

UHCC December 2009 Annual Report Remedial & Developmental Mathematics

College:

Check One: Reading Writing  Math

Introduction:

Remedial and developmental math courses at Hawai'i Community College consist of math courses that are under 100-level. These courses include Math 1ABCD (basic mathematics), Math 22 (pre-algebra), Math 24 (elementary algebra I), Math 25 (elementary algebra II), Math 26 (elementary algebra), and Math 27 (intermediate algebra). Although not considered a "program", these courses are an integral part of the Math and Natural Sciences Department of the Liberal Arts and Public Services Division. Frequently, these courses represent the pre-requisite courses for majority of the degrees offered at Hawai'i Community College and in particular the Associate of Arts Degree. Although there are additional remedial and developmental courses that support other vocational programs, such as Math 50, Math 51, and Math 66, the focus of this self analysis will concentrate primarily on these six remedial/developmental courses.

Part I.

Quantitative Indicators - Reported on 2009 Summary Report Remedial and Developmental Data excel sheet. Program costs added by college. The following data was provided by the UH System Office.

Annual Report of Program Data for Remedial/Developmental Math Hawaii Community College			
Demand Indicators		Academic Year	
			08-09
1	Enrolled Students placed below College Level (unduplicated)		N/A
2	Enrolled in any Remedial/Developmental		756
3	Percent Placed Below College Level and Enrolled		N/A
4	Enrolled Students With No Placement		N/A
5	Semester Hours Taught		170
6	Student Semester Hours (SSH) Taught		3,868
7	Full Time Students (Fall) Enrolled		499
8	Full Time Students (Spring) Enrolled		362
9	Number of Classes Taught		69
Efficiency Indicators		Academic Year	

				08-09
10	Average Class Size			22.62
11	Fill Rate			92%
12	Number of Low-Enrolled (<10) Classes			5
13	BOR Appointed Faculty (FTE)			3.6
14	Non-BOR Appointed Faculty Teaching Classes			4
15	Percentage Classes Taught by Regular Discipline Faculty			57%
16	Percentage Classes Taught by non Regular Discipline Faculty			43%
17	Program Budget Allocation			\$302,117
18	Cost per SSH			\$78.11
Effectiveness Indicators		Academic Year		
				08-09
Retention (Course Completion)				
19	1 Level Below College Level			91%
20	2 Levels Below College Level			93%
21	3 or More Levels Below College Level			94%
Successful completion (Equivalent C or Higher)				
22	1 Level Below College Level			62%
23	Withdrawals (Grade = W)			6
24	2 Levels Below College Level			60%
25	Withdrawals (Grade = W)			29
26	3 or More Levels Below College Level			60%
27	Withdrawals (Grade = W)			64
Achieving the Dream			AtD Fall Cohort	
		2005	2006	2007
28	Cohort Enrolled in Remedial Developmental Course	266	304	163
29	Cohort Successful Completion at Least One Remedial/Developmental Course with in First Academic Year	158	203	104
30	Percent Cohort Successful Completion	59%	67%	64%
Longitudinal Tracking		Academic Year		
				08-09
Persistence (Fall to Spring)				
31	From 1 Level Below College Level, To College level			N/A
32	From 2 Levels Below College Level, To 1 Level Below			N/A
33	From 3 or More Levels Below College Level, To 2 Levels Below			N/A
Success in Subsequent Semester Course (Equivalent C or Higher)				
34	From 1 Level Below College Level, To College Level			N/A
35	From 2 Levels Below College Level, To 1 Level Below			N/A
36	From 3 or More Levels Below College Level, To 2 Levels Below			N/A

C/P denotes College provided data

N/A denotes data currently not available

Data current as of: 8/19/2009 - 11:00:13 AM

Since this is the first “program” review, data was collected locally, by Hawai'i Community College's IT Specialist, for the period summer 2008, fall 2008, and spring 2009.

