that all but one of the six lecturers has at least 20 years of teaching experience, and the remaining lecturer has more than seven years of teaching experience. Of the 13 full-time faculty members, three teach remedial and developmental courses exclusively, four teach college-level courses exclusively, and six teach both college-level and remedial/developmental courses. Many of LCC's full-time faculty members are present and past board members of the Hawaii Council of Teachers of Mathematics and the Pacific Islands Mathematical Association of Two-Year Colleges. Most attend local mathematics teacher conferences, and many have traveled to regional/national conferences.

The Mathematics Discipline Coordinator develops teaching schedules based upon a combination of instructors' qualifications and preferences, past enrollment trends, availability of classroom space, and budget allocations. This schedule is sent to the Division Chair for review and approval.

## TUTORING

LCC has two centers that offer free tutoring services to all LCC students. There are student peer tutors for all levels of English and other subjects, excluding math, in the Learning Resource Center (LRC). Although relative few students in the below college-level courses visit the LRC, in the spring 2006 semester, 31 tutorial sessions were held with 14 students in remedial English courses, and 23 sessions with 17 students in developmental English courses. In the fall 2006 semester, 28 sessions were held with 13 students in the remedial English courses, and 20 sessions with 14 students in the developmental English courses. Among the LRC's other support services are offering use of computers in a lab setting and loaning laptops, proctoring tests in an enclosed room, organizing Success Connection (SC) workshops, providing audio-visual and print resources, coordinating Achieve Infinitely More (AIM) study groups, and offering a variety of study guides and handouts. Information about these services is provided during class tours of the LRC or visits to the classrooms by LRC personnel.

Support for all math courses by student peers and staff has been historically offered through the Math Learning Resource Center (Math Lab) and funded by the Mathematics and Sciences Division. The services offered by the Math Lab include tutoring in various forms (including maintenance of libraries of instructional videos), loaning of calculators and books, proctoring make-up quizzes and exams, and providing computer and Internet access for math-related assignments.

Statistics for the academic terms from fall 2003 through fall 2006 provided by the Math Lab Manager show that more than half of the Math Lab visits (2,813 of 4,764) by students in remedial and developmental math courses were for tutoring. These statistics show that, despite having similar numbers of sections of MATH 22, MATH 73 (then numbered MATH 24) and MATH 83 (then numbered MATH 25), the number of student tutoring visits more than doubled from one course to the next in the sequence. The trend continued, but to a lesser extent, in the next sequence course MATH 103, College Algebra, which also had a similar number of sections offered.

Course	Total number of tutoring visits, fall 2003-fall 2006	Percent increase from one course to the next in the sequence
MATH 22	551	
MATH 73	1242	125%
MATH 83	2813	126%
MATH 103	4268	52%



The same set of statistics also suggests that a MATH 205, Calculus I, student is more than twice as likely to seek tutoring help in the Math Lab compared with a MATH 83 student.

Course	Total number of tutoring visits, fall 2003-fall 2006	Approximate total number of sections offered	Tutoring visits per section offered
MATH 83	2813	120	23.44
MATH 205	945	20	47.25

It therefore appears that the tutoring services offered by both the Math Lab and the LRC are being under utilized by students in the College's remedial/developmental courses. Perhaps students in the lower courses in the math sequence, and presumably earlier in their educational careers, are less aware of the services offered by the Math Lab. Then as they progress through the sequence and become more aware of the available tutoring services, students take greater advantage of them. At one time, English instructors held remedial classes and supervised lab sessions in the LRC, which made their students feel comfortable in visiting the LRC on their own and requesting tutorial assistance. However, the present English remedial course no longer has an additional lab component, and the classes held in regular classrooms.

### **COURSE-BASED LEARNING ASSISTANCE**

#### **Developmental Library Skills**

One of the Student Learning Outcomes in ENG 22, Introduction to Composition, is locating information in the library (books, handbooks, magazines, journals, newspapers, almanac and/or Internet databases), and there is a library literacy test to measure the students' competency. Some ENG 19 and ENG 22 classes visit the library once during a semester and are introduced to its resources by the Instruction/Reference Librarian, who acts as a liaison between the library and the Language Arts Division. Between spring 2005 and fall 2006, the Reference Librarian held instructional classes for 10 ENG 19 students and 464 ENG 22 students and tutored students who failed the library literacy test. In addition, the Reference Librarian is the person students in the developmental English courses can ask for help when they transition from writing personal narratives to more academic, research-based essays.

#### **Supplemental Instruction (SI)**

Supplemental Instruction began in April 2002 as a Perkins-funded program for vocational students aimed at increasing their success rate in general education courses. SI was offered for developmental English courses (ENG 21 and 22), technical Math courses (MATH 50C for Automotive & Diesel Mechanics and MATH 50H for Food Service), and 100-level science and social science courses. During the course of its three and a half years in existence, SI sessions were provided for a low of five courses to a high of fifteen courses a semester; trained peer tutors held discussions and assisted students with their assignments in the targeted courses. Attendance at SI sessions was voluntary, with the exception of MATH 50C, which was offered as a cable TV course for several semesters.

The overall results varied but generally reflected national data that show students participating in Supplemental Instruction succeed at a higher rate than non-participants; LCC's SI participants had more A's, B's, and C's and fewer D's, F's, and W's as their final course grades. Not surprisingly, a key independent variable was the number of sessions individual students attended. In turn, the SI program was affected by the ease or difficulty of scheduling sessions when students were available, the availability of appropriate space at the needed times, the students' work and other obligations, and the availability of student leaders and the effectiveness of individual SI leaders.

Because of the positive impact of the SI program and the energetic efforts of its coordinator, SI was expanded to serve students at LCC-Waianae (funded through Title III) and youthful offenders at correctional institutions (funded first through Department of Public Safety and then through Title III and Perkins). Developmental courses for which SI was offered included MATH 24 and 25 at Waianae and ENG 22 and MATH 24 in the Youthful Offenders (YO) program. SI in the prisons was in effect mandatory; YO students were only permitted to be in the prison's educational centers if an SI leader was present to oversee their activities. These SI efforts were also generally successful.

The College's SI Coordinator left in mid-spring 2005 for another position, a suitable replacement could not be found, and so in fall 2005, SI was offered for only one section of MATH 50C. Thereafter, no grant funds were available to continue the program, and the College was unable and/or unwilling to support Supplemental Instruction with general funds.

### **Packaged Courses and Learning Communities**

In order to develop a more holistic approach to teaching and learning, English and math courses have sometimes been packaged with courses in other divisions and/or tailored to the needs of students in specific fields (e.g., automotive, culinary arts, business).

The most extensive and long-lived remedial and developmental program was the Program for the Advancement of Study Skills (PASS). Begun in 1977 as an experimental program, PASS became an official learning community in 1979 and lasted for twenty years. Each semester, 80-100 self-identified, "at-risk" students registered for a package of four courses—ENG 21, Introduction to College Reading; ENG 22, Introduction to Composition; a remedial or developmental math course; and a self-development and life planning course—that were taught by a team of four teachers. Students attended classes and studied in a self-contained complex Monday through Friday, from 9:00 a.m. to 3:00 p.m., and had easy access to faculty and peer tutors who were previous PASS students and who served as models of academic success. The PASS faculty met after 3:00 p.m. once a week to talk about students having academic problems, and those students were asked to meet with all four teachers to resolve these problems, which usually extended way beyond academic issues. This holistic approach resulted in high retention rates, and it was unusual for PASS to lose more than three students each semester.

However, PASS and other attempts to integrate courses, students, and teachers into more tightly knitted communities have generally disappeared because of low enrollments, scheduling difficulties, lack of funding and other resources, and the ascendance of other college priorities.

## COUNSELING and ADVISING

The students enrolled in below college-level courses generally blend in with the rest of the students receiving academic advising, counseling, disability accommodations, financial aid, health services, etc. and are treated no differently than those enrolled in college-level courses; that is to say, sometimes they are well served and sometimes they are not.

Because of the computerized Banner registration system, students no longer have to meet with a counselor between taking the COMPASS placement tests and registering for their courses. (If they do not register for English and math courses or courses which require English or math prerequisites, they do not have to take the COMPASS tests before registration.) After they take the tests, the staff in the testing center hands them a flowchart showing the various English and math courses and advises them to see a counselor. However, in the testing center, there are often students demoralized by their low scores, puzzled by the course sequences, and/or making guesses about which courses they should take.

At such a critical juncture when professional counseling and advising are sorely needed, students have to take the initiative, walk to another building, and make an appointment. All students, though most particularly those who function at the remedial and developmental skill levels and/or who are new to the college, can easily fall through the smallest cracks. Perhaps they might gain a more realistic idea of the college workload and make better course and scheduling choices if counseling and advising played a more prominent and intrusive role after testing and before registration.

It was not until the coordinator of a program for displaced homemakers was interviewed for this report that she found out there is a question on the COMPASS test survey that asks if the test taker is a displaced homemaker. If the coordinator had access to the names of those who answer “yes” to that question, she would be able to make contact with this special population sooner rather than later; she could take a more proactive role of contacting these students rather than waiting for them to contact her and ask for the services offered by her program.

In general, however, the counselors have significantly increased their outreach efforts over the past few years by visiting the feeder high schools, setting up booths at college fairs and high traffic areas on campus, passing out free food and music, and the like. Still, the College’s efforts have focused more on student enrollment and fill rates rather than on student persistence and success rates, and the changes in direction and philosophy have been slow. Seeing themselves as “student advocates” and believing that students have “the right try” and “the right to fail,” some counselors try their best to accommodate student requests, even if it means bending the rules.

For example, it was not until one of my students in ENG100, the college-level writing course, told me that she had received a low COMPASS Writing Test score that would have placed her into ENG 19, the upper remedial writing course, that I found out that a counselor had decided to override an ENG 100 prerequisite. That counselor did not notify me of his action before the semester began which would have helped me understand this student’s inability to complete the assignments and would have given me the opportunity to move her into ENG 19.

That student struggled and then officially withdrew from ENG 100, but who will counsel her and make sure that she registers for ENG 19 the next time?

Similarly, math instructors are concerned about the students who are being waived into courses higher than those recommended by the COMPASS placement test scores. Several instructors have noticed that such students appear to withdraw and fail at a higher rate than the students who follow the COMPASS recommendations, and they have repeatedly asked for data from the College's Institutional Researcher, but to no avail. The unavailability of summary data makes it difficult, if not impossible, to draw broad and meaningful conclusions regarding prerequisite waivers. Further, since teaching faculty at LCC do not have the same access to their students' educational records as do the counselors, it becomes nearly impossible for instructors to reliably identify early in the semester the students who potentially are in the greatest need of supplementary tutoring or advising.

Individual cases and areas of concern point to a lack of communication among the various units on campus--instructional divisions, student services, academic support services, and continuing education and training--about individual students or groups of students. What little data about individual students that are being collected from the time they step on to the campus, or even before then, to the time they leave the campus, or even after then, seem to be scattered among the units.

Although there are probably many reasons for this overall scarcity and fragmentation of data and information, one contributing factor seems to be the college's "administrative instability," an issue that LCC has been struggling with since a 1994 accreditation self-study recommendation highlighted this problem. As John Morton, the Vice-President for the Community Colleges, admitted when he announced the previous LCC Chancellor's departure in March 2007, frequent changes at the dean, chief academic officer, and chancellor levels are not unusual in the UHCC system. The Dean of Student Services position does, however, seem especially hard to stabilize; over the past eleven years, there have been five people in that position, with one of them serving two interim terms and the longest tenure being four years. The many vacant administrative positions at LCC and the workload they have generated for those remaining on campus, and the adjustments by and to the different interim and acting administrators have taken time, energy, and leadership away from building the networks and procedures needed to produce a more coordinated and effective delivery system of services for students.

**APPENDIX B**  
**Maui Community College**  
**Current State of Remedial/Developmental Program**  
**Michele Katsutani, Thomas Hussey, and Debbie Hasegawa Winkler**

**COURSES**

**English**

Remedial/developmental credit English courses at MCC include English 19, Writing Skills; English 21, Developmental Reading; and English 22, Introduction to Composition (see Appendix C, Table 6a for course descriptions). The maximum class size for these courses is 20 students, and the classes are sometimes taught via HITS (Hawaii Interactive Television System) or in hybrid mode to accommodate students on Molokai and Lanai as well as in Hana. During the first week of classes, instructors obtain a writing sample from their students to determine if the students have been accurately placed in the writing classes. In Fall 2006, English 22 instructors began using exit portfolios, where students were required to submit a portfolio of their writing, including a self-assessment essay. Each semester a team of English 22 instructors reviews the portfolios to determine if the students are prepared for English 100.

MCC also has a non-credit Basic English course funded by the DOE Adult Basic Education program. For many years prior, MCC English instructors taught Basic English as credit courses: English 9, Basic Reading 1 (3 cr./3 hrs.) and English 10, Basic Writing and Study Skills (3 cr./5 hrs. lect./lab). Unfortunately, with budgetary cuts and constraints looming over the UHCC system in 1996, English 9 and 10 could no longer be offered as credit courses and, instead, were “morphed” into non-credit Basic English. For several years, The Learning Center staff and new English lecturers taught the Basic English courses. However, since there is such a diverse student population that enrolls in the course, the amount of time and work required to teach the class makes the salary unacceptable. With the DOE Adult Basic Education pay scale, Basic English instructors are paid 1/3 the salary that credit instructors are paid. For this reason, high turnover of instructors occur, less experienced people teach the course, student retention is low, and continuity of curriculum has been all but lost. Although the department is appreciative that DOE Adult Basic Education has funded the course for the past 11 years, the MCC English Department strongly believes that Basic English should once again be taught as credit courses. The following are comments from MCC’s English instructors who teach English 19, 21, or 22:

***What are the problems you encounter that inhibit student learning and retention in English 19, 21, or 22?***

\*Limited student access to computers, Internet, and printing. Although many of our overall student body have computers at home, I would guess that at least 60% of my English 22 students still do not have home computers or Internet access. Although the

Learning Center and Business Labs are wonderful resources, sometimes my students can't get to campus to use these resources because of transportation or scheduling issues.

\*Students struggling to juggle work, family, and school. Sometimes work, family, and other issues take precedence over school attendance and keeping up with schoolwork. Sometimes students seem to feel out of control of these factors in their lives.

\*Lack of confidence in academic skills and in the academic setting. For example, each semester I usually have at least one returning (after a long time out of school) student who attends the first class (or first week) and then never reappears. I think sometimes these students might be overwhelmed by the overall back-to-school experience and the fact that English 22 and 21 sections are often predominantly younger students. Often these students leave before the class has had a chance to try and connect with them.

\*In my experience, the greatest impediment to success for developmental writers is motivation, especially with younger students. Many of these students disappear from my classes after the second or third paper is due, unable to muster the determination to operate independently outside the classroom. A second key point is that students typically come into the writing classroom conditioned for failure. They've developed psychological defenses to protect them from the negative messages they've received from previous academic experiences. Thirdly, these students have poor or deluded understandings of how successful writers produce their work, and as a result, employ ineffective practices when presented with writing tasks.

\*All the research shows that ESL and second dialect students belong in separate writing classes. The way they learned English was different. The errors they make are different. Their cultural and educational backgrounds have been quite different. They have different needs. While really experienced teachers might be able to manage a "mixed" class, I think there should be a strong attempt to separate them. The ESL students WILL do homework, are for the most part not working, have no family attachments or responsibilities, and need, really need, specific interventions both rhetorically and grammatically.

***What strategies have been successful in improving student learning and retention in English 19, 21, or 22?***

\*Creating regular opportunities to "check-in" with each student throughout the semester has been one of the most effective and easiest-to-implement strategy to improve student learning and retention. 1) During critical stages of an assignment, I will take a few minutes at the end of class to walk by each student and "check-in" with each person. Sometimes this is aloud and sometimes it is in private. For example, I might ask every student to announce his or her essay topic before leaving class. 2) Create "study group" teams of 4-5 students. In each team, students become responsible for helping each other meet deadlines and make sure everyone in the group understands requirements.

- \*Allowing time in class for students to work on classroom computers to complete assignments.
- \*Allowing students to take quizzes and work in groups not only seems to minimize pressure, but gives students a chance to "talk out" course concepts.
- \*Creating assignments that allow students to read and write about themselves, their families, and their passions.
- \*Creating connections in the classroom-- especially student-to-student friendships.
- \*Pursuing students who have disappeared. Often emailing or finding students to tell them it's not too late to catch up (before it really is too late) seems to really help.
- \*Having compassion for students' life circumstances while emphasizing students' power of choice and responsibility.
- \*Well-prepared and talented teachers. Developmental writing instructors must competently diagnose problems, motivate students, and design lessons that effectively address the needs of students who are diverse in skills, linguistic modes, learning styles, age, and cultural backgrounds.
- \*A mentoring approach to instruction. Students need plentiful one-on-one guidance and feedback to encourage their development of effective writing practices.
- \*Acceptance of "error." Developmental writing students think in non-standard English. At this stage in their educational development, they should not strive to produce informal writing--brainstorming, journaling, freewriting, and drafting--in Standard English. Most of what they learn in the course will help them analyze this writing for rhetorical concerns and deviations from Standard English, and apply their developing proofreading and revisions skills in the aim of making their writing more effective for an academic audience. This "smart strategy" begins with the student accepting imperfect, non-standard prose as the expectation at the early stages of the writing process.
- \*Emphasis of practical knowledge. Both grammatical and rhetorical instruction should be presented with opportunities to directly apply knowledge to a student's own writing as practice in proofreading and revision. In other words, the students learn best when they perceive the connection between their work in the course and its direct affect on their own writing.
- \*Immediate feedback on proofreading and revision skills. When writing instruction is reinforced with exercises, the educational value dramatically increases with the kind of immediate feedback and corrective guidance that computer assisted learning can facilitate.

\*Seeing steps of progress in the big picture. Developmental writing courses can set students on a “smart path” toward continually improving as writers and communicators, but improvement comes gradually through a life-long process. Students who learn to perceive each proofreading and revision activity as a little step that moves them closer to their goal of being a confident and competent writer, have a good chance of maintaining a positive attitude toward writing over the long term. Students who seek a magic fix to their writing problems or who fail to perceive literacy as a life-long habit are set up for failure in the long-term.

\*Taking the time to promote independent thinking. While it’s easier to give someone a fish than to teach him/her to fish (to paraphrase the proverb), good instructors use modeling, questioning, and confidence building to teach students how to teach themselves. A quick answer to a grammar question, for example, is a missed opportunity to model effective use of a handbook or Internet site.

\*Socializing knowledge. Learning activities that encourage students to share their knowledge and their writing with other students, can powerfully reinforce their understandings and encourage them to identify with their burgeoning knowledge and skill. One caution is that these activities have to be carefully thought out and well monitored to assure that the socialization keeps focused on the lesson’s goals.

\*Teaching development, not remediation. One’s mode of expression is intensely personal, and even subtle implications that a student’s way of expressing him or her self is “improper” can serve as a devastating psychological attack on a person’s identity, family, and/or culture. Standard English should be taught for its effectiveness as linguistic currency in the arenas of government, education, and the work place, as an enriching and empowering adjunct, not a corrective for something that is “Improper.”

***If you were given an unlimited amount of money, what one thing would you add/change to improve student learning and retention in your developmental classes?***

\*First, (and most realistic) I would provide computers, USB flash drives, printing, and Internet for every single student

\*I would also use funding to take students on field trips that would become projects for writing and reading assignments; give money to students for books and perhaps a stipend once they finish classes, so they would be able to take time away from work; and provide an on-campus day care center for students' children (like the ones in the gym where you can drop a kid off for a couple hours without notice).

\*My answer would look like MCC classroom L-02 (except with functioning computers), set up for easy transitions from class discussion, to group work, to one-on-one conferencing. With functioning student computers and software like Vision, student work can be easily transmitted from a student computer to the class screen for discussion. Further, the instructor can roam the room during revision and proofreading, providing guidance and responding to questions. Students can also access the increasingly



impressive web content provided with their textbooks. After practice in class, students are ready to take advantage of these resources outside of class. Beyond this ideal classroom setup, students would have resources at The Learning Center to target specific skill deficiencies. Students who needed extra work on proofreading skills would be required to sign up for a targeted program at The Learning Center. There, they'd meet with a tutor specially trained in software like Plato, which is designed to test, diagnose and target deficiencies; and then provide computer assisted instruction through audio-visual tutorials, exercises, and testing. Upon completion of the program, students would present a printed out record of their work to their instructor.

