



Natural Science: Mathematics Instruction

Vision/Narrative

The Mathematics program is one of the four degree programs in the Natural Science Department. The program offers both developmental and transfer level courses. Instruction is provided at three levels: preparation for completion of the A.A. degree; fulfillment of transfer and STEM prerequisite requirements; and fulfillment of requirements for an A.S. degree in Mathematics.

Our primary goals are:

1. To deliver quality instruction in mathematics to a diverse group of students in a manner that is both rigorous and sensitive to student needs. Accomplishing this goal requires increasing the proportion of math classes taught by full time faculty.
2. To increase retention and first time success rates of students enrolled in remedial math courses (Math 400, Math 402, Math 430, Math 233, Math 240, and Math 242) .
3. To increase the number of students completing an AS degree in mathematics.
4. To continue to work cooperatively with area middle schools and high schools to increase student preparedness and align curriculum.
5. To incorporate more technology into our classrooms.
6. To continue to promote interest in mathematics and science on our campus and in our community via existing outreach programs such as Science Alive, Mathematics competitions, and working closely with MESA.

One of the unique characteristics of our program is the breadth of course offerings.

Our students run the gamut from those at an elementary school level (Math 400 and Math 402), requiring extreme remediation to those preparing for transfer to a four institution with the intention of pursuing a degree in science, technology, engineering, and mathematics, requiring the full lower division program. This situation coupled with a departmental policy that all instructors teach all courses, requires that all instructors be both content experts and students of remedial pedagogical techniques.

Two major trends continue to affect departmental decisions related to course offerings and staffing needs. The first trend is the presence of severely underprepared students requiring basic skills remediation (Math 400, Math 402, Math 411, and Math 430), whose lack of preparation extends beyond mathematical skills to general student behavior skills. The second trend is the increase in the number of CSU/UC bound students who are eligible to attend the university but are unable to afford tuition due to the current

economic situation and the rise in fees, resulting in a significant increase in enrollment in our Calculus sequence. This year, we will introduce three new courses in our core remedial level. Math 430 and Math 240 will replace Math 205 and Math 233. Math 242 will be the equivalent of Math 240 for students who are going on to Math 5 ONLY.

Our significant accomplishments include:

1. Expansion of the Math Boot Camps, offered at the end of summer and winter break, to include remedial up to Precalculus and Calculus.
2. Expansion of a Supplemental Instruction model, including some in-class tutors.
3. Our continued outreach efforts which include:
 - a. Creation of an Articulation Council which fosters increased contact and a better relationship with district high school math teachers.



- b. Science Alive, a math and science conference for middle school children.
- 4. Completely transforming the Introductory and Intermediate Algebra sequence to reduce the repetition of the topics in the two courses. We've replaced the previous Math 205/233 with Math 430/240 where there is more in-depth coverage of fewer topics instead of the repetition of topics.
- 5. Creation of Math 242, the Algebra 2 equivalent course for students going on to Statistics, Math 5.
- 6. Expansion of the facilitated workshops for Precalculus and Calculus students.

Feedback from Supervisor / Dean



Program Objective 1: Research and apply for additional grants which will enable us to continue funding some of the important and successful programs we have begun with the STEM grant .

Strategy and Goal(s):

Not Applicable: RESUBMITTED: Copied from Academic Year 2010-11

IEC Program Review:

Yes, this Objective is based from the last IEC Program Review.

Progress:

No- None -

Activity 1: Attend grant writing workshops

Personnel Request - *none*

Non-Personnel Request

Specific Item(s) Needed	Amount Requested (\$)	Fund Source / Type
Travel, lodging, meals	\$ 1000.00	General Fund / On-Going
<i>Total Requested</i>	<i>\$ 1000.00</i>	

Activity 2: Apply for one grant by Spring 2016

Personnel Request

Job Classification	Quantity	FTE	Amount (\$)	Fund Source / Type
Other: <i>Stipend</i>	1	%	\$ 5000.00	General Fund / One-Time

Non-Personnel Request - *none*

Activity 3: Search for opportunities to collaborate with other institutions on grant proposals

Personnel Request - *none*

Non-Personnel Request - *none*



Rankings:

Ranker	Comments	Rank
Dean	The STEM grants have shown the far-reaching effects of additional support in the Natural Sciences.	12
Vice-President	Excellent!	12
Budget Committee		
President's Council		



Program Objective 2: Hire two part-time Math Lab tutoring specialists to standardize excellent tutoring, support student tutors, and reduce budget expenditures

Strategy and Goal(s):

Strategy #3: Improve and expand existing facilities to enhance the learning environment.

Goal #1: Expand facilities in the north and southeast portions of the district that will allow the expansion towards educational center size (20,000 square feet).

Strategy #1: Optimize enrollment, course offerings, and services to reflect community needs and growth.

Goal #4: Support programs that bridge pre-collegiate credit/non-credit courses and other learning support options intended to prepare students for entry into basic skills, transfer, and career technical programs.

IEC Program Review:

Yes, this Objective is based from the last IEC Program Review.

Progress:

No- None -

Activity 1: Expand the Math Lab specialist hours AND reduce faculty covering the Math Lab

Personnel Request - *none*

Non-Personnel Request - *none*

Rankings:

Ranker	Comments	Rank
Dean	These supports will be especially critical with expansion to the new Coyote Valley and Hollister sites.	10
Vice-President	Don't we have these already through STEM?	8
Budget Committee		
President's Council		