Hawaii Community College					
Remedial / Developmental Program Review data elements					
2008-09 academic year.					
Demand:					
1. Students Taking Compass Test:	2856				
2. Students taking Compass with remedial/developmental placement (Students placing at DOE level not included.)					
Math	2383				
Unduplicated count of students placing in at least one remedial / developmental discipline based upon Compass	2562	89.71%			
3. HAWCC Students enrolled in at least one remedial course:	LBRT	CTE	Uncl.	Total	
HAW	312	647	15	974	
HAW - Unduplicated*				961	
WHI	112	76	1	189	
WHI - Unduplicated*				189	
Combined	424	723	16	1163	
Combined - Unduplicated**				1130	
*Students changing their major during the study period can cause them to be counted in multiple categories.					
**Note: There were 22 students taking remedial classes at both HAWCC Hilo & WHI.					
4. HAWCC SSH on remedial / developmental classes only:					
Haw	2040	4123	67	6230	
WHI	674	467	8	1149	
Combined	2714	4590	75	7379	
5. HAWCC FTE Enrollment (Total SSH / 27)					
Haw	75.56	152.70	2.48	230.74	
WHI	24.96	17.30	0.30	42.56	
Combined	100.52	170.00	2.78	273.30	
6. HAWCC Students first time enrolled by level	1 Level	2 Levels	3 Levels	Total	
	Below	Below	Below	Rem/Dev	
HAW					
Math	140	159	628	927	
WHI					
Math	36	52	92	180	
Combined					

Math	178	211	720	1107	
7. Students enrolled in one, two, or three remedial/ developmental course subjects. (Reading/Writing/Math)	Single	Double	Triple	Total	
HAW	562	264	135	961	
WHI	130	44	15	189	
Combined	692	308	150	1150	
Combined - Unduplicated*	663	314	153	1130	
* Students taking remedial classes at both Hilo & WHI Campus cause them to fall in different categories (i.e. Double instead of single)					
8. Number of sections taught, max, and actual enrollments (without and with W Included)	Sections Taught	Max Enrollment	Actual Enrollment No W	Actual Enrollment With W	
HAW					
Math	49	1223	1165	1218	
WHI					
Math	15	350	215	236	
Combined					
Math	64	1573	1380	1454	
Efficiency					
9. Average Class Size:	EOS Including Withdrawals	End of Semester	Count W/ C or Better	% Passing Including Withdrawals	% Passing Excluding Withdrawals
HAW					
Math	24.86	23.78	723	59.36%	62.06%
WHI					
Math	15.73	14.33	165	69.92%	76.74%
Combined					
Math	22.72	21.56	888	61.07%	64.35%
10. Fill Rate (Enrolled student count in remedial / developmental classes divided by the sum of max enrollment values by discipline)	EOS Including Withdrawals	EOS Excluding Withdrawals			
HAW					
Math	99.59%	95.26%			
WHI					
Math	67.43%	61.43%			
Combined					
Math	92.43%	87.73%			

11a. Remedial / developmental Hours Taught	Math			
HAW				
BOR Staff	60			
Non-BOR Staff	53			
Total HAW	113			
WHI				
BOR Staff	18			
Non-BOR Staff	22			
Total WHI	40			
Combined HAW & WHI				
BOR Staff	78			
Non-BOR Staff	75			
Combined Total	153			
11b. Full Time Equivalency: (FTE) (Remedial / developmental SSH taught divided by 27)	Math			
HAW	4.19			
WHI	1.48			
Combined	5.67			
12a. Full Time Equivalency: BOR faculty				
HAW	2.22			
WHI	0.67			
Combined	2.89			
12b. Full Time Equivalency: Non-BOR faculty				
HAW	1.96			
WHI	0.81			
Combined	2.78			
13. Ave. Faculty Load. (Number of students enrolled divided by FTE at EOS-withdrawals included)	Math			
HAW	291.03			
WHI	159.30			
Combined	256.59			
16. Number of low enrolled classes (Less than 10 students)	Sum 08	Fall 2008	Spring 2009	
HAW	0	0	0	
WHI	3	1	5	

