

Program Review 2012-2013

Mathematics and Sciences



ANTHROPOLOGY
ASTRONOMY
BIOLOGY
CHEMISTRY
COMPUTER SCIENCE
ENGINEERING
ENVIRONMENTAL SCIENCE AND RESOURCE MANAGEMENT (ESRM)
GEOGRAPHY AND GEOGRAPHIC INFORMATION SYSTEMS (GIS)
GEOLOGY
MATHEMATICS
MESA (MATH, ENGINEERING, SCIENCE ACHIEVEMENT)
PHYSICS

Program Review Outline



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Initiatives Funded in 2011-2012



- **Anthropology** – No initiatives funded
- **Astronomy** – No initiatives funded
- **Biology:**
 - Formaldehyde monitoring equipment \$2000
 - Autoclave \$20,000
 - HVAC overhaul for south wing of SCI building \$500,000
 - Anatomy/Physiology body model \$8000
 - Skeletal materials and x-ray viewer \$7000
 - Herbarium specimens \$400
 - Herbarium presses and plant dryers \$800
 - Par Score System \$7000

Initiatives Funded - Continued



- **Chemistry :**
 - Computing Equipment \$2000
 - Software update for gas chromatogram \$6000
 - Video cameras and software \$1500
- **Computer Science** – No initiatives funded
- **Engineering** – No initiatives funded
- **Environmental Science** – No initiatives funded
- **Geography:**
 - Annual software maintenance \$2500
- **Geology** – No initiatives funded
- **Math** – No initiatives funded
- **MESA** – No initiatives funded
- **Physics:**
 - Laboratory data acquisition interface boxes \$9000

Process Overview



- Each discipline named above collaboratively created a list of initiatives based on SLO data.
- October 5 the department chairs for each area presented their initiatives. This meeting was captured with Tegrity and sent via email to every member of the division.
- On October 16 the completed program reviews were emailed to all faculty in the division.
- On October 19 the compiled spreadsheet was sent out to all faculty in the division.
- On October 26 the division met to prioritize the initiatives.

Initiatives Not Requiring Additional Funding



- **Anthropology:**
 - Strengthen the four fields (Biological/physical Anthropology, Cultural, Archaeology, Linguistics)
- **Astronomy:**
 - More use of Early Alert
 - Increased use of peer study groups
 - Implement quizzes for specified assignments
- **Biology:**
 - Regular meetings for Curriculum and SLOs
 - Regular meetings of teachers with same course
 - Improve teaching strategies and methodologies
 - Meetings with colleagues from sister colleges
 - Standardization and Synchronization of lab and lecture content
 - Improve assessment of teaching effectiveness early in semester
 - Analyze and revise the readability and understandability of exams
 - Provide Biotechnology industry speakers

Initiatives Not Requiring Additional Funding - Continued



- **Chemistry:**
 - Increase standardization of student assessment
- **Engineering:**
 - Collaborate with Math and Physics departments
 - Change prerequisite for ENGR V02
 - Change prerequisite for ENGR V12
- **Environmental Science:**
 - Create ESRM degree and update proficiency award
 - Former AG now ESRM courses should be offered
- **Geology:**
 - Restart offering GIOL field trips
- **Physics:**
 - Improve productivity of Physics V02B/V03B to district goal

Requests for Resources - Faculty



Physics – Ranked **Highest Priority** in the Division

Rationale:

- No replacements were provided for the two previous retirements. There is currently only one full-time faculty in the discipline.
- The only full-timer in the department announced that he may retire at the end of this academic year.
- TMC finalized in May 2011

Faculty - Continued



Geology – Ranked High

Rationale:

- **There is no full-time Geologist to oversee the department. Classes are taught by hourly faculty.**
- **This position was ranked #1 for growth by the Staffing Priority Committee last year.**
- **TMC finalized in May 2011**

Faculty - Continued



Computer Science – Ranked High

Rationale:

- This department has no full-time faculty.
- In Fall 2011 (latest data) 248 VC students declared themselves to be CS majors. This is 14th on the list of the top 50 majors at VC.
- TMC finalized July 2012

Faculty - Continued



Geosciences Department Chair – Ranked High

Rationale:

- Geosciences (ESRM, GIS, Geography, and Geology) were linked with Physics and Engineering for convenience since separately they were too small to provide release for a department chair for each area.
- The Geosciences have grown and now have a sufficient number of faculty to support 20% release for a department chairman.

Cost: \$5500

Request for Resources - Classified



Mathematics – 40% Classified Employee to staff the Math Center – Ranked High

Rationale:

- The math department has enrollments in excess of 4000 students each semester that produce over 600 FTES each semester.
- Knowing that many students struggle with math it is important to provide tutoring and test proctoring support specific to them.
- Cost: \$16,000

Classified - Continued



Math and Sciences Division – Provide additional funding for the Tutoring Center to hire additional Anthropology and Biology tutors – Ranked Medium Priority

Rationale:

- Students report difficulty getting tutoring in these areas.
- This is grouped as a division need to increase support services in another division.