\*Given the hassle for students (and instructors too!) of dealing with misplaced students on the first day, I'm in favor of encouraging students to take the permission test whenever they feel the Compass score may have inaccurately placed them. Every semester we have students who aren't getting the educational experience that best suits them. The challenge test is an example of a little extra effort and resources resulting in a huge impact on a student's education each time it gets students into the course that suits their needs. The permission test is very valuable and should be supported with sustaining resources.

## **Mathematics**

Remedial/developmental credit Math courses at MCC include Math 22, Pre-algebra Mathematics; Math 23, Practical Algebra; Math 25, Elementary Algebra II; and Math 27, Intermediate Algebra (see Appendix C, Table 6b for course descriptions). The teaching and delivery modes for these courses include the following:

**Individualized Study**—Courses are offered in an open lab setting where students study individually under the general guidance of the instructor and tutors. (Math 22, 23, and 25.)

**Lecture**—Courses are taught in a “traditional” manner where the students learn in a large group through direct instruction. (Math 22 and 23)

**Cognitive Tutor**—Curriculum combines software-based, individualized computer lessons with collaborative, real-world problem-solving activities. Students spend about 40% of their class time using the software and the balance of their time engaged in classroom problem-solving activities. (Math 25 and 27)

**Computer-based Instruction**—Interactive computer-based instruction allows students to put in class time 24/7 from multiple computer Internet sites. Learning activities customized to each student's needs. Accelerated calendar is available to allow completion of multiple courses within the same semester. Requires computer with Internet access—approximately 7-10 hrs./wk. As class time is self-scheduled, students must be strongly self-motivated and be willing to use computer-based technology including e-mail. (Math 22,23, and 25)

MCC also has non-credit Basic Math courses—DOE Adult Basic Education funds the first type and MCC’s OCET (Office of Continuing Education & Training) offers the second type for a fee. For many years prior, MCC math instructors taught Basic Math as credit courses: Math 1B, Whole Numbers; Math 1C, Fractions; Math 1D, Decimals; and Math 1E, Percents (1 cr. each). Unfortunately, with budgetary cuts and constraints within the UHCC system in 1996, Math 1B, C, D, and E could no longer be offered as credit courses and was transformed into non-credit Basic Math. Similar problems that occurred with the ABE Basic English courses occurred with the ABE Basic Math courses. The MCC Math Department strongly believes that Basic Math should once again be taught as credit courses.

## **TUTORING**

### **Learning Assistance and Tutoring—The Learning Center**

#### **I. OVERVIEW OF THE PROGRAM**

##### **A. *Mission of The Learning Center:***

The Learning Center at Maui Community College (MCC) provides students at all levels with academic support services to help them become successful, independent learners and reach their educational goals. To attain our mission, tutorial assistance; one-on-one, group, and online writing assistance; study skills instruction; testing services; computer laboratories; e-mail and Internet access; and computer-assisted instructional programs are provided to our diverse student population.

##### **The goals of The Learning Center are the following:**

- ❖ To help students enhance their skills in reading, writing, math, and study skills
- ❖ To provide tutorial services in content area courses
- ❖ To help students become independent learners
- ❖ To provide students with computer equipment and software needed to complete their coursework and broaden their learning experience
- ❖ To assist students with basic computer skills
- ❖ To provide placement, make-up, and distance learning testing services as well as community proctoring services
- ❖ To support faculty in meeting student learning outcomes
- ❖ To provide a user-friendly study environment conducive to learning and thinking
- ❖ To anticipate the academic support needs of our students

## II. TLC SERVICES

The Learning Center's services for remedial/developmental students can be divided into five areas: tutorial support, study skills instruction, computer services, testing services, and distance learning services. According to sign-in data, students spent 25,486 hours in The Learning Center from Fall 2005 through Summer 2006. However, many students enter the facility without signing in, especially when the student receptionist is assisting students and faculty, so the number of hours students spend in TLC is higher than reported.

### 1. *Tutorial Support:*

- ❖ Reading, writing, math, and study skills
  - \*professional staff and peer tutors
  - \*one-on-one or small group
  - \*individualized program to work on specific skills: assess students' skills, create prescription, monitor progress, posttest (professional staff)
- ❖ Content area tutoring upon staff availability
- ❖ Hawaiian, Japanese, and Spanish languages
- ❖ Proofreading assistance
  - \*peer tutors and professional staff
  - \*one-on-one 25-minute appointments
  - \*brainstorming session
  - \*suggestions for improvement (thesis statement, support, organization, transitions, grammar and mechanics, etc.)
  - \*grammar tidbits
  - \*reference materials

**During the 2005-06 academic year, students made approximately 1,725 appointments with peer tutors and professional staff. Tutors are trained every week to update them on tutoring techniques, learning styles, essay assignments, and research papers.**

### **TLC Student Assistant/Tutor Training Topics--Fall 2005-Spring 2006:**

TLC Policies and Procedures  
Tutoring Techniques & Strategies  
Work Performance and Ethics  
Learning and Working Styles  
Round Table—English Instructors  
Round Table—Math Instructors  
Working with Special Needs Students  
TLC Computer Programs, Materials, and Equipment  
Customer Service  
Prioritizing Your Duties

Writing Research Papers  
Most Common Grammar Mistakes  
Time Management  
COMPASS Placement Testing  
Distance Learning/MCC Testing  
Computer Troubleshooting

2. ***Study Skills Presentations and TLC Orientations***

- ❖ Time management, how to read a textbook more effectively, note-taking skills, test-taking skills, learning styles, how to study more effectively, how to write a research paper, how to write a summary, etc.
- ❖ TLC orientations in class or in TLC (services, facility tour)

**In the past year, MCC faculty and staff have requested 17 study skills presentations either in the classroom or for students in programs such as Ku`ina. In addition, to provide students and instructors with information about TLC services, professional staff members have conducted 75 learning center orientations and tours for classes across the campus.**

3. ***Computer Labs: 35 working computers***

- ❖ Assistance from student assistants and professional staff
- ❖ Word processing, e-mail, Internet searches, WebCt, MyUH Portal, online registration
- ❖ CAI programs (*PLATO, SkillsBank4, Word Attack, Spell It, Ultimate Speed Reader*, etc.)
- ❖ Scanner, CD burner, zip drive
- ❖ Special needs computer w/printer and scanner
  - \*Jaws(reads text on screen)
  - \*Zoomtext (enlarges text)
  - \*Kurzweil 3000 (reads text from scanner)
  - \*Dragon Naturally Speaking (types from oral speech)

**During the first three weeks of each semester, students require extra assistance with basic computer skills (word processing, e-mail, Internet searches) and accessing WebCt and MyUH Portal. For this reason, TLC professional staff and peer tutors are available in both computer rooms during this time to guide students through the sometimes frustrating process of learning how to manipulate computer and utilize the required software to complete their coursework. For computer-based developmental studies in reading comprehension, writing, grammar and mechanics, vocabulary building, spelling, and basic and intermediate mathematics, software programs such as *PLATO, SkillsBank4, Word Attack, Ultimate Speed Reader, and Spell It***

continue to be highly utilized in TLC. Additionally, with a wireless access point installed, staff members have observed an increased usage of laptops in TLC. A webpage on how to “Configure the Wireless NIC” has been linked to our TLC website.

4. *Testing Services:*

- ❖ COMPASS placement testing
  - \*walk-in
  - \*ability to benefit
  - \*high school group testing
  - \*COMPASS study guide and text resources in TLC
  - \*COMPASS Preparation Workshops
- ❖ Make-up exams

Approximately 2,000 tests in each of the three areas of the COMPASS placement test—reading, writing, and math—were administered from September 2005-August 2006. Of those tested, 52% placed in English 21 and below, 65% placed in English 22 and below, and 83% placed in Math 25 and below. UHCC system applicants can take the COMPASS tests whenever TLC is open, as long as a testing computer is available.

TLC’s campus make-up testing service is for MCC students who miss an in-class exam and are given permission by their instructors to take the exam in The Learning Center. In the last academic year, hundreds of make-up exams were administered in TLC.

5. *Distance Learning Services:*

- ❖ On-line Writing Lab (OWL) <http://www.hawaii.edu/maui/tlc>
  - \*papers may be submitted anytime, and a response will be posted within 24 hours, except when submitted on Saturday evening
- ❖ Distance learning testing

TLC’s Online Writing Lab has become a highly utilized service for MCC and for UH Center students. After receiving assistance online, remedial/developmental students often made face-to-face appointments with TLC tutors because they found the online suggestions so helpful. In the past year, 200 papers were submitted online. Individual feedback indicates that students appreciated tutor suggestions and valued the convenience of the service, especially those enrolled in distance learning courses.

**In academic year 2005-06, over 500 distance learning exams were administered in The Learning Center, servicing every UH System community college campus in the state.**

### **III. SUMMARY**

#### **A. *Summary Statement:***

In April 2006, a new TLC remedial support APT was hired, somewhat alleviating some of the requests for more tutorial assistance and study skills presentations. This position brought us back up to the full-time staffing level (2 positions) of 5 ½ years ago before our former TLC Director was reassigned to another position on campus. In the years prior to his leaving TLC, the grants that he wrote for the college, in addition to a more substantial general fund allocation, allowed us to hire part-time casual professional staff and additional student assistants to expand our services, including campus-wide content area tutoring services, the development of the Online Writing Lab, increased study skills presentations, basic computer skills assistance, walk-in placement testing, distance learning testing, increased make-up exam services, and community proctoring. However, when the TLC Director left in January 2002, grant monies ended, and the college experienced budget cuts, TLC was left with one person as the Acting Director and Assistant Director, 32 hours of casual hires/week, and much fewer student assistants. To continue to provide academic support services to help students become successful, independent learners and reach their educational goals, the following is needed: a full-time TLC Director and additional student assistants including English, math, content area, and computer tutors.

### **COUNSELING AND ADVISING**

The Maui Community College Counseling Department provides a spectrum of services involving a range of activities that may include a combination of:

- Discussing career and educational goals,
- Reviewing course transferability and articulation,
- Transcript evaluations,
- Gaining an understanding of the student's educational, employment, and family history, and
- Selecting courses for the semester and subsequent semesters.

At the present time, Student Services, and more specifically the Counseling Department, does not have a program or services especially designed to serve remedial and/or developmental students. However, there are special programs and services for

those students that meet the program's eligibility criteria. The programs are briefly described as follows:

- Mu'o A'e – A program designed to strengthen the persistence and graduation of Native Hawaiian students by providing a dedicated counselor to help them with their academic and career goals; opportunities to make learning relevant, meaningful and real; shared classroom experiences; and activities especially designed for Mu'o A'e students to explore and discover their culture through participation.
- Ho'okahua Project – Ho'okahua means “to lay a foundation.” The traditional Hawaiian saying “O ke kahua ma mua, ma hope ke kukulu” translates as—first you lay the foundation upon which to build. This reflects the overarching goal of the project—to help students build firm academic and cultural foundations in order to foster success.

The project's focus is STEM (Science, Technology, Engineering and Math) education:

1. To provide faculty development and curriculum development to restructure and strengthen science and math offerings.
2. To increase incoming students preparedness to STEM courses and programs.
3. To increase student success in STEM courses and programs.

The project facilitates these goals by developing alternative math and science curricula and by providing personal, cultural, and academic support and development to students.

- Po'okela Program – Promotes student academic, career, and cultural development through an array of support activities, instruction and curriculum development. The program works directly with a cohort of thirty (30) Hawaiian students in Career and Technical majors per semester. Student cohort activities include academic advising, student stipends and a variety of instructional-based academic, career, and cultural development activities. The project also works with high school students through summer bridge programs. The ultimate goal is to motivate students to realize their potential and kuleana (privilege, right, or responsibility) as Hawaiians and to promote positive and productive lifestyles.

It should be noted that Mu'o A'e, Ho'okahua and Po'okela are coordinated by the Office of the Vice Chancellor for Academic Affairs.

- Ku'ina Program – As a result of the Workforce Investment Act of 1998, this program identifies eligible youth, ages 14 through 21, who

are low-income and fall within one or more of the following categories: high school drop out; deficient in basic literacy skills (i.e. youth who are at or below grade 8); homeless, runaway, or foster child; pregnant or parenting youth; offender; or at-risk youth requiring additional assistance to complete an educational program or to secure and hold employment. Program services include advising and counseling by a designated counselor and referral to campus services as needed.

- Student Support Services Program – The mission of the Student Support Services Program is to assist low income, first generation and disabled program participants in obtaining the knowledge and skills necessary to successfully complete a baccalaureate degree. Selected MCC liberal arts majors receive services including a freshman year experience, basic skills instruction, tutoring, financial aid, counseling, preferred registration, cultural and educational explorations, and assistance in transferring to an upper division four-year institution.
- Liko A'e – The Liko A'e Native Hawaiian Scholarship program provides scholarships for Hawaiian students pursuing college degrees in Hawaii or on the mainland. The goal is to increase the enrollment of Native Hawaiians pursuing and completing post-secondary degrees.
- Upward Bound – The Maui County Upward Bound Program is designed to prepare low income, potential first generation high school students for post-secondary education. Tutoring, counseling, academic advising, career planning, and a six-week summer residential program are offered during the year. The MCC summer residential program offers classes in English, math, natural science, computer science, and foreign language. Workshops, cultural and historic field trips, career and college exploration, study skills and recreational activities are also offered.

In addition to these specific programs, the following activities are attempting to address student access, retention and success:

- STAR: An Academic Journey – An electronic degree audit program that allows students to view their course work and chart their degree program. Viewed as a collaborative effort, students and advisors are partners in planning and selecting courses appropriate for the students' degree and educational plans.
- Ed. Management Team – As a result of the College's strategic plan, the team consists of instructional faculty and staff whereby the



partnerships focus on student retention services, which includes instructional faculty advising and support services.

- Summer Academies – Bridge programs are offered to prospective college students interested in Business, Culinary Arts, Automotive Technology and Nurse Aide training. In partnership with community agencies and Maui District high schools, program participants may gain a minimum of two credits to a maximum of six credits, depending on the length of the program. Each course includes a section on learning skills, note taking, test taking and resume writing. The purpose of the Academies is for participants to gain college credit and experience through hands-on training.
- Counselors continue to advocate for increasing the offering of remedial course work each semester.

**APPENDIX B**  
**Windward Community College**  
**Current State of Remedial/Developmental Program**  
**Sarah Hodell**

Windward Community College (WCC) is a small campus, less than 1,800 students. The school provides a variety of liberal arts and sciences courses and academic subject certificates for students, unlike other UHCC campuses that offer vocational programs. Most students who are enrolled at WCC state that their goal is to seek a 4-year college degree.

At WCC the “remedial” and “developmental” courses are a sequence of “below college level” English and Math courses designed to prepare low achieving students to be successful college students. (See Appendix C, Tables 7a and 7b for a description of WCC’s remedial and developmental courses). WCC students are placed into a remedial or developmental level of English or Math depending upon their Compass placement test. Occasionally they challenge their placement scores with Math or English faculty, asking for an alternative placement measure. Occasionally such placement is questioned based upon the recommendation of a counselor or the disability specialist.

Some of these students are eligible for free tutoring or supportive counseling. Also, there has been some follow up of students who are eligible for federal Title III services. However, this population of students does not necessarily overlap with the WCC population of students enrolled in remedial and developmental English and Math courses. Currently WCC faculty express concern for identifying the “at-risk” students and for meeting the needs of these students.

**COURSES**

**English**

***Placement into English Courses***

The scores on the Compass Reading and Writing Tests determine the English course into which the student places. Students who place at the English 22 level are required to take this English composition refresher course. With a grade of “C” or better, these students may advance to English 100 (college level English composition) For those who place below English 22, the English 21 reading based curriculum is required before advancing. A more basic reading and college survival course, LSK 35 is required of students who test below the reading level for English 21.

Course	Compass Placement Score	Prerequisite Course
LSK 35 (Reading)	Reading 49-55	Permission of Instructor
English 21 (Reading)	Reading 56-78	C or better in LSK 35
English 22 (Writing)	Writing 40-73	C or better in English 21

Of the 1,011 students who took the Compass test at WCC in the academic year 2006-2007, 123 placed in English 21 or LSK 35 (17.4 %). A larger percent placed into English 22, 183

students (26 %). Of the total population of students testing, 43.6% of WCC new students place in developmental reading or writing. Those testing into English 100 were at 56.4 %.

There is no accurate way to measure how many students who take the Compass test at WCC enroll in school at WCC. Second, not all students who place at the developmental level enroll in the English course recommended. Some begin WCC avoiding courses that require a Compass score in English or English course prerequisite, hoping to re-test and obtain a better score at another time.

***WCC Remedial and Developmental English Courses***

Remedial and Developmental English at WCC courses have a strong foundation in reading, study skills, and college readiness skills for students. Study skills and vocabulary development are critical for LSK 35 and English 21. These courses contain basic writing components as well. Writing becomes more extensive, and involves library research at the English 22 level. Students must be able to write critically and analytically.

*LSK 35: Learning Skills for College Success.* An integrated reading, writing, and study skills course designed to increase vocabulary, strengthen reading comprehension, and improve writing skills with an emphasis on sentence structure emphasis on sentence structure and patterns to ensure student success in college.

*English 21: Intermediate Reading.* A course designed to help the student improve his/her ability to read and emphasizes vocabulary development, improving reading comprehension, and a more positive attitude toward reading.

*English 22: An introduction to Expository Writing.* A refresher course focusing on grammatical form and writing well formed sentences and paragraphs, use of reference materials and dictionaries is stressed.

***Student Success in English Courses***

The measure of student success in remedial and developmental English courses at WCC for the purpose of this study is extent to which students persist in their enrollment in college. The following chart demonstrates the persistence of WCC students that have been enrolled in English remedial and developmental English courses. This is significant, as research shows that nationally a high number of students in developmental courses drop out of school after their first year.

Course	# of students Fall 2003	# of students persisting Spring 2004	# of students persisting Fall 2004	# of students persisting Spring 2005	# of students persisting Fall 2005
LSK 35	11	6	6	5	2
English 21	39	30	20	16	18
English 22	128	96	74	68	50

### ***Organizational Model***

For purposes of discussion, WCC has what is known as a “decentralized model” of developmental education. There are three full time English faculty and three lecturers who teach both remedial/developmental and college level English courses. The remedial and developmental English classrooms, faculty offices, and support services are primarily housed in the “language arts/learning center” building.

### **Mathematics**

#### ***Placement into Math Courses***

Students are placed into math courses by either a Compass test score, completion of prior math course within the last two years, or upon occasion consent of the instructor. The following chart illustrates the placement score required of WCC remedial and developmental math courses.

Course	Compass Placement Score	Prerequisite Course
Math 21 A & B	Pre-Algebra 0-35	
Math 22	Pre-Algebra 36-46	C or better in Math 21 A and Math 21 B
Math 24	Pre-Algebra 47-100 Algebra 26-33	C or better in Math 22
Math 25	Algebra 34-49	C or better in Math 24
Math 100, 115	Algebra 50 or better	C or better in Math 25
Math 103	Algebra 62-74 College Algebra 31-55	C or better in Math 25

Occasionally students question the validity of their placement score and request the instructor to provide additional testing. Some students bring in transcripts that show evidence of Math coursework from another campus. It is standard practice for counselors to have math faculty evaluate this coursework for Math placement. The course Math 21 A & B was created at WCC as a remedial course for any student placing below Math 22. Usually a student continues with the sequence of math courses once they have begun. However, some elect not to begin the Math sequence of courses. With the advent of on-line registration, it is not uncommon for a WCC student to avoid taking courses that require a Math prerequisite depending upon their choice of studies. Since 2005, a WCC student must have completed Math 25 (Intermediate Algebra) and one symbolic reasoning course (Philosophy 110 may qualify) to be eligible for the Associates of Arts Degree at WCC. Some students who have great difficulty with Algebra transfer to a four-year campus without completing Math 25. They in turn rely on symbolic reasoning to complete their latter degree.

#### ***WCC Remedial and Developmental Math Courses***

Currently all of these courses are semester based, and each must be completed with a grade of “C” or better before the other is taken. Although the learning outcomes for the courses appear to be similar, the depth of attainment of these outcomes and the topics covered are different.

*Math 21 A: Basic College Mathematics I.* This course is designed to help student review and master the basics of mathematics. The emphasis will be placed on numeration, whole numbers, fractions, mixed numbers, decimals, and ratios and proportions. This is a 2 credit course offered the first 8 weeks of the semester.

