

	ACADEMIC YR: 2014-2015	DIVISION/AREA: Math/Tech	DIVISION CHAIR/DIRECTOR: Farah Saddigh
--	----------------------------------	------------------------------------	--

UNIT PLAN “PART A” Program/Pathway Update

Program/Pathway: Math/Tech

Date: January 13, 2014

Our mission: Los Angeles Harbor College fosters learning through comprehensive programs that meet the educational needs of the community, as measured by student success, personal and institutional accountability, and integrity.

1. Assessment of Program Review:


The Math and Technology Division provides students with the necessary skills to earn an Associate degree and/or certificate of achievement; transfer to, and graduate from, a four-year university, and successfully enter the workforce.

The Math Department is reviewing and restructuring remedial curriculum in order to shorten the pathway to transfer level classes. We will be offering a few new classes to prepare students for Statistics and Algebra sequences. Also, the Mathematics faculty took the math placement test last summer and determined that it is ineffective and needs to be replaced.

Harbor College is in the third year of a five-year National Science Foundation Title III HIS-STEM grant, which is intended to increase students’ ability and motivation to succeed in STEM fields. The grant has enabled us to provide supplemental instruction in some of the classes required of those students pursuing STEM majors.

The Technology Department is working with transfer institutions and advisory committees in order to evaluate and update its curriculum. The department continues to offer online courses and to schedule courses on a rotating basis, allowing for greater enrollment and transfer completion. Also, our division is currently developing a plan to overhaul the two-year degree programs in both Computer Science and Mathematics.

The Technology Pathway is the focus of the STEM initiative made possible by a \$2.8M U.S. Department of Education Title V HIS grant. This grant establishes career and four-year university transfer pathways in Engineering, which enables local students to seize the opportunity to replace retiring workers in the aerospace industry. To facilitate the transfer process, the Technology Department is currently working with two Cal State University campuses to implement transfer agreements which would provide our students with priority registration status for transferring into their engineering programs. This work includes a full

	ACADEMIC YR: 2014-2015	DIVISION/AREA: Math/Tech	DIVISION CHAIR/DIRECTOR: Farah Saddigh
--	----------------------------------	------------------------------------	--

review and modification of curriculum to align with the university course content. The department is also reviewing course content to improve manufacturing components as per requests from our industry advisory committee. Equipment requests will reflect the needs of the vast design and manufacturing industry in southern California. As our Title V grant expires, we will be looking for sources to fund student workers for our labs.

The Technology Departments will continue their partnership with Banning High School by offering afternoon and outreach classes.

2. Activates to address program needs:

The Mathematics Department will continue to address state and nationwide basic skills initiatives by requesting two additional mathematics instructors. Institutionalization of tutorial services in the Math Lab will be addressed by requesting funding via Academic Cluster priorities.

The Math Department will be offering Math 137 (Pre-Stat), a one semester class, in place of 123A-B-C to more quickly prepare students for Statistics and to reduce the number of semesters students must prepare for the 200 level classes.

We will be offering Math 115 (Elementary Algebra) and Math 125 (Intermediate Algebra) with labs, as an alternative to Math 123A-B-C to more quickly prepare students for the 200 level classes.

Also, we will be replacing Learning Skills 10 and Math 112 with Math 110 to more quickly prepare student for 200 level classes.

The Math faculty will be reexamining the math assessment test and deciding whether to replace it or to use multiple measures to gauge students' ability.

The Technology Department is working to increase the number of certificates of achievement to prepare students to enter high-demand industrial jobs.

Our division will be offering a STEM boot camp in Summer 2014 to recruit STEM majors.

The division needs to utilize data in its long-term planning of curriculum, course scheduling, and instructional methods.

	ACADEMIC YR: 2014-2015	DIVISION/AREA: Math/Tech	DIVISION CHAIR/DIRECTOR: Farah Saddigh
--	----------------------------------	------------------------------------	--

3. How are your program improvements associated with your SLOs?

Student Learning Outcomes continue to be developed and assessed for all courses. The student performance in this program has remained fairly constant over the past several years. ISLO #2 data collection and analysis has been taking place. The procedure is long-term and still in progress. We intend to use the ISLO #2 data to improve our program. Suggestions for program improvements associated with SLOs:


- Tutorial Support: LAC data collection of grades and retention in individual classes for which students receive tutoring indicate that over 70% received grades of A, B, or C. For those who dropped or received substandard grades, further assessment is needed. The 2011, 2012, and 2013 LAC student satisfaction surveys indicated that students are satisfied with these services.
- Fast Track Program: Students were able to make progress toward their goals, especially in the winter and Summer programs. Further evaluation of spring and fall offerings in this program has been recommended. Student satisfaction surveys indicate very positive results.
- Supplemental Instruction: We propose providing SI in all remedial classes to improve student retention and completion.

4. Staffing requirements:

The Mathematics Department needs two additional full-time faculties. Currently, 60% of our classes are taught by adjuncts.

5. Technological requirements:

The Math and Technology Division needs to incorporate computer technology in its classes to help students conceptualize abstract concepts, and should have its own computer lab to assist students with study and individual projects. The Technology Department requests turning center equipment to prepare students for our vast design/manufacturing industry in southern California.