Effectiveness					
	Fall 2008	Persisting	Percent	Persisting	Percent
	Count	to spring	Persisting	to	Persisting
17. Persistence (From one semester to the next)	(With W)	2009	(%)	Fall 2009	(%)
HAW					
Math	338	244	72.19%	171	50.59%
WHI					
Math	78	54	69.23%	40	51.28%
18a. Student / class count. Remedial classes by level (Not a student headcount. Used for 18c Percentage calc.)	1 Level	2 Levels	3 Levels	Total	
	Below	Below	Below	Rem/Dev	
HAW					
Math	293	230	695	1218	
WHI					
Math	71	65	101	237	
18b. Successful class completion (C or better) by discipline and level	1 Level Below	2 Levels Below	3 Levels Below	Total Rem/Dev.	
HAW					
Math	174	130	419	723	
WHI					
Math	47	50	68	165	
18c. Successful completion percentage (C or better) by discipline and level	(%)	(%)	(%)	(%)	
HAW					
Math	59.39%	56.52%	60.29%	59.36%	
WHI					
Math	66.20%	76.92%	67.33%	69.62%	

**Hawaii Community College
Remedial Program Review: (Local)
Summer 2008, Fall 2008, Spring 2009**

Math		
1 Enrolled Students Placed below college level*	1214	3856 (Total Enrolled)
2 Enrolled Students in any Remedial / Developmental	756	
3 Percent Placed Below College Level and Enrolled**	79.55%	(1214 out of 1526 enrolled**** placed remedial math.)
4 Enrolled Students Remedial With No Placement***	69	
5 Semester Hours Taught	170	1971 (sh taught)
6 Student Semester Hours (SSH) Taught	3876	53625 (total ssh) Without Math 27 SSH is 3750
7 Full Time Students (Fall) Enrolled	304	1331 (2884 is total fall headcount)
8 Full Time Students (Spring) Enrolled	256	1219 (2835 is total spring headcount)
9 Number of classes taught	69	1425

* Based upon max compass score for the applicable discipline during the 2008 year.

** Of students who enrolled in study period and took Compass from Jan 1 - Dec 31 2008, using their highest Compass score in discipline, what % had remedial placement. (DOE placement not included in this number.)

*** Of remedial students enrolled during study period, this is the number of students who had not taken a Compass test in the indicated discipline prior to 1/16/2009 - The last day to add / drop classes. Compass records only go back to 1/1/2006.

**** This is the number of enrolled students who took a Compass test in the indicated discipline between 1/1/2008 and 12/31/2008

Part II.

Analysis of the Remedial and Developmental efforts (strengths and weaknesses in terms of demand, efficiency, and effectiveness, based on an analysis of the data).

Strengths:

- **Large demand for remedial and developmental math classes, as evidenced by the following data:**
 - **2,383 out of 2,856 students** who took Compass, or **83% of students placed into a remedial math class** (Items #1 and #2 on p.3);
 - **90% of students who took the Compass test in reading, writing or math were placed into a remedial class** (Item #2 on p. 3);
 - **756 part-time and full-time students enrolled in a remedial math class during the 08-09 year** (Item #2 on p. 1 and p.7);
 - **170 semester hours of remedial math credits were taught** (Item #5 on p. 1) of which **3,868 were student semester hours** (Item #6 on p. 1);
 - **499 full-time students in Fall 08** (Item #7 on p. 1) and **362 full-time students in Spring 09** (Item #8 on p. 1) were enrolled in remedial/developmental math classes;
 - **69 classes of remedial/developmental math classes were offered** (Item #9 on p. 1);

- **Efficiency is high, as evidenced by:**
 - **Large average class size of 22.62 students** (Item 10 on p.2) All math classes have a maximum class size of 25, except for classes in West Hawaii, which are have a maximum class size determined by classroom capacity. Local data collected reflect that at the end of each semester, West Hawaii average class size was 14.33 (Item #9 on p. 4) while the average class size in East Hawaii was 23.78 (Item #9 on p. 4);
 - **Fill rate of 92%** (Item #11 on p. 2); Local data reflect that fill rates in West Hawai`i were 67.43% (including withdrawals) (Item #10 on p. 4) and 61.43%, (excluding withdrawals) (Item #10 on p. 4,)while East Hawai`i fill rates were 99.59% (including withdrawals) (Item #10 on p. 4) and 95.26% (excluding withdrawals) (Item #10 on p.4);
 - **Percentage of classes taught by full-time faculty was 57% versus 43% taught by lecturers** (Items #15 and 16 on p. 2);
 - **The number of low-enrolled classes, which includes classes with less than ten students were in West Hawai`i-- 9 classes** (Item #16, p. 5);
 - **Relatively low cost per SSH of \$78.11** (Item #18 on p. 2).