*Math 21 B: Basic College Mathematics II.* This course prepares students who want to strengthen computation and problem-solving skills before proceeding to an elementary algebra course. The course includes the concept of variables, using rational numbers, solving simple equations in one variables, percent, and word problems. This is a 2 credit course offered the last 8 weeks of the semester, following Math 21 A.

*Math 22: Pre-Algebra Mathematics.* This is a 3 credit course is similar in nature to Math 21 B, but is for those students who place at the level of Math 21 B at the beginning of the semester. Just like Math 21 B, this course prepares students who want to strengthen computation and problem-solving skills before proceeding to an elementary algebra course. The course includes a brief review of arithmetic, the concept of variable, percent, measure, ratio and proportion, geometry formulas, square roots and word problems.

*Math 24: Elementary Algebra I.* This 3 credit course represents approximately half of a typical year algebra course. The topics include real numbers and their properties, linear equations and inequalities in one variable, the coordinate plane, linear systems in two variables, and exponents.

*Math 25: Elementary Algebra II.* This 3 credit course is a continuation of Math 24. Elementary Algebra II represents approximately the second half of a typical first year course in algebra. The topics include exponents, polynomials, factoring, rational expressions and equations, radical expressions and equations, radical expressions and equations and quadratic equations.

### ***Student Success in Math Courses***

The measure of student success in remedial and developmental Math courses at WCC for the purpose of this study is extent to which students persist in their college enrollment. This measure is important, as national research indicates that students in remedial and developmental Math courses typically do not persist. The following chart demonstrates the persistence of WCC students in remedial and developmental Math courses.

Course	# of students Fall 2003	# of students persisting Spring 2004	# of students persisting Fall 2004	# of students persisting Spring 2005	# of students persisting Fall 2005
Math 22	54	39	26	24	17
Math 24	67	52	35	33	19
Math 25	43	26	25	24	13

Of those WCC students who successfully completed the series of developmental math courses, 100% were successful in completing Math 100 in fall, 2003. In fall 2004 93.33% of those were successful in WCC's Math 100 courses. For most of these students, Math 100 is a

terminal Math course. Students selecting an academic track requiring a sequence of college level of Math courses take Math 103 instead of Math 100. Of the WCC students successfully completing the developmental sequence of courses, 85.71% were successful completing Math 103 in fall 2003, and 83.33% in fall 2004.

### ***Organizational Model***

The remedial and developmental model of Math courses is characteristic of a “decentralized model”. All Math courses are in the Math building. WCC has four full time Math faculty members and two regular lecturers. All Math faculty must be able to teach both remedial/developmental and college level Math.

The Math faculty at WCC adhere to the semester model of course delivery with exception of Math 21 A & B (eight weeks per two credit course). The faculty have provided a Math lab with tutors and computerized tutorials to support students in practicing their Math assignments. All Math faculty report that it is the Math student in college level Math courses that makes use of the Math lab, not the students in remedial or developmental Math courses. Faculty are available for office hours, email, and phone for these students. They report that students in remedial/developmental Math classes seek their help and consideration for numerous extenuating circumstances.

## **COURSE-BASED LEARNING ASSISTANCE**

### **Developmental Library Skills**

One of the Student Learning Outcomes in ENG 22, Introduction to Composition, is locating information in the library (books, handbooks, magazines, journals, newspapers, almanac and/or Internet databases). As part of ENG 22, students take a literacy test to measure their competency on accessing resources. In addition, LSK 35 and ENG 21 have an introductory orientation component to the Library. WCC has three librarians on faculty to assist students in mastering these skills.

### **Interdisciplinary Studies (IS)**

Most students enrolled in remedial or developmental courses at WCC are enrolled in full-time studies. WCC offers a series of Interdisciplinary courses designed to strengthen students’ skills in regard to college readiness. IS 103 is a 3 credit course designed specifically to strengthen students’ college survival skills. The curriculum focuses on critical elements of being a “master student”. IS 105 B and C are 2 and 1 credit course designed to facilitate the students’ career and job search process. The IS courses are taught by WCC counselors, and are designed to address the student as a whole.

### **Packaged Courses and Learning Communities**

WCC faculty and administrators recognize that some students will not be able to attain college level work in English, Math, and almost any area of study without extensive support. For the academic year 2006-2007 there were 77 students who tested below the lowest remedial course offered at WCC, LSK 35. For these students a model learning community will be tried

for the academic year 2007-2008. These students will be enrolled in cohorts based upon their Reading and Writing Compass scores. They will be enrolled in non-credit remedial Reading and Writing preparation courses, Interdisciplinary Studies courses, and one elective. All of these students must complete mandatory orientation, and are assigned to a counselor. The non-credit English component will be taught by an English faculty member from WCC/ Employment Training Center.

## **TUTORING**

WCC has always offered free tutoring in the Math lab. These tutors are student hires with general funds. In the academic year 2006-2007, few students who came to the Math lab tutoring were in remedial or developmental courses. Those actual percentages are not tallied. The Title III Trio program on campus provides Math tutoring for those students who qualify for services (first generation college, income eligibility, or disability). Some remedial and developmental students are more comfortable receiving tutoring from their instructor.

Currently at WCC there are three primary ways in which a student in remedial or developmental English courses may receive assistance or tutoring. There is not an English counterpart to the Math lab. In the Learning Center building that houses offices for English faculty and remedial/developmental classrooms, there is an open area of study tables. In this area a “Resource Teacher” is available 19 hours weekly to assist all students with “writing needs”. Second, for those students who qualify for Title III Trio services, tutors are provided for students in English courses on an as need basis. Approximately 220 students receive TRIO assistance annually. These tutors are student hires with training and certification for to work with students in a specific course. Other sources of help for students in English classes are “Accommodation Assistants” who have been assigned to assist a student with a disability and Student Services Peer Mentors (not formally trained tutors, but trained mentors in peer advising regarding more general concerns of students)

## **COUNSELING and ADVISING**

Students enrolled in remedial and developmental courses are no different than other WCC students as far as financial aid, academic advising, counseling, and disability accommodations provided. Although instructors encourage these students to see a counselor for academic or personal counseling, often they avoid seeing a counselor. It is the occasional student in these courses that is the “squeaky wheel” that seeks and receives counseling and support.

Under the leadership of the new Dean of Student Services, counselors have been looking at ways to identify and support at-risk students. WCC counselors have noted the need to mandatory new student orientation so that students will know when and how to seek academic advisement. Beginning fall, 2007 WCC counselor are requiring mandatory orientation. A registration hold will be place on all new students who have not gone through this process. Although this will not prevent all problems of students not seeking academic advisement when needed, at least it is a start.

Second, WCC has a Success Counselor as of spring 2006. This counselor is tracking students who are not maintaining at least a 2.0 or completing 50% of course work. These students are required to come to counseling. This does not include the entire remedial/developmental population, but reaches those most at risk. In addition, peer mentors call unsuccessful students who have left school and not returned for the purposes of meeting with this counselor.

Career counseling is now available and is becoming integrated into the curriculum for all WCC students. Career counseling is noted as a vital aspect in motivating all community college students. Students may self refer for career testing and counseling. Many are referred to career counseling by another counselor. For the academic year 2006-2007 more than 300 students received career services.

Beginning the academic year 2005-2006, WCC has made a commitment to expand the counseling faculty from two full time general funded counselors to six general funded counselors and three federally funded counselors. With additional counselors, students can receive more support when needed, counselors are available to follow up with students in assessing their successes, and teaching faculty are more able to get support from counselors regarding troubled students.



**APPENDIX C**  
**Remedial and Developmental Courses**

	<b>Reading</b>		<b>Writing</b>		<b>Math</b>	
	Remedial	Developmental	Remedial	Developmental	Remedial	Developmental
<b>Hawaii CC</b>	ENG 18 <sup>1</sup> ENG 20R	ENG 21	ENG 20W	ENG 22	MATH 1 A, B, C, & D MATH 22	MATH 24x MATH 25x MATH 26 MATH 27
<b>Honolulu CC</b>			ENG 20 B, C, D, & E	ENG 22	MATH 20 B, C, & D	MATH 24 MATH 25
<b>Kapiolani CC</b>	PCC 20	ENG 21	PCC 20	ENG 22	PCM 21 ABE <sup>2</sup> PCM 23	MATH 24 MATH 81 MATH 25
<b>Kauai CC</b>	ENG 18	ENG 21	ENG 19	ENG 22	ABE MATH 22	MATH 24 MATH 25 MATH 26
<b>Leeward CC</b>	ENG 8 ENG 18	ENG 21	ENG 8 ENG 19	ENG 22	MATH 1B	MATH 22 MATH 73 MATH 83
<b>Maui CC</b>		ENG 21	ENG 19	ENG 22	MATH 22	MATH 23 MATH 25 MATH 27
<b>Windward CC</b>	LSK 35	ENG 21		ENG 22	MATH 21 A & B MATH 22	MATH 24 MATH 25

1. English and math courses may be numbered the same; however, many are not articulated and they do not all have the same SLOs.

2. Adult Basic Education non-credit courses are offered in partnership with the Department of Education (DOE).

**Table 1a: Hawaii Community College's English Course Descriptions**

<i>Alpha</i>	<i>Title</i>	<i>Level</i>	<i>Credit Hours</i>	<i>Contact Hrs./Week</i>	<i>Student Learning Outcomes/Competencies</i>
ENG 18	Reading Essentials	Lower Remedial	3	2.5	<p><b>Upon successful completion of Eng 18, the student will be able to do the following</b></p> <ol style="list-style-type: none"> <li>1. Apply word attack skills such as phonics and syllabication;</li> <li>2. Demonstrate skills in dictionary usage;</li> <li>3. Decode unknown words through the use of context clues and word parts;</li> <li>4. Identify main ideas and details in paragraphs and short passages; and</li> <li>5. Respond to fiction and nonfiction works.</li> </ol>
ENG 20R	Reading and Learning Skills	Upper Remedial	3	2.5	<p><b>Upon successful completion of Eng 20R, the student will be able to do the following</b></p> <ol style="list-style-type: none"> <li>1. Employ a variety of study skills;</li> <li>2. Expand vocabulary and demonstrate skills in decoding unknown words through context clues, word construction, and origin;</li> <li>3. Distinguish between main ideas and supporting details;</li> <li>4. Locate specific information in a variety of sources; and</li> <li>5. Recognize basic literary elements in fiction and nonfiction works.</li> </ol>
ENG 20W	College Writing and Grammar	Remedial	3	2.5	<p><b>Upon successful completion of Eng 20W, the student will be able to do the following</b></p> <ol style="list-style-type: none"> <li>1. Understand and employ the writing process, including pre-writing, drafting, revising, and editing;</li> <li>2. Write varied and effective sentences with correct sentence structure, grammar, word choice, punctuation, and spelling;</li> <li>3. Write a paragraph with a clear topic sentence and purpose, in a form appropriate to intended audiences;</li> <li>4. Analyze exemplification and cause/effect modes, and employ them in a cohesive paragraph structure;</li> <li>5. Choose appropriate language; and</li> <li>6. Proofread so that writing is free of grammatical and mechanical errors.</li> </ol>

**Table 1a: Hawaii Community College's English Course Descriptions**

<i>Alpha</i>	<i>Title</i>	<i>Level</i>	<i>Credit Hours</i>	<i>Contact Hrs./Week</i>	<i>Student Learning Outcomes/Competencies</i>
ENG 21	Developmental Reading	Developmental	3	2.5	<p><b>Upon successful completion of Eng 21, the student will be able to do the following</b></p> <ol style="list-style-type: none"> <li>1. Use a variety of study skills necessary for success in college;</li> <li>2. Increase vocabulary, focusing on skills in decoding unknown words through context clues, word construction, and origin;</li> <li>3. Identify main ideas and supporting details as well as locate specific information in a basic reading passage;</li> <li>4. Analyze ideas, make inferences, and recognize analogies in a variety of reading sources including textbooks, periodicals, and literature; and</li> <li>5. Recognize literary elements in both fiction and nonfiction works.</li> </ol>
ENG 22	Introduction to Expository Writing`	Developmental	3	2.5	<p><b>Upon successful completion of Eng 22, the student will be able to do the following</b></p> <ol style="list-style-type: none"> <li>1. Understand and employ the writing process, including pre-writing, drafting, revising, and editing;</li> <li>2. Write varied, correct, and effective sentences;</li> <li>3. Write a short essay with a clear thesis and purpose, in a form appropriate to intended audiences;</li> <li>4. Analyze cause/effect, classification, comparison/contrast, and persuasion modes, and employ them in a cohesive short essay structure;</li> <li>5. Develop logical, relevant, and adequate support;</li> <li>6. Identify a credible source and use it appropriately;</li> <li>7. Choose appropriate language and tone; and</li> <li>8. Proofread so that writing is free of grammatical and mechanical errors.</li> </ol>

**Table 1b: Hawaii Community College's Math Course Descriptions**

<i>Alpha</i>	<i>Title</i>	<i>Level</i>	<i>Credit Hours</i>	<i>Contact Hrs./Week</i>	<i>Student Learning Outcomes/Competencies</i>
MATH 1 A, B, C, & D	Basic Mathematics	Lower Remedial	4 (1 credit each.)	3.33	<b>Upon successful completion of Math 1 A, B, C, &amp; D the student will be able to do the following</b> 1. Be able to perform basic arithmetic operations on non-negative numbers; and 2. Be sufficiently prepared to meet the demands of the next sequential math course.
MATH 22	Pre-Algebra Mathematics	Upper Remedial	4	3.33	<b>Upon successful completion of Math 22, the student will be able to do the following</b> 1. Be able to perform basic arithmetic operations on rational numbers; 2. Manipulate simple algebraic expressions; 3. Be sufficiently prepared to meet the demands of the next sequential math course; 4. Solve simple equations in one variable; and 5. Translate and solve basic percent problems.
MATH 24X	Elementary Algebra I	Lower Developmental	3	2.5	<b>Upon successful completion of Math 24X, the student will be able to do the following</b> 1. Be able to model and solve simple real life problems algebraically; 2. Be sufficiently prepared to meet the demands of the next sequential math course; and 3. Apply basic algebraic concepts.
MATH 25X	Elementary Algebra II	Lower Developmental	4	4.17	<b>Upon successful completion of Math 25X, the student will be able to do the following</b> 1. Be able to model and solve simple real life problems algebraically; 2. Be sufficiently prepared to meet the demands of the next sequential math course; and 3. Apply basic algebraic concepts.

**Table 1b: Hawaii Community College's Math Course Descriptions**

<i>Alpha</i>	<i>Title</i>	<i>Level</i>	<i>Credit Hours</i>	<i>Contact Hrs./Week</i>	<i>Student Learning Outcomes/Competencies</i>
MATH 26	Elementary Algebra	Upper Developmental	5	4.17	<p><b>Upon successful completion of Math 26, the student will be able to do the following</b></p> <ol style="list-style-type: none"> <li>1. Be able to model and solve simple real life problems algebraically;</li> <li>2. Be sufficiently prepared to meet the demands of the next sequential math course; and</li> <li>3. Apply basic algebraic concepts.</li> </ol>
MATH 27	Intermediate Algebra	Upper Developmental	3	2.5	<p><b>Upon successful completion of Math 27, the student will be able to do the following</b></p> <ol style="list-style-type: none"> <li>1. Possesses a useful comprehension of linear relationships &amp; concepts;</li> <li>2. Understands algebraic notions relating to exponents &amp; radicals;</li> <li>3. Capable of solving &amp; graphing elementary equations;</li> <li>4. Able to mathematically model rudimentary applications (utilizing the above competencies); and</li> <li>5. Sufficiently prepared to meet the demands of a college-level math course.</li> </ol>

**Table 2a: Honolulu Community College’s English Course Descriptions**

<i>Alpha</i>	<i>Title</i>	<i>Level</i>	<i>Credit hours</i>	<i>Contact hrs./week</i>	<i>Student Learning Outcomes/Competencies</i>
ENG 20 B	Basic Direction Skills	Remedial	1	6	<p><b>Upon successful completion of Eng 20 B, students should be able to</b></p> <ol style="list-style-type: none"> <li>1. Demonstrate knowledge of specific grammatical concepts;</li> <li>2. Develop, write, edit, and revise papers following specific organizational guidelines using clear effective sentences and coherent paragraphs;</li> <li>3. Read for specific purposes such as identifying main ideas and supporting details, making valid inferences, drawing accurate conclusions, and identifying author's purpose;</li> <li>4. Locate specific information;</li> <li>5. Interpret charts and graphs;</li> <li>6. Work cooperatively and communicate orally with others (obtaining information); and</li> <li>7. Demonstrate ability to apply direction skills.</li> </ol>
ENG 20 C	Consumer-Service Skills	Remedial	1	6	<p><b>Upon successful completion of Eng 20 C, students should be able to</b></p> <ol style="list-style-type: none"> <li>1. Demonstrate knowledge of specific grammatical concepts;</li> <li>2. Develop, write, edit, and revise papers following specific organizational guidelines using clear effective sentences and coherent paragraphs;</li> <li>3. Read for specific purposes such as identifying main ideas and supporting details, making valid inferences, drawing accurate conclusions, and identifying author's purpose;</li> <li>4. Interpret information conveyed orally;</li> <li>5. Work cooperatively in planning and executing a group project;</li> <li>6. Apply appropriate communication skills in a business environment; and</li> <li>7. Demonstrate ability to analyze and evaluate comparable items.</li> </ol>

**Table 2a: Honolulu Community College’s English Course Descriptions**

<i>Alpha</i>	<i>Title</i>	<i>Level</i>	<i>Credit hours</i>	<i>Contact hrs./week</i>	<i>Student Learning Outcomes/Competencies</i>
ENG 20 D	Data-Processing Skills	Remedial	1	6	<p><b>Upon successful completion of Eng 20 D, students should be able to</b></p> <ol style="list-style-type: none"> <li>1. Demonstrate knowledge of specific grammatical concepts;</li> <li>2. Develop, write, edit, and revise papers following specific organizational guidelines using clear effective sentences and coherent paragraphs;</li> <li>3. Read for specific purposes such as identifying main ideas and supporting details, making valid inferences, drawing accurate conclusions, and identifying author's purpose;</li> <li>4. Do research utilizing the World Wide Web;</li> <li>5. Utilize the various functions of e-mail;</li> <li>6. Compose an organized well-written paper in a formal timed testing situation; and</li> <li>7. Summarize published material.</li> </ol>
ENG 20 E	English Reading Skills	Remedial	1	6	<p><b>Upon successful completion of Eng 20 E, students should be able to</b></p> <ol style="list-style-type: none"> <li>1. Demonstrate knowledge of specific grammatical concepts;</li> <li>2. Develop, write, edit, and revise papers following specific organizational guidelines using clear effective sentences and coherent paragraphs; and</li> <li>3. Read for specific purposes such as identifying main ideas and supporting details, making valid inferences, drawing accurate conclusions, and identifying author's purpose.</li> </ol>

**Table 2a: Honolulu Community College’s English Course Descriptions**

<i>Alpha</i>	<i>Title</i>	<i>Level</i>	<i>Credit hours</i>	<i>Contact hrs./week</i>	<i>Student Learning Outcomes/Competencies</i>
ENG 22	Introduction to Expository Writing	Developmental	3	2.5	<p><b>Upon successful completion of Eng 22, students should be able to</b></p> <ol style="list-style-type: none"> <li>1. Use the computer as a tool to compose, edit, and proofread writing;</li> <li>2. Produce writing that utilizes the multiple-draft process: prewriting, generating ideas, developing specific details and support, organizing, revising, editing, and proofreading;</li> <li>3. Produce writing with various rhetorical presentations: for example, description, illustration, comparison/contrast, and argumentation;</li> <li>4. Write cohesive paragraphs that contain a topic sentence, supporting ideas, transitions, and a concluding sentence;</li> <li>5. Write short essays that include an introductory paragraph, supporting paragraphs, and a conclusion;</li> <li>6. Write correct, complete sentences, using a variety of sentence patterns;</li> <li>7. Write with the correct use of grammar and diction appropriate to college level writing;</li> <li>8. Demonstrate basic research skills, such as basic citations of sources; and</li> <li>9. Demonstrate the ability to read and think analytically, as well as the ability to respond in writing to essays, articles, and works of literature.</li> </ol>