Cost: \$6,500

Classified - Continued



Math and Sciences Division – Supplemental Instruction (SI) Tutors – Ranked Medium Priority

Rationale:

- This is listed as division priority since all areas in the division are requesting support of SI tutors.
- Data shows that students benefit from SI tutors.

Cost: \$14,000

Request for Resources - Facilities



Anthropology – Complete the installation of safety equipment and cabinets – Ranked Required

Rationale:

- It is unsafe to operate a laboratory without proper safety equipment. It is not possible to conduct some labs since sufficient safety equipment is not in place in case of an accident.
- The equipment currently in the room is temporary and inadequate.

Cost: Unknown

Facilities – Continued



Geography – Repair damaged and unsafe seating in SCI-116 – Ranked Required

Rationale:

- This room was designed and built with fixed mounted swivel chairs. Over the past 15 years several mounts have broken creating sharp edges on the brackets. These broken seats were replaced with folding chairs that were placed directly behind the broken mounting bracket.
- The sharp edges of the bracket and the makeshift replacement chairs create an unsafe condition and a liability for the college.

Cost: Unknown

Facilities – Continued



Mathematics – Enclose the hallways to the faculty offices in the north end of the Science Building – Ranked Required

Rationale:

- Children of Marketplace patrons are commonly found playing unsupervised in the hallways and on the elevator creating a liability for the college.
- Vandalism has occurred in these hallways.
- Cost: Unknown

Facilities - Continued



Math and Science Division – Repair damaged and unsafe seating in lecture halls and labs – Ranked Required

Rationale:

- Some of the theater style seats in the Chemistry and Biology lecture halls are broken making the chairs either unusable or unsafe.
- Some of the seating in the Chemistry and Biology labs is in disrepair and must be repaired or replaced.
- Unsafe seating creates a liability for the college.
- Cost: Unknown

Facilities - Continued



Biology – Storage facility for natural skeletal structures and herbarium specimens – Ranked High

Rationale:

- Specimens are expensive and some are irreplaceable.
- Specimens naturally decay and are damaged by insects without proper storage.

Cost: \$6780

Request for Resources – Computer Equipment



Geography/GIS – Reinstate annual GIS software maintenance fee to Geography budget – Ranked High

Rationale:

- The software is required for the course. GIS classes cannot be offered without this software.
- The software requires annual renewal. It is not a perpetual license.

Cost: \$2145

Computer Equipment - Continued



Engineering – Purchase 3 computers, a printer, and provide network installation – Ranked High

Rationale:

- Additional hardware is needed to allow more students to work in Engineering lab.

Cost: \$6200

Computer Equipment - Continued



Environmental Science (ESRM) – Workroom computer station for adjunct faculty – Ranked High

Rationale:

- **There are no support facilities available to adjunct faculty specific to Geography, GIS and ESRM.**

Cost: \$900

Request for Resources – Other Equipment



Engineering – Polycarbonate shield for use with Universal Test Machine – Ranked Required

Rationale:

- Tension testing done on this machine could cause parts to shatter.

- Cost: \$400

Other Equipment - Continued



Biology/Anthropology – Closed captioned DVDs – Ranked Required

Rationale:

- Both departments must make their instructional materials accessible.

Cost: \$7200

Other Equipment - Continued



Anthropology (Physical) – Replace damaged materials necessary to the required curriculum– Ranked High and given **Highest Priority**

Rationale:

- This request is for equipment and supplies required in the curriculum.
- Not supplying the department with these materials could affect articulation of these courses.

Cost: \$7425

Other Equipment - Continued



- **Biology** – Fish chillers, teaching models, specimen slides and other hands-on teaching materials – Ranked High

Rationale:

- These materials are essential for student visualization.
- Cost: \$5666

Request for Resources – Other General Fund



Math and Science Division – Gas Chromatogram service contract, rebuild damaged microscopes, and provide technical training for microscope maintenance – Ranked High and given **Highest Priority**

Rationale:

- This is equipment that is critical to Biology and Chemistry instruction, and it is essential that this equipment be maintained.

Cost: \$10,000

Other Equipment – Continued



Engineering – Annual budget for Engineering consumables – Ranked High

Rationale:

- The annual budget must be increased to compensate for the increased cost of materials that are necessary for the program.
- Cost: \$1000

Other Funds



- **There was only one request for other funds and it was ranked low by the department and the division.**

Minority Opinions on Resource Requests



- **There were no differing opinions. There was consensus in the division concerning the needs of the division.**

Program Discontinuance



- **The Biotechnology proficiency award and five courses that are listed “same as” Biology courses are recommended for discontinuance.**