- **High effectiveness percentages, as evidenced by:**
 - **91%, 93%, and 94% retention rates** (Items #19, #20 and #21 on p. 2) for one-level, two-levels, and three-levels below college level classes);
 - **60% to 62% successful completion rates** for one-level below, two-levels below, and three-levels below college math (Items #22, #24 and #26 on p. 2); Successful completion is defined as receiving a grade of C or better in the course;
 - **59% to 67% successful completion rates for cohort of Achieving the Dream students enrolled in remedial math courses** (Item #30 on p. 2);

Weaknesses:

- *Inadequate and insufficient classrooms and offices in both East and West Hawai`i;*
- *Insufficient classrooms equipped with computers that have Internet access;*
- *Limited parking for faculty and students especially during peak class hours for students and faculty traveling between the Main and Manono campuses in East Hawai`i;*
- *Limited parking for students and faculty in West Hawai`i;*
- *East Hawaii campus is separated into two locations requiring greater distance in transportation between classes;*
- *Lack of dedicated classroom(s) for mathematics creates difficulties for math instructors who must transport math materials while demand for additional math classes continues to increase;*
- *Anticipated high number of vacancies due to retirements create a domino effect of reassignments and budget constraints;*
- *Decreasing pool of lecturers who meet the minimum qualifications;*
- *Externally required reports continue to consume excessive amounts of time and energy;*
- *Lack of resources for professional development for instructors;*
- *Increasing requests for math instructors to participate in initiatives, projects and/or summits that require additional time and energy from remedial/developmental math instructors.*

Significant Program Actions -- curriculum changes, stop-out; gain/loss of positions, etc.

- *As part of an effort to review all liberal arts courses, 20% of math courses have undergone a review each year by math faculty and lecturers, beginning in 2007-2008. The math faculty have reviewed the following remedial math courses:*
 - *Math 1ABCD*
 - *Math 22*

- *Math 24*
- *Math 25*
- *Math 26*
- *Math 27*
- *A new math full-time faculty member was hired during the 08-09 academic year;*
- *Recruitment process has been initiated for a new half-time faculty member in West Hawai`i;*
- *Math faculty and lecturers teaching remedial/developmental courses have participated in the Hulu`ena Program;*
- *There is currently a proposal to initiate a new pilot program, called*
 - *Hui Makamae, which will involve math instructors and their students;*
- *Math faculty have participated in three Math Summits, which involve*
 - *Discussions between the Dept. of Education and UHCC faculty to enhance smoother transitions between high school and community college for students;*
- *Continued participation in the Remedial/Developmental System-wide Committee and Achieving the Dream initiatives.*

Part III. Action Plan

- *Continue to review 20% of all math courses;;*
- *Continue to expand the pool of lecturers who meet minimum qualifications of Master's Degree in mathematics;*
- *Continue to participate in discussions with Dept. of Education to enhance the transition for high school students continuing on to college;.*
- *Continue to participate in Remedial/Developmental and Achieving the Dream initiatives;*
- *Continue to advertise for additional math lecturers who meet minimum qualifications.*

Part IV. Resource Implications (physical, human, financial).

- *Provide increased number of suitable office and classroom spaces;*
- *As enrollment increases, there is a higher demand for remedial/developmental courses. At present, there is a heavy reliance on lecturers, but these math instructors need office space to plan and meet with students;*
- *Develop creative plans to accommodate traveling between campuses by increasing the efficient use of available parking spaces;*
- *Fund and provide additional resources for professional development for math instructors.*