**Table 2b: Honolulu Community College’s Math Course Descriptions**

<i>Alpha</i>	<i>Title</i>	<i>Level</i>	<i>Credit hours</i>	<i>Contact hrs./week</i>	<i>Student Learning Outcomes/Competencies</i>
MATH 20 B	Foundation Math	Remedial	1	4	<p><b>Upon successful completion of Math 20 B, students should be able to</b></p> <p><b><u>Common Fractions</u></b></p> <ol style="list-style-type: none"> <li>1. Compare the sizes of simple fractions to determine their order;</li> <li>2. Convert mixed numbers to improper fractions and improper fractions to mixed number;</li> <li>3. Add, subtract, multiply, and divide fractions and mixed numbers; and</li> <li>4. Solve application problems involving fractions and mixed numbers.</li> </ol> <p><b><u>Decimals</u></b></p> <ol style="list-style-type: none"> <li>1. Translate decimal numbers into words and vice versa;</li> <li>2. Determine the comparative size of decimal numbers;</li> <li>3. Add, subtract, multiply, and divide decimal numbers;</li> <li>4. Round decimal numbers to a given place value; and</li> <li>5. Solve application problems involving decimal numbers.</li> </ol>
MATH 20 C	Foundation Math	Remedial	1	4	<p><b>Upon successful completion of Math 20 C, students should be able to</b></p> <p><b><u>Signed Numbers</u></b></p> <ol style="list-style-type: none"> <li>1. Determine the relative value of signed numbers and plot them on a number line;</li> <li>2. Find the absolute values of signed numbers;</li> <li>3. Add, subtract, multiply, and divide signed numbers;</li> <li>4. Simplify expressions using the appropriate order of operations; and</li> <li>5. Solve application problems involving signed numbers.</li> </ol> <p><b><u>Calculator Skills</u></b></p> <ol style="list-style-type: none"> <li>1. Enter real numbers into a scientific calculator;</li> <li>2. Read the number displayed on a scientific calculator and determine its value;</li> <li>3. Add, subtract, multiply, and divide real numbers using a scientific calculator;</li> <li>4. Simplify expressions involving parentheses using a scientific calculator;</li> <li>5. Compute the square root and powers of real numbers using a scientific calculator;</li> <li>6. Store and recall values using the memory function of a scientific calculator;</li> <li>7. Solve application problems using a scientific calculator.</li> </ol>

**Table 2b: Honolulu Community College’s Math Course Descriptions**

<i>Alpha</i>	<i>Title</i>	<i>Level</i>	<i>Credit hours</i>	<i>Contact hrs./week</i>	<i>Student Learning Outcomes/Competencies</i>
MATH 20 C (cont.)	Foundation Math	Remedial	1	4	<p><b><u>Simple Algebraic Equations</u></b></p> <ol style="list-style-type: none"> <li>1. Define the basic terminology of algebra;</li> <li>2. Evaluate algebraic expressions;</li> <li>3. Simplify algebraic expressions;</li> <li>4. Solve basic algebraic equations;</li> <li>5. Solve equations involving more than one variable term, variable terms on both sides of the equal sign, and grouping symbols; and</li> <li>6. Solve application problems using algebra.</li> </ol>
MATH 20 D	Foundation Math	Remedial	1	4	<p><b>Upon successful completion of Math 20 D, students should be able to</b></p> <p><b><u>Percent</u></b></p> <ol style="list-style-type: none"> <li>1. Convert fractions and decimal numbers into percent numbers;</li> <li>2. Solve the percent equation for the amount, base, or rate;</li> <li>3. Compute mark-up and discount using percents;</li> <li>4. Calculate simple interest; and</li> <li>5. Solve application problems involving percents.</li> </ol> <p><b><u>Ratio &amp; Proportion</u></b></p> <ol style="list-style-type: none"> <li>1. Compute a specified ratio and simplify it;</li> <li>2. Compare the values of ratios;</li> <li>3. Write and solve proportions; and</li> <li>4. Solve application problems using ratios and proportions.</li> </ol>
MATH 24	Elementary Algebra I	Developmental	3	2.5	<p><b>Upon successful completion of Math 24, students should be able to</b></p> <ol style="list-style-type: none"> <li>1. Perform arithmetic operations with signed rational numbers;</li> <li>2. Translate word phrases into algebraic expressions;</li> <li>3. Use the order of operations to evaluate algebraic expressions;</li> <li>4. Identify whole numbers, integers, rational numbers, irrational numbers, and real numbers;</li> <li>5. Find the absolute value, additive inverse, and multiplicative inverse of a real number;</li> <li>6. Identify the following properties: commutative, associative, identity, inverse, distributive;</li> <li>7. Identify terms, like terms, and numerical coefficients in a polynomial;</li> <li>8. Simplify algebraic expressions;</li> </ol>

**Table 2b: Honolulu Community College’s Math Course Descriptions**

<i>Alpha</i>	<i>Title</i>	<i>Level</i>	<i>Credit hours</i>	<i>Contact hrs./week</i>	<i>Student Learning Outcomes/Competencies</i>
MATH 24 (cont.)	Elementary Algebra I	Developmental	3	2.5	9. Solve linear equations and inequalities in one variable; 10. Evaluate and manipulate formulas using addition, subtraction, multiplication and division; 11. Solve a formula for a specified variable; 12. Write and solve ratios and proportions including those from word problems; 13. Plot an ordered pair and state the quadrant in which it lies; 14. Graph linear equations and inequalities by point plotting, the intercept method, and the slope-intercept method; 15. Write the equation of a line given two points or the slope and y-intercept or the slope and a point on the line; 16. Solve linear systems of equations and inequalities in two variables by algebraic and graphic methods; and 17. Use linear systems to solve word problems.
MATH 25	Elementary Algebra II	Developmental	3	2.5	<b>Upon successful completion of Math 25, students should be able to</b> 1. Identify and use the laws of exponents to simplify expressions with integral exponents; 2. Use scientific notation in calculations; 3. Add, subtract, multiply, and divide polynomials in one or two variables; 4. Factor the greatest common factor from a polynomial expression; 5. Factor a polynomial of four terms by grouping; 6. Factor general trinomials $ax^2 + bx + c$ , where a, b, and c are integers; 7. Recognize and factor the difference of two squares; 8. Recognize and factor a perfect square binomial; 9. Write rational expressions in lowest terms (including complex rational expressions); 10. Add, subtract, multiply, and divide algebraic fractions; 11. Solve equations containing rational expressions; 12. Solve word problems that lead to equations containing rational expressions (inclusion of indirect variation is optional); 13. Identify a given radical as rational, irrational, or not real; 14. Evaluate a radical expression; 15. Simplify a radical expression; 16. Add, subtract, multiply, or divide radical expressions; 17. Solve radical equations;

**Table 2b: Honolulu Community College’s Math Course Descriptions**

<i>Alpha</i>	<i>Title</i>	<i>Level</i>	<i>Credit hours</i>	<i>Contact hrs./week</i>	<i>Student Learning Outcomes/Competencies</i>
MATH 25 (cont.)	Elementary Algebra II	Developmental	3	2.5	18. Solve word problems that lead to equations containing radical expressions; 19. Solve quadratic equations by factoring, extraction of roots, completing the square, and the quadratic formula; 20. Complete the perfect square trinomial square given a partial trinomial; 21. Learn and apply the Pythagorean Theorem; and 22. Graph quadratic functions, using the vertex and axis of symmetry.

**Table 3a: Kapi`olani Community College’s English Course Descriptions**

<i>Alpha</i>	<i>Title</i>	<i>Level</i>	<i>Credit Hours</i>	<i>Contact Hrs/Week</i>	<i>Student Learning Outcomes/Competencies</i>
PCC 20	Pre-College Communications	Remedial	0 (Equivalent to 8 credits)	6.25	<p><b>Upon successful completion of PCC 20, the student should be able to</b></p> <ol style="list-style-type: none"> <li>1. Identify main ideas and supporting details in simple paragraphs;</li> <li>2. Make inferences based upon suggestion or evidence presented;</li> <li>3. Use context clues to determine the meaning of unfamiliar words;</li> <li>4. Use structural clues to determine the meaning of unfamiliar words;</li> <li>5. Demonstrate knowledge of vocabulary appropriate for academic discourse;</li> <li>6. Apply the SQ3R or equivalent method of textbook study to reading from various content areas;</li> <li>7. Write notes in a modified outline format by using such principles as indenting, headings and markers;</li> <li>8. Generate thoughtful questions from lecture notes;</li> <li>9. Use basic preparation techniques for test-taking;</li> <li>10. Demonstrate sustained interest in reading by completing 1.500 pages of Free Voluntary Reading;</li> <li>11. Participate effectively in small group discussions in an academic setting;</li> <li>12. Demonstrate a rudimentary understanding of writing as process, which includes gathering information, exploring ideas, clarifying thoughts, developing and supporting a thesis, organizing information, revising, editing and proofreading;</li> <li>13. Write a narrative, analytical and persuasive essays that are one and a half pages long, focused on a central thesis, adequately supported, and logically divided into paragraphs;</li> <li>14. Write clear, accurate and objective summaries of brief essays; and</li> <li>15. Use time management. Reading, word processing and study skills necessary in the writing process.</li> </ol>
ENG 21	Developmental Reading	Developmental	3	2.5	<p><b>Upon successful completion of Eng 21, the student should be able to</b></p> <ol style="list-style-type: none"> <li>1. Read at rates appropriate for sustained interest and effective comprehension;</li> <li>2. Identify main ideas and supporting details in paragraphs and articles;</li> <li>3. Recognize the structure and organization of paragraphs;</li> <li>4. Think critically about what is read;</li> <li>5. Make valid inferences based on suggestions or evidence presented;</li> <li>6. Draw accurate conclusions and predict outcomes by logically putting together</li> </ol>

**Table 3a: Kapi`olani Community College’s English Course Descriptions**

<i>Alpha</i>	<i>Title</i>	<i>Level</i>	<i>Credit Hours</i>	<i>Contact Hrs/Week</i>	<i>Student Learning Outcomes/Competencies</i>
ENG 21 (cont.)	Developmental Reading	Developmental	3	2.5	<p>facts and details;</p> <p>7. Differentiate between fact and opinion;</p> <p>8. Identify the author’s purpose;</p> <p>9. Demonstrate knowledge of college level vocabulary;</p> <p>10. Apply contextual clues and knowledge of word parts in determining the meaning of unfamiliar words;</p> <p>11. Apply SQ3R method of textbook study to readings from various content areas;</p> <p>12. Demonstrate knowledge test-taking techniques;</p> <p>13. Demonstrate knowledge of effective note taking techniques; and</p> <p>14. Mark and outline main ideas and supporting details in selected reading passages.</p>
ENG 22	Beginning Composition	Developmental	3	2.5	<p><b>Upon successful completion of Eng 22, the student should be able to</b></p> <p>1. Demonstrate an understanding of writing as a process, which includes gathering information, exploring ideas, clarifying thoughts, developing and supporting a thesis, organizing information, revising, editing and proofreading;</p> <p>2. Demonstrate active reading skills such as annotating, cultivating vocabulary, and objectively summarizing and analyzing information and main ideas;</p> <p>3. Write essays with content, organization, language, and tone suited for various purposes and audiences;</p> <p>4. Write sustained essays (minimum 3000 words or 12-15 pages over the semester) that may include narrative, descriptive, evaluative, analytical, and persuasive modes; focused on a central idea; adequately supported; and logically divided into focused paragraphs;</p> <p>5. Identify patterns of error and learn to edit sentences for grammar and style;</p> <p>6. Utilize sources (such as surveys, interviews, observations, books, periodicals, and online resources), and demonstrate an understanding of MLA documentation by creating a Works Cited page as well as correct in-text citation for quotations and paraphrases from sources;</p> <p>7. Demonstrate an awareness of the social aspect of writing including giving and receiving feedback, utilizing tutoring resources, and writing collaboratively;</p> <p>8. Demonstrate computer literacy skills including word processing, use of online resources, and visual formatting of written documents;</p>

**Table 3a: Kapi`olani Community College's English Course Descriptions**

<i>Alpha</i>	<i>Title</i>	<i>Level</i>	<i>Credit Hours</i>	<i>Contact Hrs/Week</i>	<i>Student Learning Outcomes/Competencies</i>
ENG 22 (cont.)	Beginning Composition	Developmental	3	2.5	9. Demonstrate effective planning, time management, and organizing strategies for writing projects and college course work; and 10. Produce a portfolio reflecting growth and self awareness in writing as well as mastery of the above competencies.

**Table 3b: Kapi`olani Community College's Math Course Descriptions**

<i>Alpha</i>	<i>Title</i>	<i>Level</i>	<i>Credit Hours</i>	<i>Contact Hrs/Week</i>	<i>Student Learning Outcomes/Competencies</i>
PCM 23	Pre-College Mathematics	Remedial	0 (Equivalent to 6 credits)	6	<p><b>Upon successful completion of PCM 23, the student should be able to</b></p> <ol style="list-style-type: none"> <li>1. Find appropriate solutions for problems involving operations (addition, subtraction, multiplication, and division) with whole numbers, fractions (proper, improper and mixed formats), decimals, and percents;</li> <li>2. Use appropriate mathematical vocabulary;</li> <li>3. Place numerals in order on a number line;</li> <li>4. Write equivalent forms for fractions, decimals and percents;</li> <li>5. Convert measurements to larger or smaller units;</li> <li>6. Find areas, perimeters and volumes of common geometric figures using appropriate units;</li> <li>7. Write ratios and rates from expressions given in words;</li> <li>8. Solve proportions;</li> <li>9. Solve application problems;</li> <li>10. Calculate with negative numbers;</li> <li>11. Use at least one stress reduction technique;</li> <li>12. Use at least one note-taking or test preparation strategy; and</li> <li>13. Use at least one time management strategy.</li> </ol>
MATH 24	Elementary Algebra I	Developmental	3	2.5	<p><b>Upon successful completion of Math 24, the student should be able to</b></p> <ol style="list-style-type: none"> <li>1. Translate word phrases to algebraic expressions;</li> <li>2. Use the order of operations rules to find the value of algebraic expressions;</li> <li>3. Identify whole numbers, integers, rational numbers, irrational numbers, and real numbers. Find the absolute value, opposite, and reciprocal of a real number;</li> <li>4. Perform the basic operations (add, subtract, multiply, &amp; divide) with signed rational numbers;</li> <li>5. Identify the commutative, associative, identity, inverse, and distributive properties;</li> <li>6. Identify terms, like terms, and numerical coefficients in a polynomial;</li> <li>7. Solve linear equations and inequalities in one variable;</li> <li>8. Solve a formula for a specific value;</li> </ol>



**Table 3b: Kapi`olani Community College's Math Course Descriptions**

<i>Alpha</i>	<i>Title</i>	<i>Level</i>	<i>Credit Hours</i>	<i>Contact Hrs/Week</i>	<i>Student Learning Outcomes/Competencies</i>
MATH 24 (cont.)	Elementary Algebra I	Developmental	3	2.5	9. Write and solve ratios and proportions including those from word problems; 10. Plot an ordered pair and state the quadrant in which it lies; 11. Graph linear equations and inequalities in two variables by point plotting, the intercept method and the slope intercept method; 12. Write the equation of a line given two points or the slope and y-intercept or the slope and a point on the line; 13. Solve linear systems of equations or inequalities in two variables by algebraic and graphic methods; and 14. Use linear systems to solve word problems.
MATH 25	Elementary Algebra II	Developmental	3	2.5	<b>Upon successful completion of Math 25, the student should be able to</b> 1. Identify and use the laws of exponents with integral exponents; 2. Use scientific notation in calculations; 3. Perform operations on polynomials in one or two variables; 4. Factor polynomial expressions; 5. Write rational expressions in lowest terms; 6. Perform operations on rational expressions; 7. Solve equations and word problems that lead to equations involving rational expressions including indirect variation; 8. Identify a given radical as rational, irrational, or not real; 9. Evaluate and simplify radical expressions; 10. Perform operations with radical expressions (square roots & n-th roots); 11. Solve equations containing radicals; 12. Solve word problems that lead to equations containing radical 13. expressions; 14. Complete the square; 15. Solve quadratic equations with integral coefficients by factoring; 16. Solve word problems that lead to equations containing quadratic expressions; 17. Use the quadratic formula to solve equations; and 18. Graph quadratic equations in two variables.

**Table 3b: Kapi`olani Community College’s Math Course Descriptions**

<i>Alpha</i>	<i>Title</i>	<i>Level</i>	<i>Credit Hours</i>	<i>Contact Hrs/Week</i>	<i>Student Learning Outcomes/Competencies</i>
MATH 81	Foundations of Mathematics	Developmental	5	5	<p><b>Upon successful completion of Math 81, the student should be able to</b></p> <ol style="list-style-type: none"> <li>1. Extract relevant data and solve real-life problems that involve computations with whole numbers, fractions, decimals, and percents;</li> <li>2. Estimate and determine the magnitude of quantities before formal computation and to compare the estimated and computed values for consistency;</li> <li>3. Convert standard notation to scientific notation, perform calculations using scientific notation;</li> <li>4. Use the order of operations;</li> <li>5. Analyze and interpret graphical and tabular data;</li> <li>6. Write ratios and proportions and use them to solve problems;</li> <li>7. Solve direct and inverse variation problems;</li> <li>8. Perform the basic operations on signed numbers;</li> <li>9. Evaluate formulas (including geometric and Pythagorean) from a variety of disciplines, using calculators when appropriate;</li> <li>10. Express numerical quantities, including variables, in meaningful units;</li> <li>11. Interpret an algebraic expression in one variable as an explicit sequence of arithmetic operations to be performed on that variable;</li> <li>12. Identify terms, like terms, numerical coefficients;</li> <li>13. Recognize and express verbally, numerically, graphically, and symbolically the patterns displayed by linear data;</li> <li>14. Recognize equivalent linear relationships numerically, algebraically, and graphically and translate from one representation to any of the others;</li> <li>15. Translate word phrases into algebraic expressions;</li> <li>16. Solve linear equations and simple systems of equations;</li> <li>17. Solve a formula for a specified variable;</li> <li>18. Use the laws of exponents;</li> <li>19. Solve equations involving squares and square roots; and</li> <li>20. Use of the quadratic formula.</li> </ol>

**Table 4a: Kauai Community College’s English Course Descriptions**

<i>Alpha</i>	<i>Title</i>	<i>Level</i>	<i>Credit Hours</i>	<i>Contact Hrs./Week</i>	<i>Student Learning Outcomes/Competencies</i>
ENG 18	Reading Essentials	Remedial	3	2.5	<p><b>Upon successful completion of Eng 18, students should be able to</b></p> <ol style="list-style-type: none"> <li>1. Recognize basic structure and major patters of organization of written texts;</li> <li>2. Summarize main ideas from paragraphs and short articles;</li> <li>3. Identify topics, stated and unstated key ideas, and supporting ideas in sentences, paragraphs, and longer selections;</li> <li>4. Distinguish between fact and opinion;</li> <li>5. Apply and assess a variety of strategies including marking up a textbook, taking notes, and diagramming written material to improve literal, inferential, and evaluative comprehension;</li> <li>6. Establish a purpose and context for reading by previewing pertinent features of selected reading materials;</li> <li>7. Make connections between new academic knowledge and prior knowledge in order to understand, learn, and apply information from reading;</li> <li>8. Apply multiple strategies including context and word-part clues to build vocabulary;</li> <li>9. Apply critical thinking to evaluate the author’s purpose, reasoning, and use of evidence; and</li> <li>10. Recognize that reading is a process.</li> </ol>
ENG 19	Writing Essentials	Remedial	3	2.5	<p><b>Upon successful completion of Eng 19, students will be able to</b></p> <ol style="list-style-type: none"> <li>1. Use a writing process by exploring and organizing ideas, drafting, revising, and proofreading;</li> <li>2. Write paragraphs suited to particular purposes and audiences;</li> <li>3. Write paragraphs that are focused on a main point (topic sentence) and developed with supporting details, facts, and/or examples;</li> <li>4. Revise paragraphs for adequate development of a main point, especially to improve paragraph unity and supporting details;</li> <li>5. Proofread to correct errors in grammar, spelling, and punctuation; and</li> <li>6. Use basic grammar and mechanics of standard English.</li> </ol>