	ACADEMIC YR: 2014-2015	DIVISION/AREA: Math/Tech	DIVISION CHAIR/DIRECTOR: Farah Saddigh
--	----------------------------------	------------------------------------	--

6. Facilities requirements:

The Mathematics Department is growing and more rooms are required.

7. Implementation plan:

- Math 137 will be offered in Spring 2014. Math 110, 115, and 125 will be offered in Fall 2014.
- Funding for tutorial support of the Math Lab will be sought from the college's general budget.
- Funding for Computer lab, software, and turning center will be sought from the college's general budget.
- We will be seeking two math positions from FHPC in the Fall 2014.

	ACADEMIC YR: 2014-2015	DIVISION/AREA: Math/Tech	DIVISION CHAIR/DIRECTOR: Farah Saddigh
--	----------------------------------	------------------------------------	--

UNIT PLAN “PART B”
Core Personnel/List of Permanent Staff


Unit: Math/Tech

Date: January 13, 2014

Assigned Time	Responsibility	Estimated Cost	Funding Source
.8	<i>Division Chair</i>	<i>\$130,000</i>	
.2	<i>Classroom</i>	<i>\$20,000</i>	
1.0	<i>Classroom</i>	<i>\$120,000</i>	
.8	<i>Classroom</i>	<i>\$100,000</i>	
.2	<i>Staff development</i>	<i>\$20,000</i>	
1.0	<i>Inst. Asst. Biology</i>	<i>\$64,000</i>	

1. **Total FTEP:**
2. **Total Hours taught:**
3. **Total Hours of release time:**
4. **Total Cost for Instructors:**
5. **Total Cost for Administrators:**
6. **Total Cost of Classified Staff:**
7. **Total cost FTEP = Full Time Equivalent Personnel:**

Please attach copy of your current Op Plan.

	ACADEMIC YR: 2014-2015	DIVISION/AREA: Math/Tech	DIVISION CHAIR/DIRECTOR: Farah Saddigh
--	----------------------------------	------------------------------------	--

UNIT PLAN "PART C"
Core Expenses


Unit: Math/Tech

Description of activity	Estimated Cost	Justification	Code
Adjunct Salaries	\$988,620	Meets College FTES	

Narrative justification:

The division needs adjuncts to be able to offer all the classes required for AA degree, certificate, and transfer to four –year college. These classes are too numerous and widely-scheduled to be taught entirely by full-time faculty.

Total cost: \$988,620

	ACADEMIC YR: 2014-2015	DIVISION/AREA: Math/Tech	DIVISION CHAIR/DIRECTOR: Farah Saddigh
--	----------------------------------	------------------------------------	--

UNIT PLAN "PART D" Essential Activities

Unit:

Prioritized list of unit needs required for program continuance or improvement


Description	Est. Cost
1. <i>Full-Time Faculty</i>	<i>\$130,000</i>
2. <i>Math Tutors and SIs</i>	<i>\$80,000</i>
3. <i>Supplies for Classroom</i>	<i>\$40,000</i>
4. <i>Equipment for Computer Lab</i>	<i>\$120,000</i>
5. <i>Turning Center</i>	<i>\$37,000</i>
6. <i>STEM Boot Camp</i>	<i>\$40,000</i>

Only place expendable request in this field.

Division Prioritization	Description of activity	Estimated Cost	Proposed Funding Source	Justification	Code
1	(2) Full-Time Math Faculty	\$130,000	Program 100	Program Demand and Student Success	
2	Math Tutors and SIs	\$80,000	Program 100	Program Demand and Student Success	
3	Supplies	\$40,000	Program 100	Program Demand and Student Success	
4	Equipment for Computer Lab	\$120,000	Program 100	Program Demand and Student Success	
5	Turning Center	\$37,000	Program 100	Program Demand and Student Success	
6	STEM Boot Camp	\$40,000	STEM Grant	To Recruit STEM Majors	

Justification Narrative: How does your activity support the college Educational Master Plan?

The Mathematics and Technology Division at Los Angeles Harbor College is dedicated to serving the needs of both developmental and transfer students. In order to do so, the Division offers both developmental and transfer level courses that fulfill certificate, graduation, and transfer requirements.

	ACADEMIC YR: 2014-2015	DIVISION/AREA: Math/Tech	DIVISION CHAIR/DIRECTOR: Farah Saddigh
--	----------------------------------	------------------------------------	--

Students in these courses develop mathematical and technological skills, engage in analytical and critical reasoning, and are prepared for success in college and the workplace.

	ACADEMIC YR: 2014-2015	DIVISION/AREA: Math/Tech	DIVISION CHAIR/DIRECTOR: Farah Saddigh
--	----------------------------------	------------------------------------	--

UNIT PLAN “PART E” Non-cost Essential Activities

Unit: Math/Tech

List Non-cost activities here

Priority	Description of activity	Justification	Code
1	Assist Adjuncts to Develop & Assess SLOs	To Complete the SLOs Assessment	
2	Develop a Division Webpage	To Promote Courses	
3	(2) Additional Rooms	Offering More Classes	

Justification: How does your activity support the college Educational Master Plan?

The Mathematics and Technology Division at Los Angeles Harbor College is dedicated to serving the needs of both developmental and transfer students. In order to do so, the Division offers both developmental and transfer level courses that fulfill certificate, graduation, and transfer requirements. Students in these courses develop mathematical and technological skills, engage in analytical and critical reasoning, and are prepared for success in college and the workplace.