**Table 4a: Kauai Community College’s English Course Descriptions**

<i>Alpha</i>	<i>Title</i>	<i>Level</i>	<i>Credit Hours</i>	<i>Contact Hrs./Week</i>	<i>Student Learning Outcomes/Competencies</i>
ENG 21	Introduction to College Reading	Developmental	3	2.5	<p><b>Upon successful completion of Eng 21, students should be able to</b></p> <ol style="list-style-type: none"> <li>1. Have improved reading comprehension;</li> <li>2. Have improved study-reading skills;</li> <li>3. Have improved skills in critical reading; and</li> <li>4. Have improved vocabulary.</li> </ol>
ENG 22	Introduction to Composition	Developmental	3	2.5	<p><b>Upon successful completion of Eng 22, students should be able to</b></p> <ol style="list-style-type: none"> <li>1. Use pre-writing, organizing, drafting, revising, and editing skills to clearly express ideas, opinions, and experiences;</li> <li>2. Write effective sentences and paragraphs using correct standard American English;</li> <li>3. Use a variety of organizational and rhetorical methods to investigate topics and present information;</li> <li>4. Recognize and correct errors in organization, sentence structure, grammar, punctuation, and spelling;</li> <li>5. Write with an awareness of audience and purpose in a variety of academic, social, and business situations;</li> <li>6. Support opinions and ideas with specific facts, examples, and details, avoiding logical fallacies;</li> <li>7. Use transitions effectively in writing;</li> <li>8. Demonstrate competence and fluency in writing;</li> <li>9. Participate actively in group discussion situations;</li> <li>10. Use a variety of media to effectively locate and evaluate information at the appropriate program level;</li> <li>11. Formulate original ideas, opinions, and concepts in addition to using those of others;</li> <li>12. Correctly acknowledge the ideas of others as these concepts are incorporated into their own writing; and</li> <li>13. (DL only) Use a computer to word-process, save, and e-mail their compositions.</li> </ol>

**Table 4b: Kauai Community College's Math Course Descriptions**

<i>Alpha</i>	<i>Title</i>	<i>Level</i>	<i>Credit Hours</i>	<i>Contact Hrs./Week</i>	<i>Student Learning Outcomes/Competencies</i>
MATH 22	Pre-Algebra	Developmental	3	2.5	<p><b>Students who successfully complete Math 22 should be able to</b></p> <ol style="list-style-type: none"> <li>1. Increase their COMPASS math placement test scores;</li> <li>2. Be prepared for higher math courses; and</li> <li>3. Contend with the rigor of the Western style of learning/teaching in order to succeed in their endeavors.</li> </ol>
MATH 24	Elementary Algebra I	Developmental	3	2.5	<p><b>Students who successfully complete Math 24 should be able to</b></p> <ol style="list-style-type: none"> <li>1. Recall operations with real numbers, exponents, absolute values, inequalities, and the number line;</li> <li>2. Use order of operations to simplify mathematical expressions;</li> <li>3. Solve linear equations and inequalities in one variable and validate the solution(s);</li> <li>4. Solve absolute value equations and inequalities and validate the solution(s);</li> <li>5. Graph linear equations and inequalities in two variables;</li> <li>6. Find an equation of a line given sufficient information about the line;</li> <li>7. Solve systems of linear equations in two and three variables and validate the solution(s);</li> <li>8. Identify whether a relation is a function and define functions using function notation;</li> <li>9. Identify the domain and range of a relation;</li> <li>10. Practice writing and typing mathematics; and</li> <li>11. Practice social and personal responsibility.</li> </ol>
MATH 25	Elementary Algebra II	Developmental	3	2.5	<p><b>Students successfully completing Math 25 should be able to</b></p> <ol style="list-style-type: none"> <li>1. Apply rules of exponents to simplify expressions;</li> <li>2. Simplify, add, subtract, multiply and divide polynomials;</li> <li>3. Apply different factoring methods to factor polynomials;</li> <li>4. Solve polynomial equations by factoring;</li> <li>5. Solve quadratic equations by factoring, completing the square, and quadratic formula;</li> <li>6. Simplify, add, subtract, multiply and divide rational expressions;</li> <li>7. Simplify complex fractions, and rationalize the denominator;</li> <li>8. Evaluate, simplify, add, subtract, multiply and divide radical expressions;</li> <li>9. Solve radical equations and check for extraneous solution(s);</li> <li>10. Identify excluded points in rational and radical expressions;</li> </ol>

**Table 4b: Kauai Community College's Math Course Descriptions**

<i>Alpha</i>	<i>Title</i>	<i>Level</i>	<i>Credit Hours</i>	<i>Contact Hrs./Week</i>	<i>Student Learning Outcomes/Competencies</i>
MATH 25 (cont.)	Elementary Algebra II	Developmental	3	2.5	11. Graph quadratic equations in two variables; 12. Practice writing and typing mathematics; and 13. Practice social and personal responsibility.
MATH 26	Elementary Algebra	Developmental	3	2.5	<p><b>Students successfully completing Math 26 should be able to</b></p> <ol style="list-style-type: none"> <li>1. Review operations with real numbers, exponents, absolute values and simplifying mathematical expressions using order of operations;</li> <li>2. Demonstrate proficiency in factoring trinomials and special formulas;</li> <li>3. Demonstrate proficiency in solving one-variable linear and quadratic equations;</li> <li>4. Demonstrate proficiency in solving one-variable linear inequalities;</li> <li>5. Demonstrate proficiency in solving two-variable systems of linear equations;</li> <li>6. Demonstrate proficiency in graphing two-variable linear equations and inequalities;</li> <li>7. Demonstrate proficiency in operations with exponents and polynomials;</li> <li>8. Demonstrate familiarity in graphing quadratic equations;</li> <li>9. Demonstrate familiarity in simplifying radical expressions and solving radical equations;</li> <li>10. Demonstrate familiarity in simplifying rational expressions and solving rational equations;</li> <li>11. Demonstrate familiarity in solving application problems involving linear, quadratic, radical, and rational equations;</li> <li>12. Demonstrate familiarity in writing and typing mathematics; and</li> <li>13. Demonstrate personal and social responsibilities through deadlines and collaborative learning.</li> </ol>

**Table 5a: Leeward Community College’s English Course Descriptions**

<i>Alpha</i>	<i>Title</i>	<i>Level</i>	<i>Credit Hours</i>	<i>Contact Hrs./Week</i>	<i>Student Learning Outcomes/Competencies</i>
ENG 8	Reading and Writing Basics	Lower Remedial	6	5	<p><b>Upon successful completion of Eng 8, students should be able to do the following as independent learners</b></p> <ol style="list-style-type: none"> <li>1. Identify and point out the main ideas (thesis statements and topic sentences) and supporting details in paragraphs and short articles;</li> <li>2. Summarize main ideas from paragraphs and short articles;</li> <li>3. Locate words in a dictionary using guide words;</li> <li>4. Identify and point out the parts of a dictionary entry;</li> <li>5. Increase number of known word meanings, comprehension and reading speed by using context clues;</li> <li>6. Identify, point out and explain the functions of the parts of a textbook such as the preface, table of contents, glossary, index, and typographical aids;</li> <li>7. Use a writing process that includes drafting, editing, and proofreading;</li> <li>8. Write paragraphs of half a page and short compositions of one to two pages that have main ideas (thesis and topic sentences) supported by specific details that are logically organized; and</li> <li>9. Edit and proofread writing to correct basic sentence errors.</li> </ol>
ENG 18	Reading Essentials	Upper Remedial	3	2.5	<p><b>Upon successful completion of Eng 18, students should be able to do the following as independent learners</b></p> <ol style="list-style-type: none"> <li>1. Use context clues and other vocabulary building techniques;</li> <li>2. Locate stated main ideas and thesis statements;</li> <li>3. Write clear sentences that express implied main ideas and implied thesis statements;</li> <li>4. Recognize and determine the relative importance of supporting details;</li> <li>5. Identify transitions and understand the relationship between two statements; and</li> <li>6. Distinguish between statements of fact and opinion.</li> </ol>

**Table 5a: Leeward Community College’s English Course Descriptions**

<i>Alpha</i>	<i>Title</i>	<i>Level</i>	<i>Credit Hours</i>	<i>Contact Hrs./Week</i>	<i>Student Learning Outcomes/Competencies</i>
ENG 19	Writing Essentials	Upper Remedial	3	2.5	<p><b>Upon successful completion of Eng 19, students should be able to do the following as independent learners</b></p> <ol style="list-style-type: none"> <li>1. Use a writing process that includes drafting, editing, and proofreading;</li> <li>2. Write paragraphs which have a main point (presented in a topic sentence) and develop this main point by providing interesting and appropriate supporting details and examples;</li> <li>3. Write a clear summary of a short reading passage;</li> <li>4. Write clear in-class responses to assigned topics; and</li> <li>5. Edit and proofread writing to correct errors in basic grammar, word choice, punctuation, and spelling.</li> </ol>
ENG 21	Introduction to College Reading	Developmental	3	2.5	<p><b>Upon successful completion of Eng 21, students should be able to do the following as independent learners</b></p> <ol style="list-style-type: none"> <li>1. Use skills such as previewing, predicting, questioning, and annotating to aid comprehensions and retention;</li> <li>2. Vary reading style according to reader purpose and text complexity;</li> <li>3. Recognize the details that support main ideas, the transitions that connect related ideas, and common organizational patterns;</li> <li>4. Use various strategies to determine the meaning of unfamiliar words, figurative language, and graphics;</li> <li>5. Make appropriate inferences based on text information, including distinguishing fact from opinion;</li> <li>6. Identify an author’s purpose, point of view, bias and assumptions;</li> <li>7. Accurately summarize and evaluate an argument’s main points; and</li> <li>8. Demonstrate familiarity with the Leeward Library by completing the first unit at 70% or better.</li> </ol>



**Table 5a: Leeward Community College’s English Course Descriptions**

<i>Alpha</i>	<i>Title</i>	<i>Level</i>	<i>Credit Hours</i>	<i>Contact Hrs./Week</i>	<i>Student Learning Outcomes/Competencies</i>
ENG 22	Introduction to Composition	Developmental	3	2.5	<p><b>Upon successful completion of Eng 22, students should be able to do the following as independent learners</b></p> <ol style="list-style-type: none"> <li>1. Use a writing process that includes drafting, editing, and proofreading;</li> <li>2. Write an organized paper of two or more pages with a main idea and supporting information (facts, examples, quotations, and so on);</li> <li>3. Use writing to communicate clearly to a specific reader for a specific purpose;</li> <li>4. Edit and proofread writing to correct errors in grammar, vocabulary, punctuation, and spelling;</li> <li>5. Write a clear summary of a short reading passage;</li> <li>6. Write an analysis of a short reading passage that shows an understanding of its content and structure;</li> <li>7. Write clear in-class responses to assigned topics;</li> <li>8. Understand and avoid plagiarism;</li> <li>9. Use print, personal interviews and/or electronic materials as sources for ideas and quotations in students’ own writing;</li> <li>10. Know how to locate information in the library by using books, handbooks, magazines, journals, newspapers, almanacs, and /or Internet databases; and</li> <li>11. Know which would be the best sources of information for specific uses.</li> </ol>

**Table 5b: Leeward Community College's Math Course Descriptions**

<i>Alpha</i>	<i>Title</i>	<i>Level</i>	<i>Credit Hours</i>	<i>Contact Hrs./Week</i>	<i>Student Learning Outcomes/Competencies</i>
MATH 1B	Basic Math through Problem Solving	Remedial	3	2.5	<p><b>Students who successfully complete Math 1B should be able to</b></p> <ol style="list-style-type: none"> <li>1. Read &amp; write whole numbers in words &amp; in expanded form;</li> <li>2. Use prime factorization &amp; find the LCM (LCD) of a given set of whole numbers;</li> <li>3. Convert &amp; find the equivalents for a given mixed number, fraction, decimal, or percent, in the other forms;</li> <li>4. Perform the fundamental operations of arithmetic with fractions, mixed numbers, &amp; decimals;</li> <li>5. Simplify expressions using the rules for order of operations;</li> <li>6. Evaluate formulas &amp; algebraic expressions for given replacement value(s) of the variable(s);</li> <li>7. Solve word problems involving ratios &amp; proportions;</li> <li>8. Translate phrases and sentences in English to algebraic expressions &amp; equations;</li> <li>9. Solve percent problems using the formula <math>A=BR</math>;</li> <li>10. Solve problems involving percent increase or decrease, taxes, commissions, markup, discount, simple &amp; compound interest;</li> <li>11. Solve &amp; check linear equations of the form <math>ax+b=c</math>; and</li> <li>12. Estimate the sums, differences, products, &amp; quotients of whole numbers &amp; decimals.</li> </ol>
MATH 22	Introductory Algebra and Geometry	Developmental	3	2.5	<p><b>Students who successfully complete Math 22 should be able to</b></p> <ol style="list-style-type: none"> <li>1. Graph fractions, decimals, other signed numbers, &amp; integers on a number line and compare them using the symbols <math>&lt;</math>, <math>=</math>, <math>&gt;</math>;</li> <li>2. Use the rules for order of operations &amp; simplify expressions involving signed numbers &amp; integers;</li> <li>3. Evaluate expressions &amp; solve equations for given replacement value(s) of the variable(s);</li> <li>4. Find the prime factorization of a given number or monomial;</li> <li>5. Factor GCF out of a given polynomial;</li> <li>6. Find the LCM of a given set of numbers or monomials;</li> <li>7. Convert &amp; find the equivalent for a given fraction, mixed number, decimal, or percent to the other forms;</li> <li>8. For given polynomials, perform the fundamental operations of algebra &amp; write answers in descending order;</li> </ol>

**Table 5b: Leeward Community College's Math Course Descriptions**

<i>Alpha</i>	<i>Title</i>	<i>Level</i>	<i>Credit Hours</i>	<i>Contact Hrs./Week</i>	<i>Student Learning Outcomes/Competencies</i>
MATH 22 (cont.)	Introductory Algebra with Geometry	Developmental	3	2.5	9. Solve and check linear equations involving signed numbers, like terms, symbols of grouping, & requiring several "steps" in the solution; 10. Translate English statements into algebraic expressions & equations; 11. Solve algebraic problems using ratios, proportions, and the percent equation $A = BR$ ; and 12. Solve application problems using formulas for basic geometric figures, discounts, markups, taxes, etc.
MATH 73	Algebraic Foundations I	Developmental	3	2.5	<b>Students who successfully complete Math 73 should be able to</b> <ol style="list-style-type: none"> <li>1. Use the rules for order of operations &amp; perform the fundamental operations of algebra with integers &amp; signed numbers;</li> <li>2. State the order relationship for given sets of integers &amp; signed numbers using the symbols <math>&lt;</math>, <math>=</math>, and <math>&gt;</math>;</li> <li>3. Evaluate algebraic expressions for given replacement value(s) of the variable(s);</li> <li>4. Simplify algebraic expressions - translate verbal expressions &amp; sentences into algebraic expressions &amp; equations;</li> <li>5. Solve &amp; check linear equations &amp; quadratic equations;</li> <li>6. Simplify polynomials - factor polynomials;</li> <li>7. Simplify products &amp; quotients of square roots with monomial radicands; and</li> <li>8. Solve application problems using linear equations, quadratic equations, &amp; formulas.</li> </ol>
MATH 83	Algebraic Foundations II	Developmental	3	2.5	<b>Students successfully completing Math 83 should be able to</b> <ol style="list-style-type: none"> <li>1. Solve and check linear equations, linear inequalities, quadratic equations, <math>2 \times 2</math> systems of linear equations;</li> <li>2. Factor polynomials - perform algebraic operations on polynomial, exponential, radical, and rational expressions;</li> <li>3. Evaluate algebraic expressions for given replacement value(s) of the variable(s);</li> <li>4. Solve linear &amp; quadratic equations with literal coefficients;</li> <li>5. Draw graphs of horizontal, vertical, &amp; slant lines, &amp; give their slope, x-intercept, y-intercept; and</li> <li>6. Solve application problems using linear equations, quadratic equations, system of linear equations, linear inequalities, and equations involving rational express.</li> </ol>

**Table 6a: Maui Community College’s English Course Descriptions**

<i>Alpha</i>	<i>Title</i>	<i>Level</i>	<i>Credit Hours</i>	<i>Contact Hrs./Week</i>	<i>Student Learning Outcomes/Competencies</i>
ENG 19	Writing Skills	Remedial	3	2.5	<p><b>Students who successfully complete Eng 19 should be able to</b></p> <ol style="list-style-type: none"> <li>1. Demonstrate an understanding of writing as a process which includes exploring ideas, organizing ideas, drafting, revising, and proofreading;</li> <li>2. Write paragraphs that are focused on a main point and developed with supporting details, facts, and/or examples;</li> <li>3. Write paragraphs suited to particular purposes and audiences;</li> <li>4. Revise paragraphs for adequate development of a main point, especially to improve paragraph unity and supporting details;</li> <li>5. Proofread to correct errors in grammar, spelling, and punctuation;</li> <li>6. Perform time-restricted writing tasks such as in-class writing assignments; and</li> <li>7. Demonstrate a basic understanding of the grammar and mechanics of standard English.</li> </ol>
ENG 21	Developmental Reading	Developmental	3	2.5	<p><b>Students who successfully complete Eng 21 should be able to</b></p> <ol style="list-style-type: none"> <li>1. Identify the topic and purpose of a reading sample;</li> <li>2. Distinguish between main ideas and supporting details;</li> <li>3. Locate specific information;</li> <li>4. Distinguish between stated and implied ideas; make inferences;</li> <li>5. Draw conclusions and predict outcomes;</li> <li>6. Recognize the structure and organization of paragraphs;</li> <li>7. Use strategies to think critically about reading;</li> <li>8. Use various reading aids such as the dictionary;</li> <li>9. Use appropriate technology to enhance reading comprehension, reading speed, and vocabulary development; and</li> <li>10. Demonstrate techniques for improving vocabulary such as using contextual clues, word parts, and other reading devices.</li> </ol>
ENG 22	Introduction to Composition	Developmental	3	2.5	<p><b>Students who successfully complete Eng 22 should be able to</b></p> <ol style="list-style-type: none"> <li>1. Write complete, grammatically correct sentences;</li> <li>2. Identify audience and purpose for a writing assignment and use appropriate language and style;</li> <li>3. Identify and correct basic problems in grammar, punctuation, and mechanics;</li> <li>4. Organize, develop, and write a coherent paragraph with topic sentence, supporting details, and concluding sentence; and</li> <li>5. Plan, organize, develop, and write a logical and coherent essay that contains a thesis statement, coherent body paragraphs, and a conclusion.</li> </ol>

**Table 6a: Maui Community College’s Math Course Descriptions**

<i>Alpha</i>	<i>Title</i>	<i>Level</i>	<i>Credit Hours</i>	<i>Contact Hrs./Week</i>	<i>Student Learning Outcomes/Competencies</i>
MATH 22	Pre-Algebra Mathematics	Remedial	3	2.5	<p><b>Students who successfully complete Math 22 should be able to</b></p> <ol style="list-style-type: none"> <li>1. Use writing to discover and articulate ideas;</li> <li>2. Apply numeric, graphic, and symbolic skills and other forms of quantitative reasoning accurately and appropriately;</li> <li>3. Demonstrate mastery on mathematical concepts, skills, and applications, using technology when appropriate;</li> <li>4. Communicate clearly and concisely the methods and results of quantitative problem solving;</li> <li>5. Formulate and test hypotheses using numerical experimentation;</li> <li>6. Define quantitative issues and problems, gather relevant information, analyze that information, and present results;</li> <li>7. Use print and electronic information technology ethically and responsibly;</li> <li>8. Demonstrate knowledge of basic vocabulary, concepts, and operations of information retrieval and technology;</li> <li>9. Identify and state problems, issues, arguments, and questions contained in a body of information;</li> <li>10. Identify and analyze assumptions and underlying points of view relating to an issue or problem;</li> <li>11. Evaluate a problem, distinguishing between relevant and irrelevant facts, opinions, assumptions, issues, values, and biases through the use of appropriate evidence;</li> <li>12. Apply problem-solving techniques and skills, including the rules of logic and logical sequence; and</li> <li>13. Communicate clearly and concisely the methods and results of logical reasoning.</li> </ol>
MATH 23	Practical Algebra	Developmental	3	2.5	<p><b>Students who successfully complete Math 23 should be able to</b></p> <ol style="list-style-type: none"> <li>1. Apply numeric, graphic, and symbolic skills and other forms of quantitative reasoning accurately and appropriately;</li> <li>2. Demonstrate mastery on mathematical concepts, skills, and applications, using technology when appropriate;</li> <li>3. Communicate clearly and concisely the methods and results of quantitative problem solving;</li> <li>4. Formulate and test hypotheses using numerical experimentation;</li> <li>5. Define quantitative issues and problems, gather relevant information, analyze that information, and present results;</li> </ol>

**Table 6b: Maui Community College’s Math Course Descriptions**

<i>Alpha</i>	<i>Title</i>	<i>Level</i>	<i>Credit Hours</i>	<i>Contact Hrs./Week</i>	<i>Student Learning Outcomes/Competencies</i>
MATH 23 (cont.)	Practical Algebra	Developmental	3	2.5	<ul style="list-style-type: none"> <li>6. Use print and electronic information technology ethically and responsibly;</li> <li>7. Demonstrate knowledge of basic vocabulary, concepts, and operations of information retrieval and technology;</li> <li>8. Identify and state problems, issues, arguments, and questions contained in a body of information;</li> <li>9. Identify and analyze assumptions and underlying points of view relating to an issue or problem;</li> <li>10. Evaluate a problem, distinguishing between relevant and irrelevant facts, opinions, assumptions, issues, values, and biases through the use of appropriate evidence;</li> <li>11. Apply problem-solving techniques and skills, including the rules of logic and logical sequence; and</li> <li>12. Communicate clearly and concisely the methods and results of logical reasoning.</li> </ul>
MATH 25	Elementary Algebra II	Developmental	3	2.5	<p><b>Students who successfully complete Math 25 should be able to</b></p> <ul style="list-style-type: none"> <li>1. Use writing to discover and articulate ideas;</li> <li>2. Apply numeric, graphic, and symbolic skills and other forms of quantitative reasoning accurately and appropriately;</li> <li>3. Demonstrate mastery on mathematical concepts, skills, and applications, using technology when appropriate;</li> <li>4. Communicate clearly and concisely the methods and results of quantitative problem solving;</li> <li>5. Formulate and test hypotheses using numerical experimentation;</li> <li>6. Define quantitative issues and problems, gather relevant information, analyze that information, and present results;</li> <li>7. Use print and electronic information technology ethically and responsibly;</li> <li>8. Demonstrate knowledge of basic vocabulary, concepts, and operations of information retrieval and technology;</li> <li>9. Identify and state problems, issues, arguments, and questions contained in a body of information;</li> <li>10. Identify and analyze assumptions and underlying points of view relating to an issue or problem;</li> </ul>

**Table 6b: Maui Community College's Math Course Descriptions**

<i>Alpha</i>	<i>Title</i>	<i>Level</i>	<i>Credit Hours</i>	<i>Contact Hrs./Week</i>	<i>Student Learning Outcomes/Competencies</i>
MATH 25 (cont.)	Elementary Algebra II	Developmental	3	2.5	11. Evaluate a problem, distinguishing between relevant and irrelevant facts, opinions, assumptions, issues, values, and biases through the use of appropriate evidence; 12. Apply problem-solving techniques and skills, including the rules of logic and logical sequence; and 13. Communicate clearly and concisely the methods and results of logical reasoning.
MATH 27	Intermediate Algebra	Developmental	3	2.5	<b>Students who successfully complete Math 27 should be able to</b> 1. Apply numeric, graphic, and symbolic skills and other forms of quantitative reasoning accurately and appropriately; and 2. Demonstrate mastery on mathematical concepts, skills, and applications, using technology when appropriate.

**Table 7a: Windward Community College’s English Course Descriptions**

<i>Alpha</i>	<i>Title</i>	<i>Level</i>	<i>Credit Hours</i>	<i>Contact Hrs./Week</i>	<i>Student learning Outcomes/Competencies</i>
LSK 35	Learning Skills for College Success	Remedial	4	4	<p><b>Students who successfully complete LSK 35 should be able to</b></p> <ol style="list-style-type: none"> <li>1. Incorporate newly learned reading and writing assignments;</li> <li>2. Apply literal, interpretative, and critical reading skills to comprehend and analyze various types of reading materials;</li> <li>3. Use various study skill strategies, such as an appropriate reading-study system to understand and retain information in informative material, time management, and note taking;</li> <li>4. Select and recode relevant key ideas in linear or visual form; and</li> <li>5. Use a writing process and produce clear, concise, credible, and grammatically correct paragraphs.</li> </ol>
ENG 21	Intermediate Reading	Developmental	3	2.5	<p><b>Students who successfully complete Eng 21 should be able to</b></p> <ol style="list-style-type: none"> <li>1. Incorporate newly learned vocabulary in reading and writing assignments;</li> <li>2. Apply literal, interpretative, and critical reading skills to comprehend and analyze various types of reading materials in different situations;</li> <li>3. Use an appropriate reading-study system to understand and retain information in informative material; and</li> <li>4. Select and recode relevant key ideas in linear or visual form and in summative format.</li> </ol>
ENG 22	Introduction to Expository Writing	Developmental	3	2.5	<p><b>Students who successfully complete Eng 22 should be able to</b></p> <ol style="list-style-type: none"> <li>1. Use a writing process to produce papers that have precision and clarity;</li> <li>2. Apply critical reading skills to various written sources;</li> <li>3. Complete a short paper involving research strategies that include finding, evaluating, and documenting information from various sources;</li> <li>4. Successfully complete the required library units and apply these library search skills;</li> <li>5. Use critical analysis to write concise and accurate summaries; and</li> <li>6. Demonstrate ethical and responsible behaviors in writing and other academic endeavors.</li> </ol>



**Table 7b: Windward Community College's Math Course Descriptions**

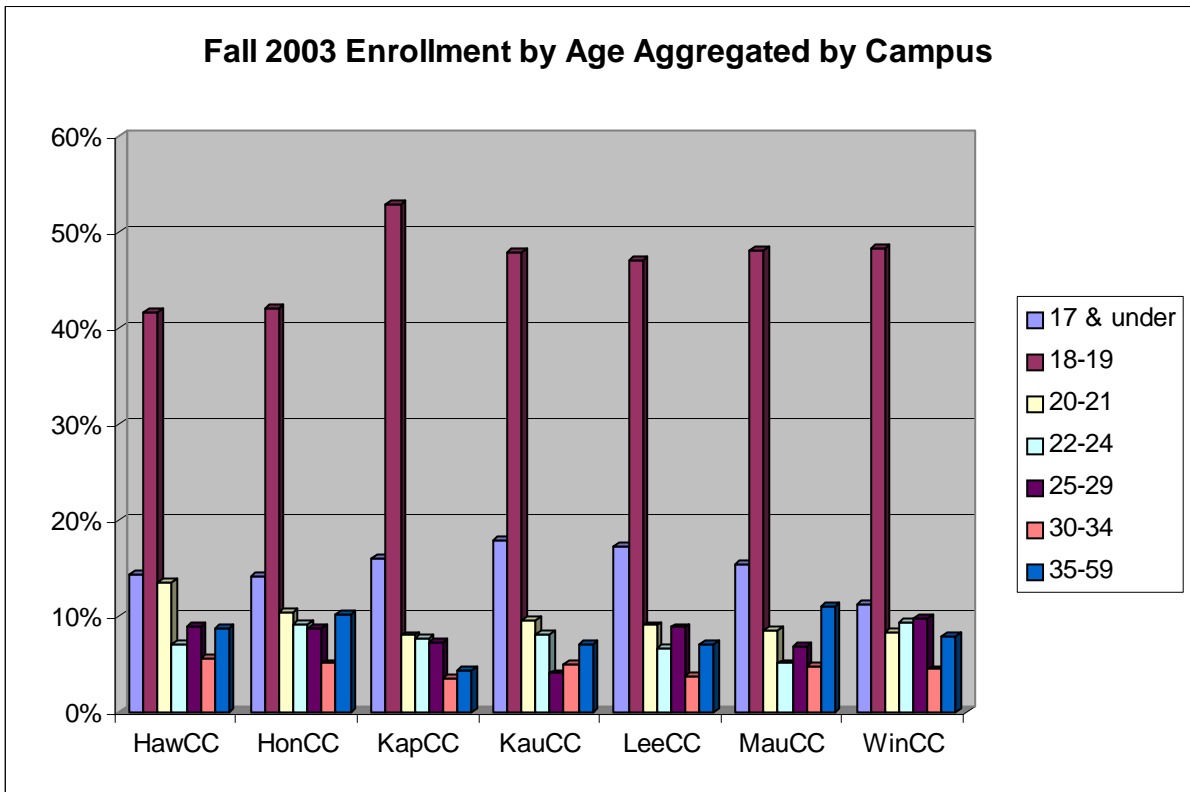
<i>Alpha</i>	<i>Title</i>	<i>Level</i>	<i>Credit Hours</i>	<i>Contact Hrs./Week</i>	<i>Student learning Outcomes/Competencies</i>
MATH 21 A	Basic College Mathematics I	Remedial	2	1.75	<p><b>Students who successfully complete Math 21 A should be able to</b></p> <ol style="list-style-type: none"> <li>1. Utilize precise mathematical language and symbols in written and/or oral form;</li> <li>2. Demonstrate proficiency in performing operations with whole numbers, fractions, mixed numbers, and decimal numbers;</li> <li>3. Utilize fundamental properties to solve simple equations; and</li> <li>4. Use algebraic techniques to analyze and solve applied problems.</li> </ol>
MATH 21 B	Basic College Mathematics II	Remedial	2	1.75	<p><b>Students who successfully complete Math 21 B should be able to</b></p> <ol style="list-style-type: none"> <li>1. Utilize precise mathematical language and symbols in written and/or oral form;</li> <li>2. Demonstrate proficiency in performing operations with integers, rational numbers, real numbers, and variable expressions;</li> <li>3. Utilize fundamental properties to solve simple equations;</li> <li>4. Use algebraic techniques to analyze and solve applied problems;</li> <li>5. Employ mathematical formulas to determine measurements in geometric figures; and</li> <li>6. Apply concepts and principles to solve applied problems.</li> </ol>
MATH 22	Pre-Algebra Mathematics	Remedial	3	2.5	<p><b>Students who successfully complete Math 22 should be able to</b></p> <ol style="list-style-type: none"> <li>1. Utilize precise mathematical language and symbols in written and/or oral form;</li> <li>2. Demonstrate proficiency in performing operations with whole numbers, fractions, mixed numbers, and decimal numbers, integers, real numbers, and variable expressions;</li> <li>3. Utilize fundamental properties to solve simple equations;</li> <li>4. Use algebraic techniques to analyze and solve applied problems;</li> <li>5. Employ mathematical formulas to determine measurements in geometric figures; and</li> <li>6. Apply concepts and principles of percents to solve applied problems.</li> </ol>

**Table 7b: Windward Community College’s Math Course Descriptions**

<i>Alpha</i>	<i>Title</i>	<i>Level</i>	<i>Credit Hours</i>	<i>Contact Hrs./Week</i>	<i>Student learning Outcomes/Competencies</i>
MATH 24	Elementary Algebra I	Developmental	3	2.5	<p><b>Students who successfully complete Math 24 should be able to</b></p> <ol style="list-style-type: none"> <li>1. Utilize precise mathematical language and symbols in written and/or oral form;</li> <li>2. Demonstrate proficiency in performing operations with rational numbers, and variable expressions;</li> <li>3. Use algebraic techniques to analyze and solve applied problems;</li> <li>4. Find slope and apply it to finding the equation of a line;</li> <li>5. Utilize introductory function concepts; and</li> <li>6. Demonstrate proficiency in the use of the rules of exponents.</li> </ol>
MATH 25	Elementary Algebra II	Developmental	3	2.5	<p><b>Students who successfully complete Math 25 should be able to</b></p> <ol style="list-style-type: none"> <li>1. Utilize precise mathematical language and symbols in written and/or oral form;</li> <li>2. Demonstrate proficiency in performing operations with real numbers and variable expressions;</li> <li>3. Interpret quadratic equations geometrically and identify key characteristics;</li> <li>4. Employ algebraic techniques to find the solution for equations;</li> <li>5. Use algebraic techniques to analyze and solve applied problems;</li> <li>6. Demonstrate proficiency in the use of the rules of exponents and its applications to scientific notation;</li> <li>7. Employ algebraic techniques to factor a polynomial; and</li> <li>8. Graph a linear equation in two variables, find slope and apply it to finding the equation of a line.</li> </ol>

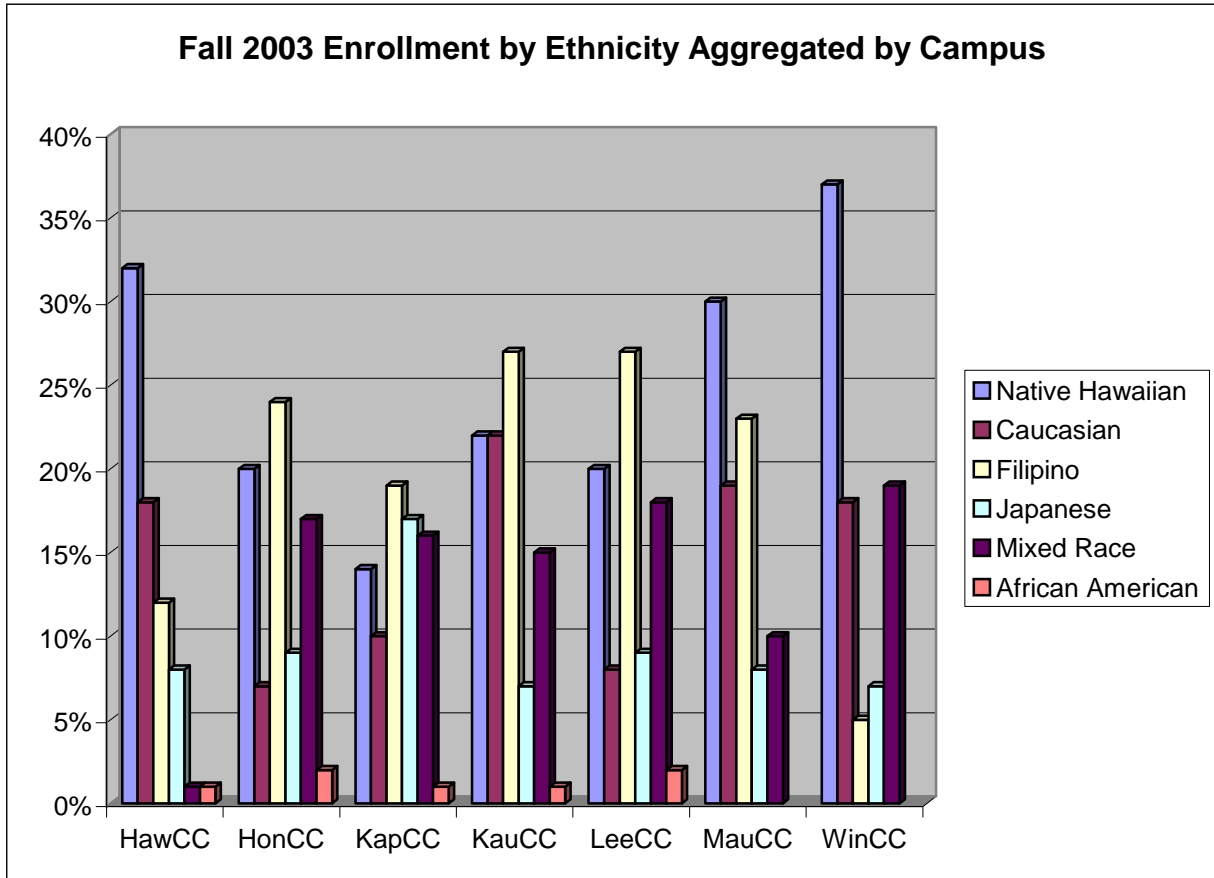
## APPENDIX D

### Fall 2003 Enrollment by Age for Remedial and Developmental Courses Aggregated by Campus



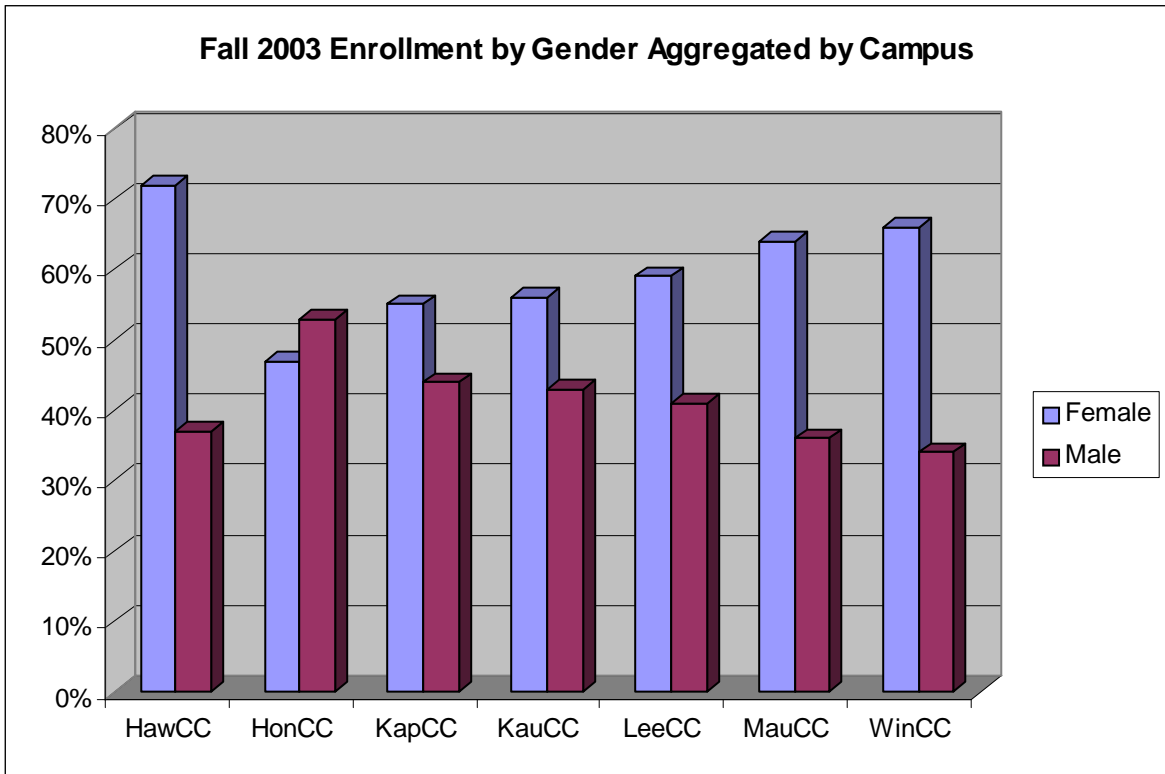
## APPENDIX D

### Fall 2003 Enrollment by Ethnicity in Remedial and Developmental Courses Aggregated by Campus



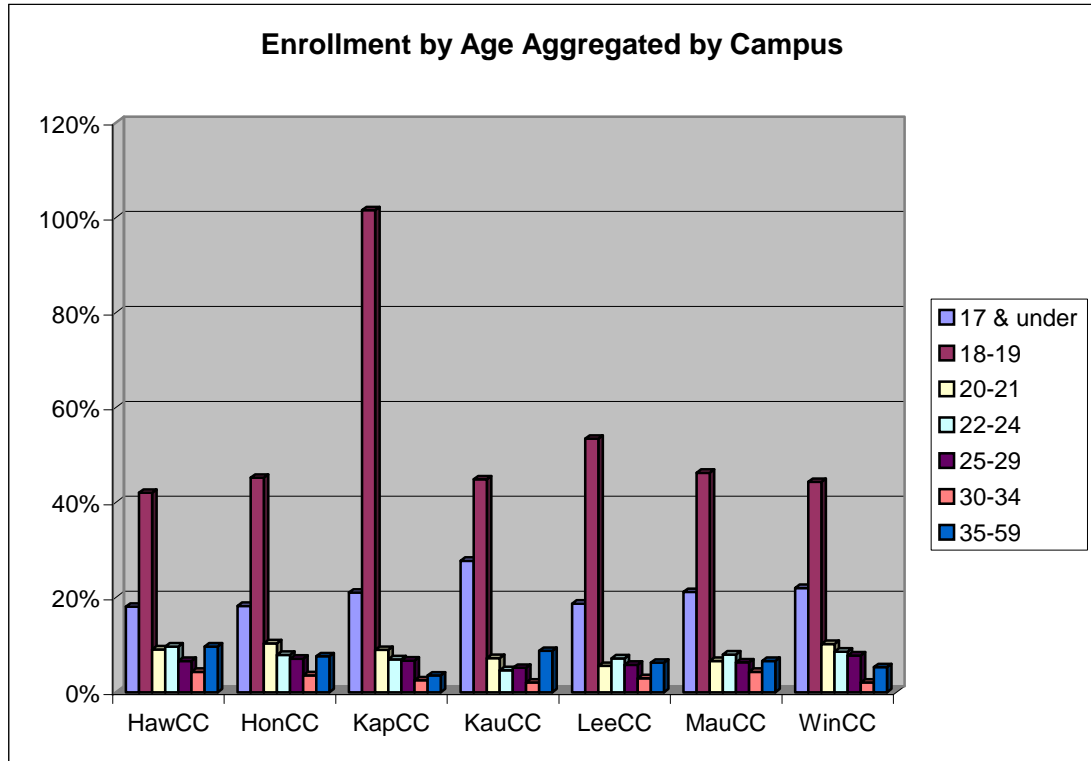
APPENDIX D

Fall 2003 Enrollment by Gender for Remedial and Developmental Courses  
Aggregated by Campus



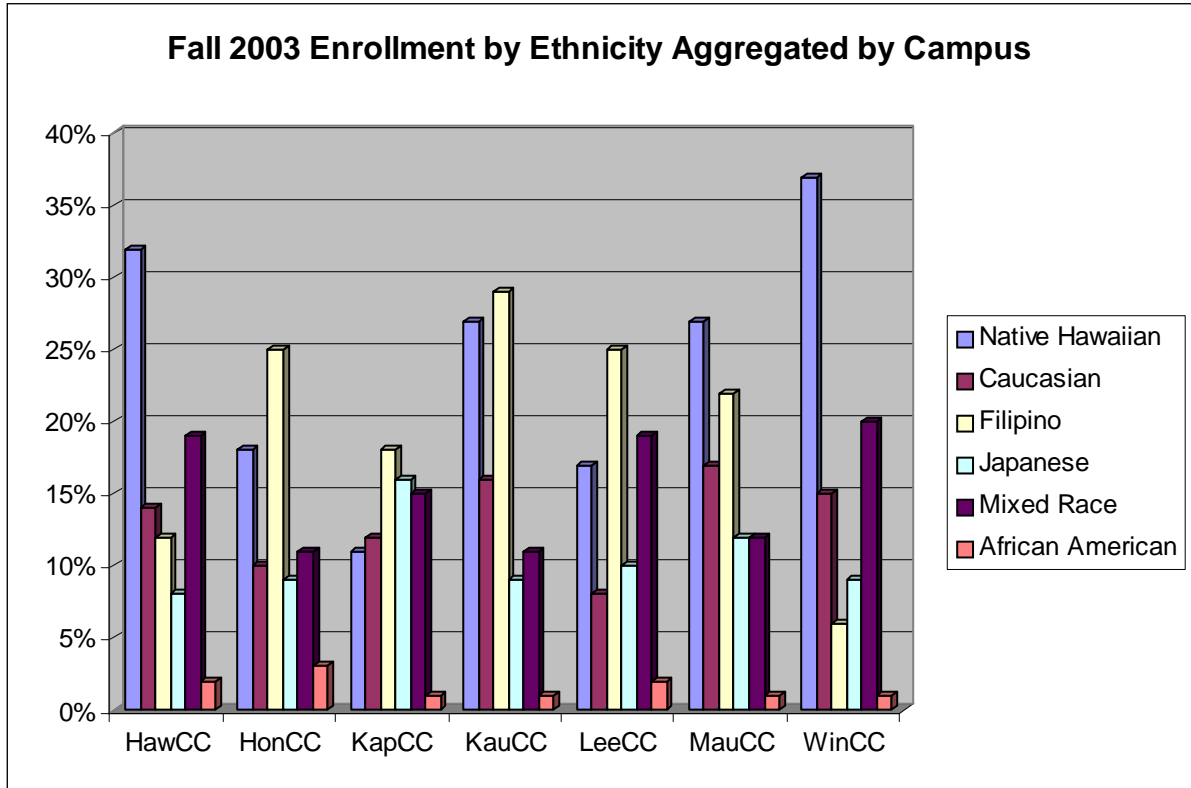
## APPENDIX D

### Fall 2004 Enrollment by Age for Remedial and Developmental Courses Aggregated by Campus



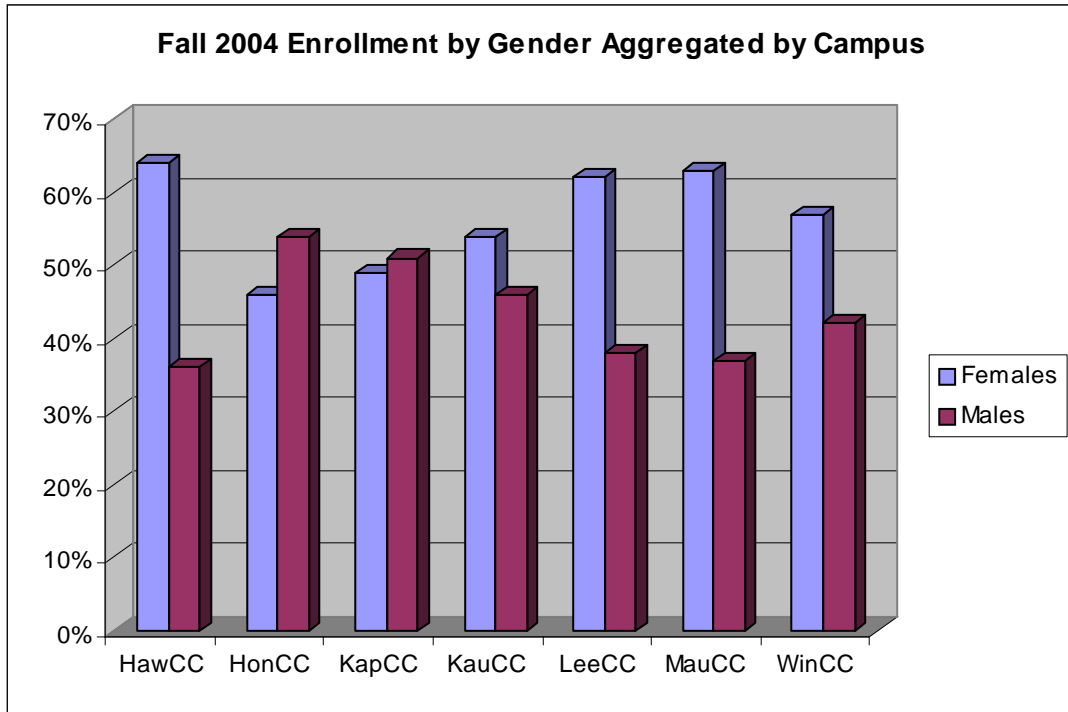
## APPENDIX D

### Fall 2004 Enrollment by Ethnicity for Remedial and Developmental Courses Aggregated by Campus



## APPENDIX D

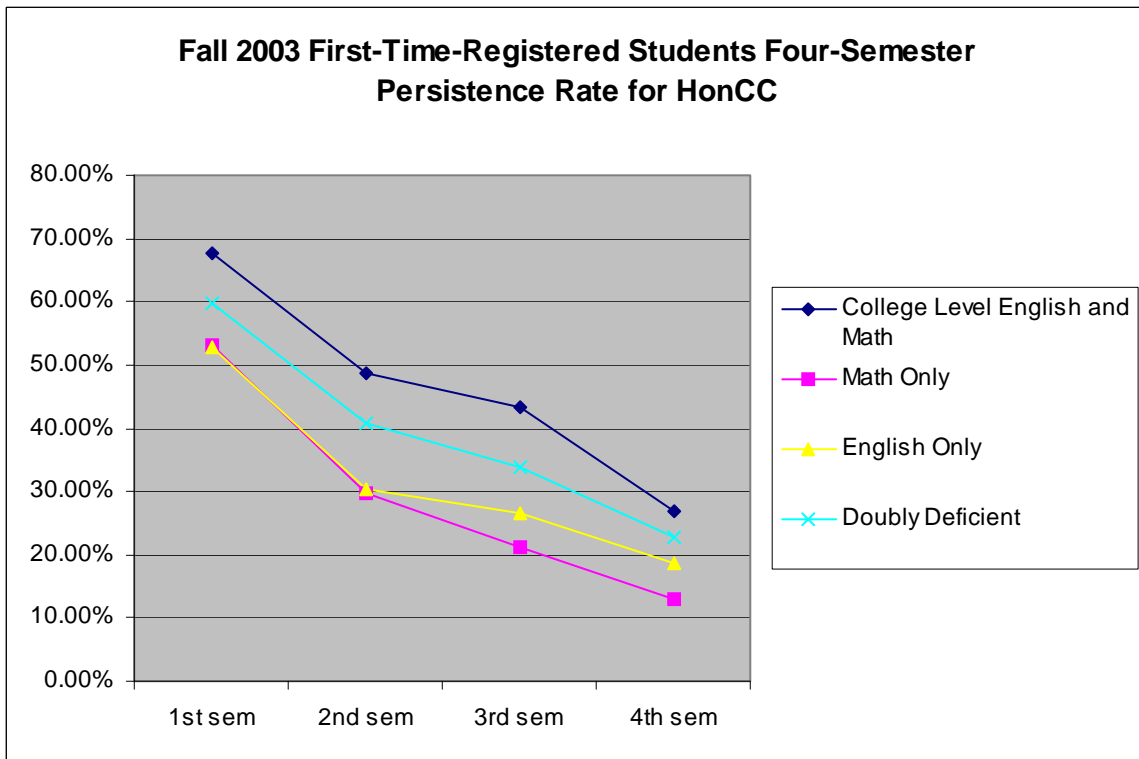
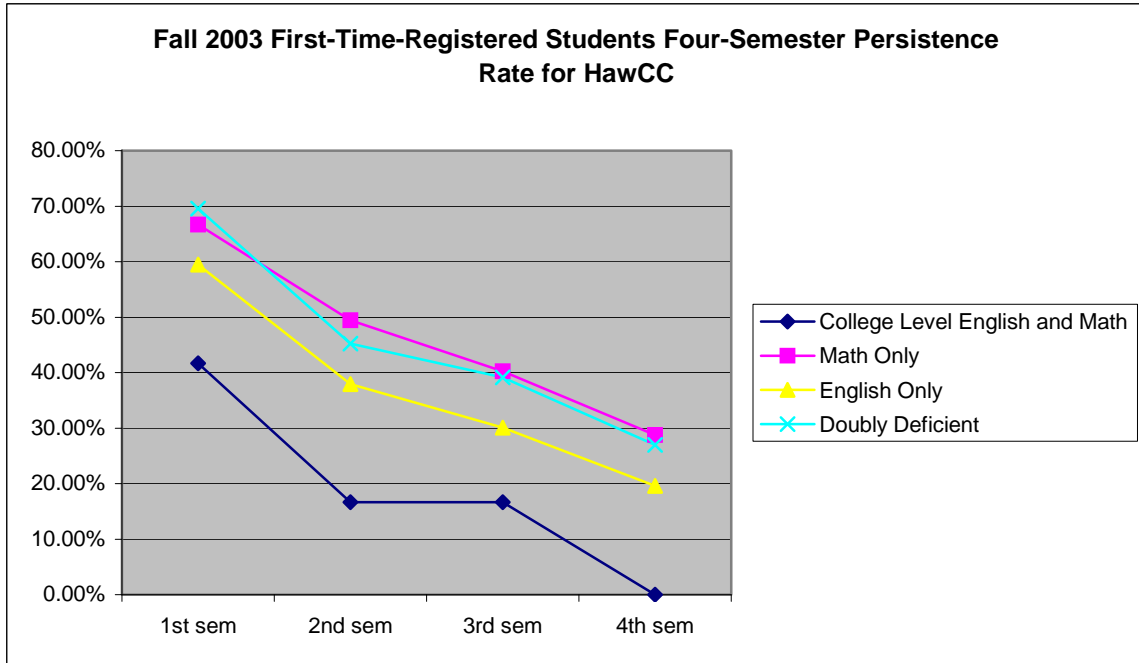
### Fall 2004 Enrollment by Gender for Remedial Developmental Courses Aggregated by Campus





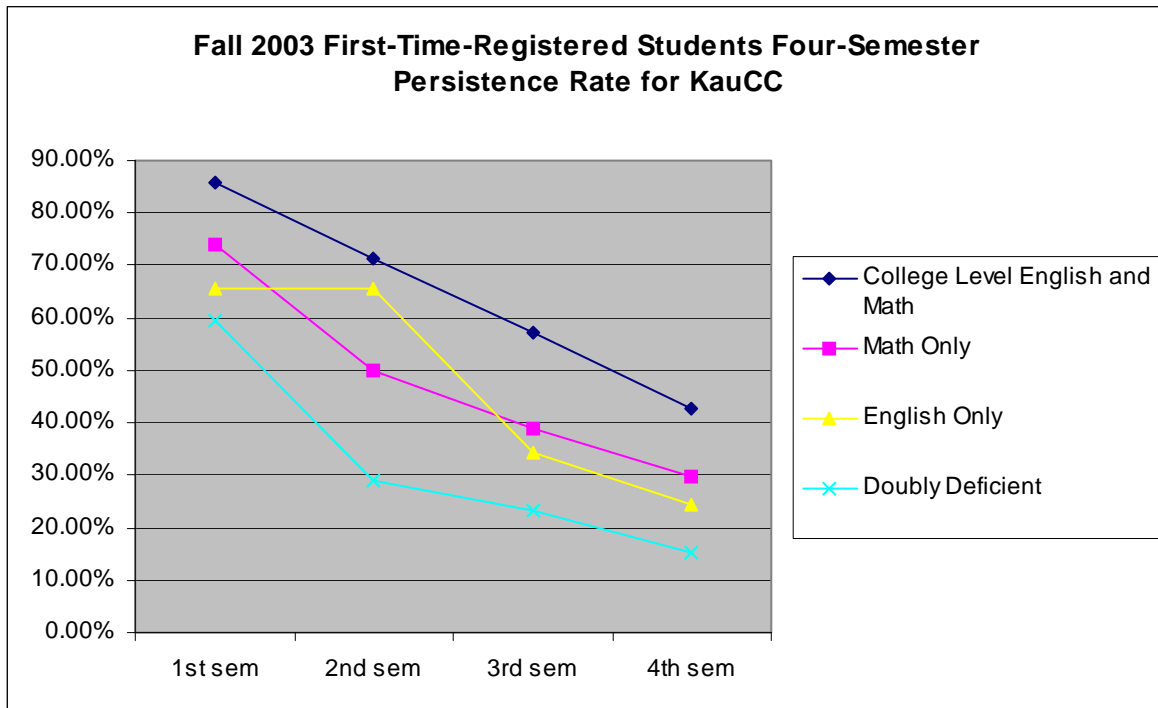
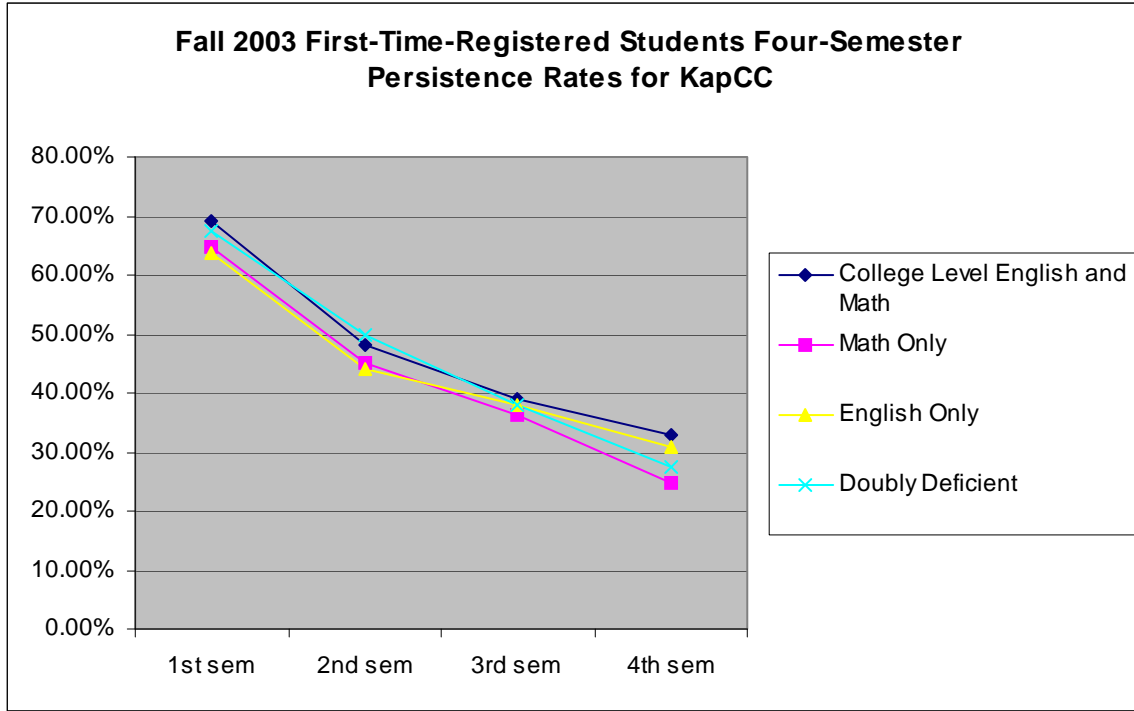
## APPENDIX E

### Fall 2003 First-Time-Registered Students Four-Semester Persistence Rate Aggregated by Campus



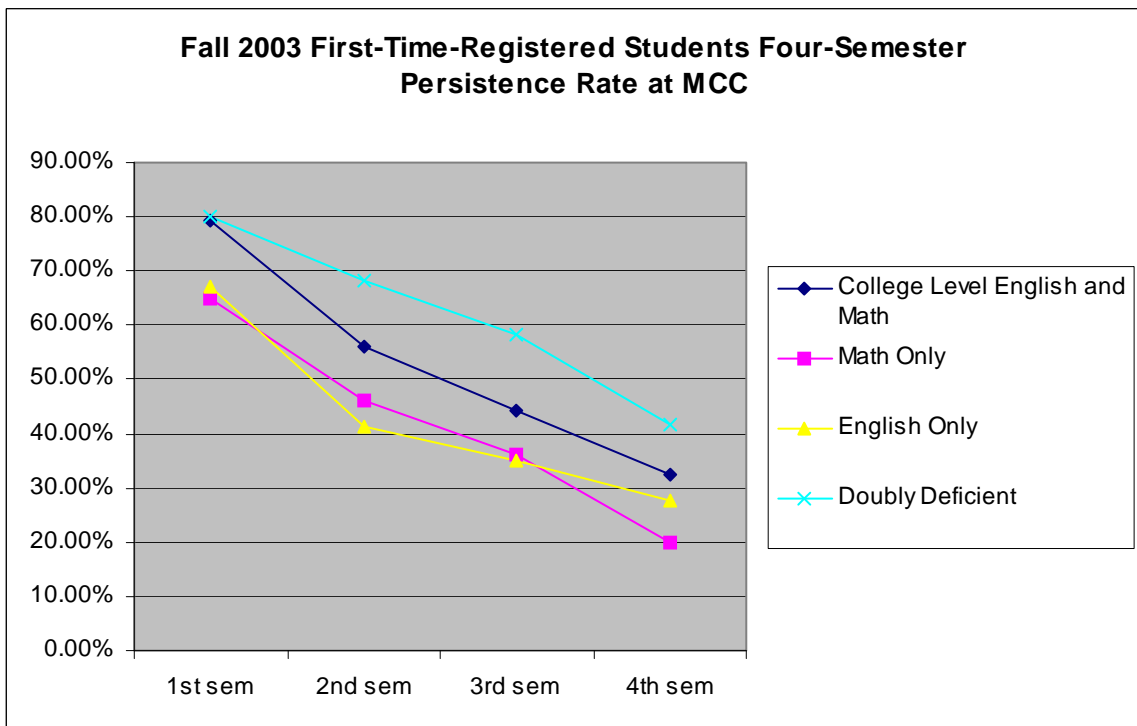
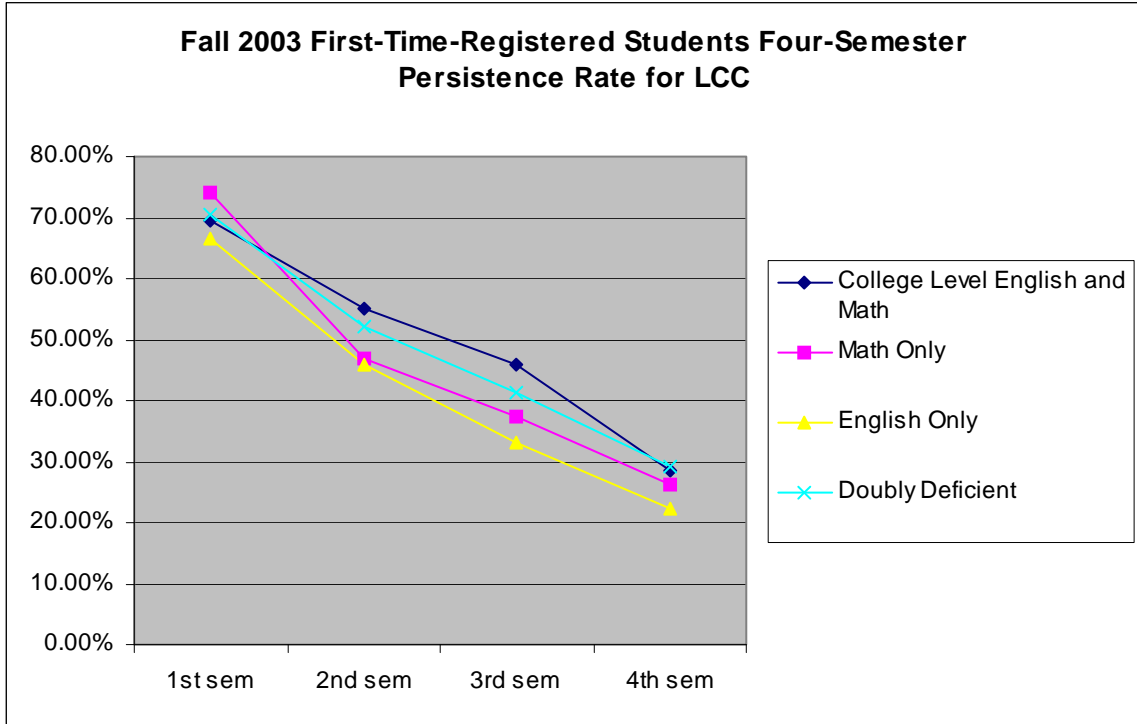
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### Fall 2003 First-Time-Registered Students Four-Semester Persistence Rate Aggregated by Campus



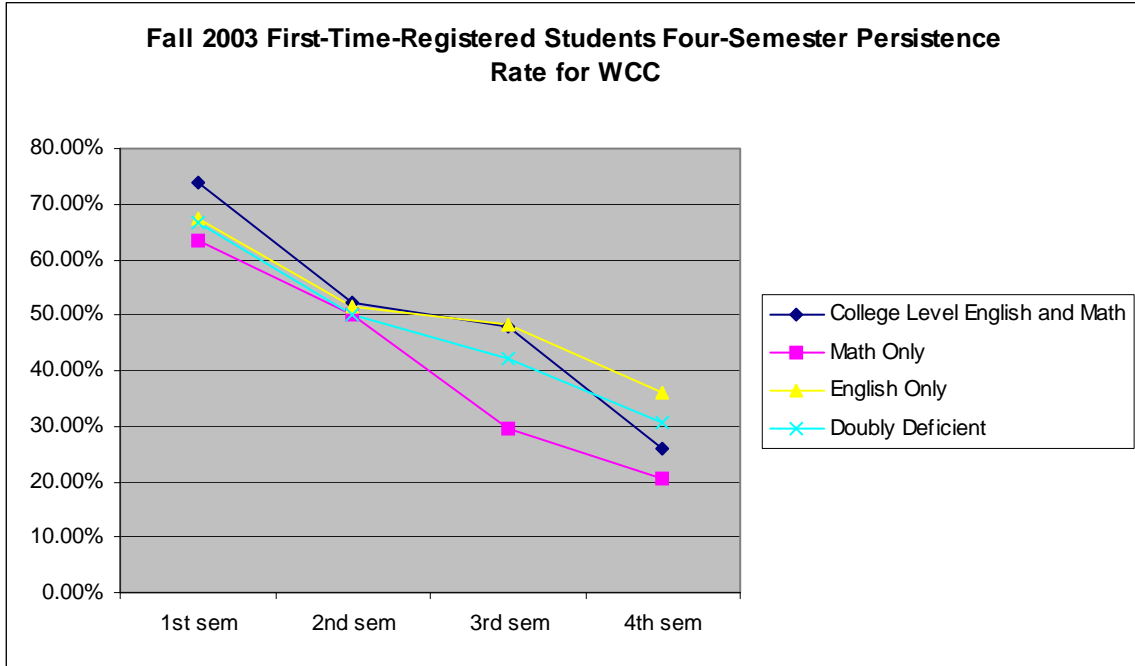
## APPENDIX E

### Fall 2003 First-Time-Registered Students Four-Semester Persistence Rate Aggregated by Campus



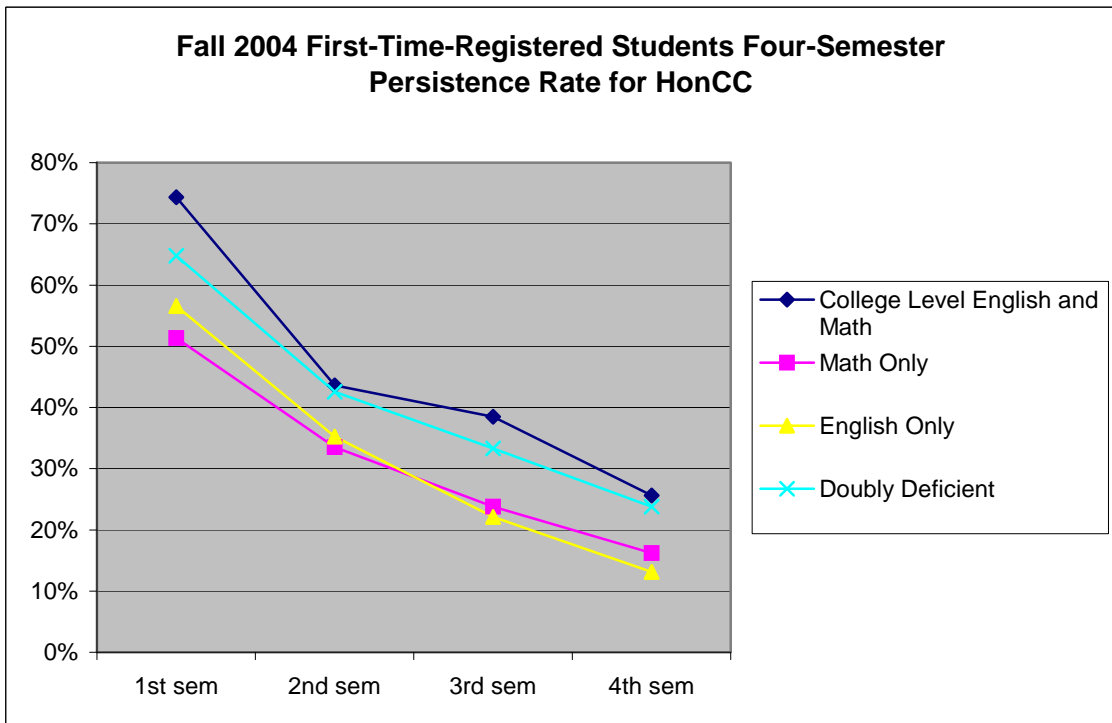
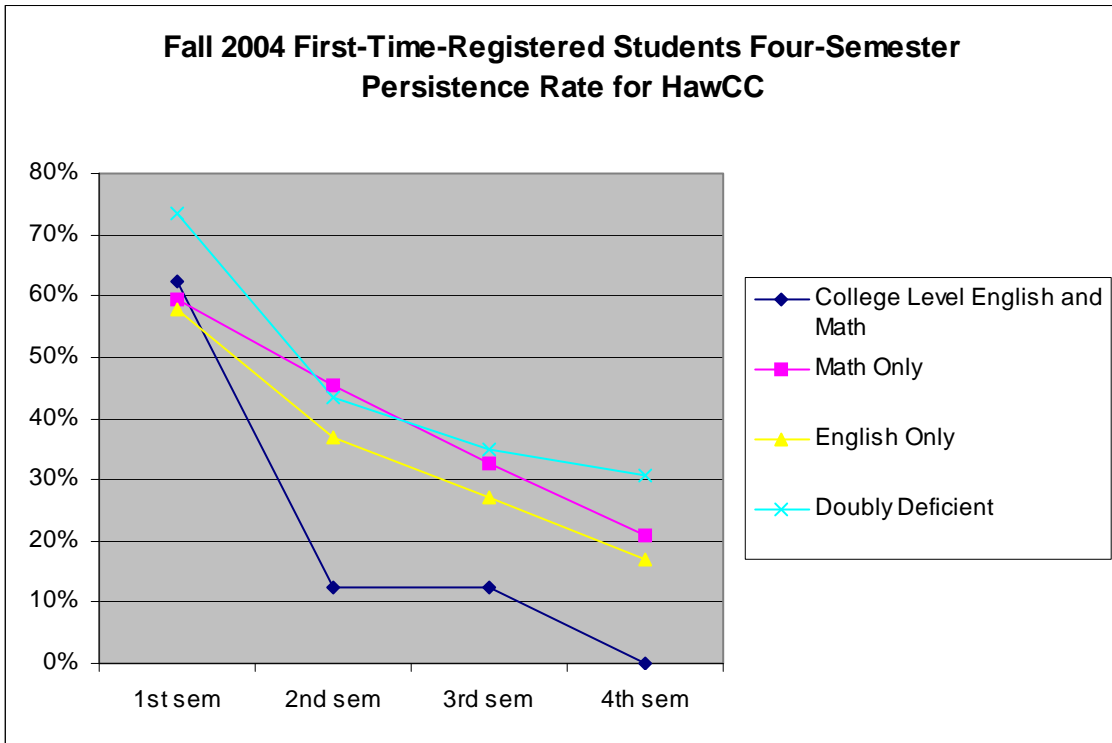
## APPENDIX E

### Fall 2003 First-Time-Registered Students Four-Semester Persistence Rate Aggregated by Campus



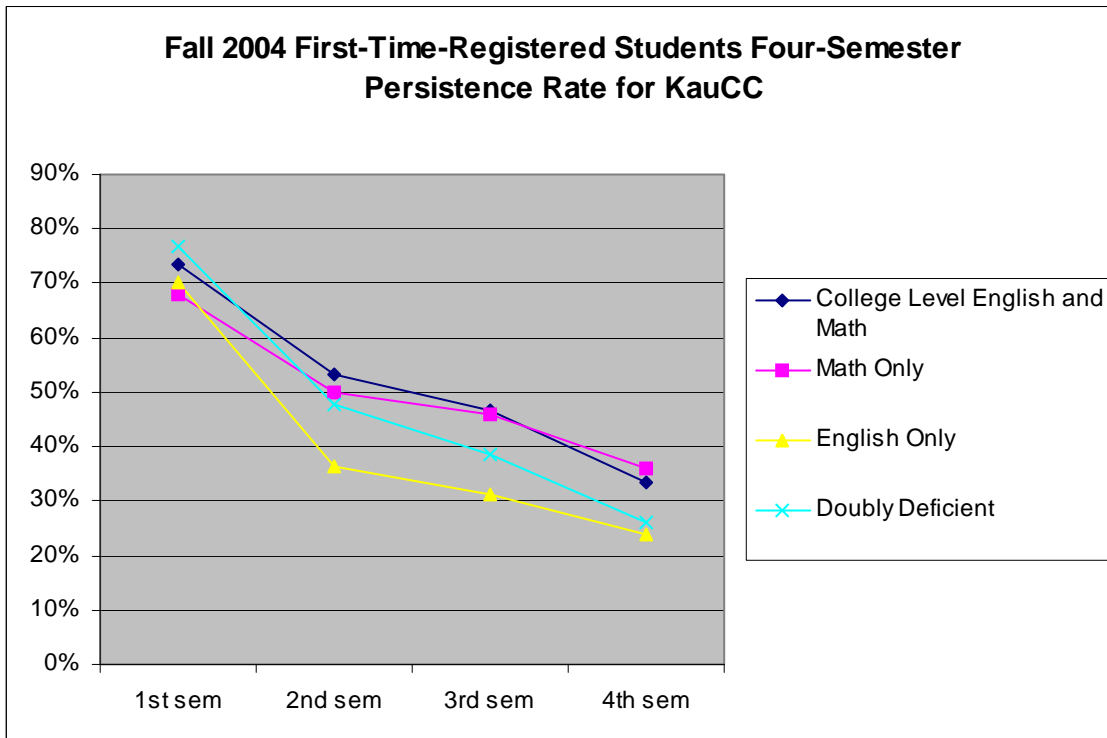
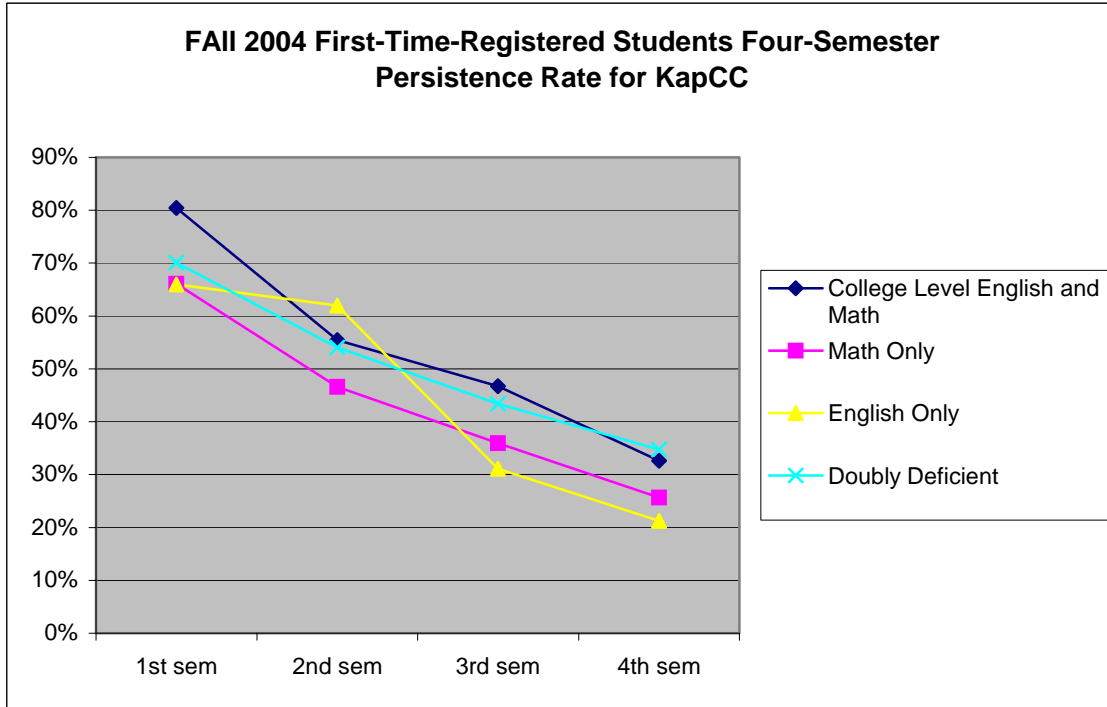
## APPENDIX E

### Fall 2004 First-Time-Registered Students Four-Semester Persistence Rate Aggregated by Campus



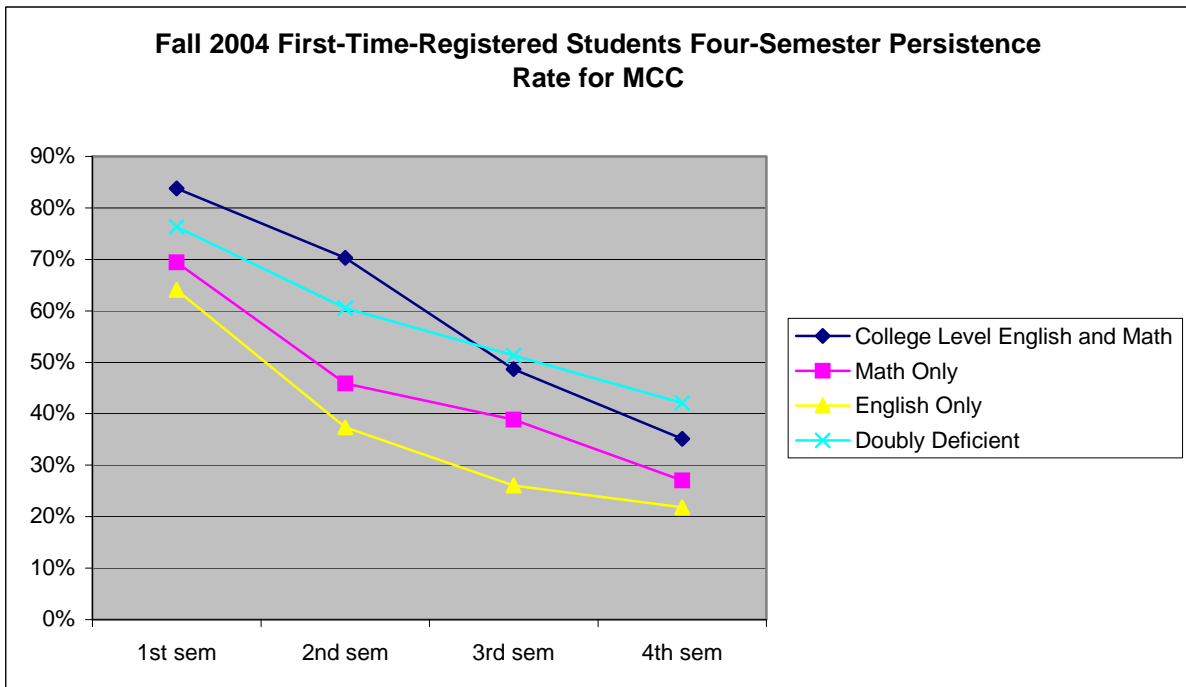
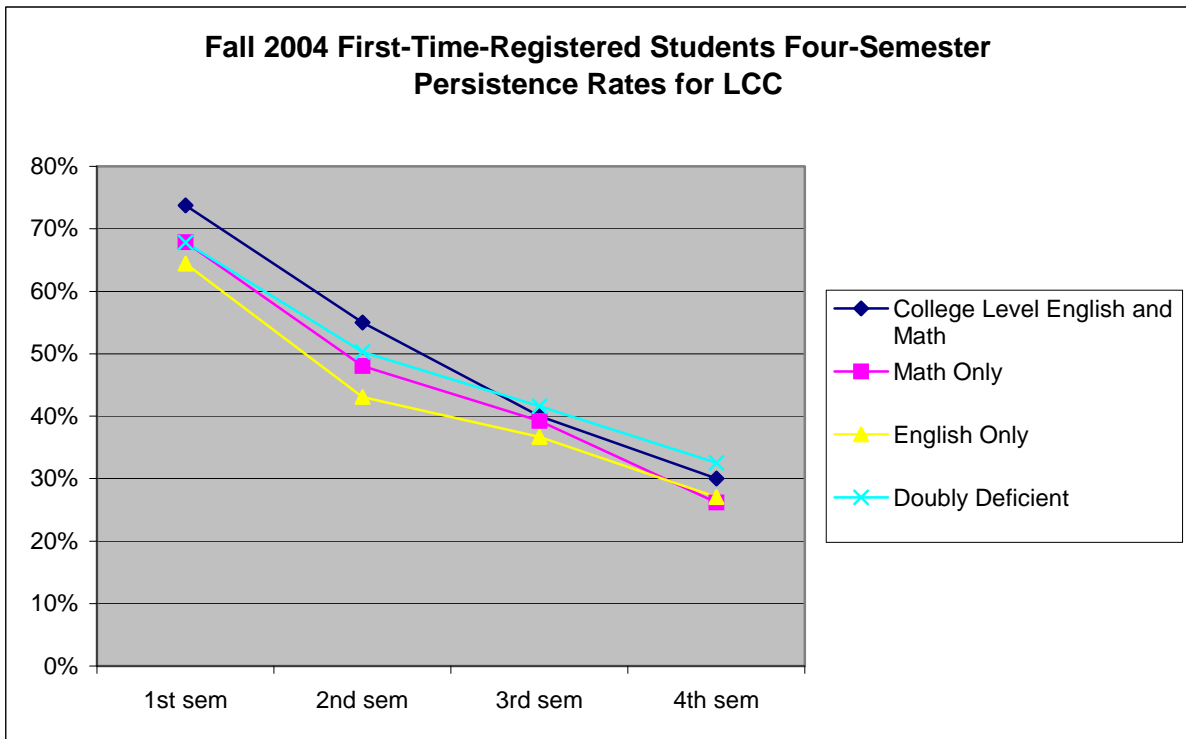
## APPENDIX E

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