Program Review Presentation Template
Fall 2011

Division:___Sciences and Mathematics_____

Program Reviews Completed:

1. Anthropology

2. Biology

3. Chemistry

4. Computer Science

5. Engineering

6. ESRM

7. Geology

8. Geography

9. Math

10. MESA

11. Physics

12. Astronomy

Program Reviews Incomplete:

1.

2.

3.

Program Reviews Not Submitted:

1.

2.

3.

I.   **Process Overview:**

Program review documents with program specific data were provided to the Dean for each program in the Math-Science Division. The Dean did a preliminary analysis of the data and supplied narrative in each section of the program review documents to guide program faculty. The Dean met with the instructional staff in each program to review the program review documents and provided guidance for document completion. Programs met to independently analyze data, revise the documents as needed, and provide initiatives that connected to the data. Program review documents were completed, submitted to the Dean, and uploaded to the SharePoint repository. The Dean collated the combined resource requests from each program and convened a division meeting on 10/14/2011. Division faculty discussed relative rankings of the various requests from the division and a summary spreadsheet with the division rankings was created.

II.   **Initiatives Not Requiring Additional Resources:**

Briefly explain major division **highest** initiatives NOT requiring resources.

a) Biology: Regular meetings of the department

b) Chemistry: Development of standardized assessment tools and rubrics for laboratory classes

c) ESRM: Geosciences will provide the leadership for ESRM

d) Physics: Continuously improve curriculum using publisher textbook updates and auxiliary tools and incorporate them along with D2L

e) Astronomy: Improve e-book format

f) MESA: Increase the number of mentoring opportunities for MESA students.

g) MESA: Provide extracurricular activities for MESA Students.

h) Physical Science: Organize home-based labs to group home-based labs, choose better online text material, and Organize cohort study groups (face-to-face or social media)

III.   **Findings, Initiatives, and Requests for Resources:**

Using the Initiatives Priority Spreadsheet, briefly explain the division's **greatest** needs as they relate to program SLOs, student success outcomes, and program operating outcomes. For each of these needs, provide the corresponding finding and initiative.

Resource Category 1: Faculty

Biology

a) Finding: At this time and under these current budget conditions, it is difficult to request more full-time staffing as we hired one new FT faculty member in 2009 and an additional technical staff member recently (Section A5). However, we continue to need more full-time instructional staff (Sections 3C2 & 3C3 and Program Operating Outcome 5).

Initiative: BIO2-12 A full-time member of the Biology instructional staff

Resources Requested: A full-time member of the Biology instructional staff

Geology and Geography are making the same request.

b) Finding: Data in section A and C indicate a need for additional FT faculty in the Geology program. Although we have 3 FT teaching in the combined Geography/Geology/GIS/ESRM programs the FTEF is right about 6. However, as the C2 table shows, the Geology portion of our area relies largely on PT instructors who teach a combined load of up to 1.2 plus FTEF. One long-time Geography faculty member is credentialed to teach both Geology/Geography and normally teaches one of two classes in Geology. As our program moves forward we need to get FT expertise/assistance in Geology *(i.e. add a full-time faculty member).* This addition would provide for more tutorial support for students, either by increased faculty time *(via increased FT faculty)* or by helping set up student tutoring *(also creating more demand on FT faculty).*

Initiative: GEOL #1 – 2011 Hire an additional FT faculty for Geosciences area with expertise in Geology

Resources Requested: 1 full-time Geology Instructor.

Physics

c) Finding: **The Physics Department seeks to add one F/T faculty member to its existing 2 F/T faculty in order to prepare for retirement attrition to take place in a few years.** No new F/T physics faculty has been added since 1991. In addition to learning the pedagogy of teaching the course offerings in physics, astronomy, and physical science, the prospective candidate will presumably be groomed to take eventually take over the Department Head duties. The prospective new F/T physics faculty person will replace most of the existing P/T teaching positions. (A-1 to A3)

Initiative: Physics 01 Addition of 1 F/T Faculty Position

Resources Requested: 1 full-time Physics instructor.

Resource Category 2: Other Personnel
Chemistry
d) **Finding**: Elementary Chemistry laboratory is in need of modern data gathering and analysis techniques to better prepare students for higher-level courses and transfer. Computers and data sensors would fill the gap in this area. (See analysis in Student Success Outcome 5.) To improve student lab technique, allow students more opportunities to repeat unknowns. This will require more staff labor to prepare the unknowns, however, and additional staffing especially in the evening to prepare the lab rooms
Initiative: Improve student access to technology in the Elementary Chemistry Laboratory
Resources Requested: Increase hours for student worker to prepare samples student samples. ($4000)

Geology, Geography, GIS, ESRM – Same request
e) Finding: Currently, the Physics, Astronomy, Engineering, Geology, Geography, GIS and ESRM programs are given .2 FTE department chair release. We have more than enough FTEF to have our own department chair with .2 FTE release.   Since department chair assignments were last made (around 1997-1998), we one full-time faculty member in our area. Now there are three full-time faculty, several part-time faculty, the program has doubled in size since 1998, and two relatively new programs have been added ESRM and GIS.
Initiative: GEOG#2-2011
Resources Requested: 0.2 release for a dedicated department chair for Geology, Geography, GIS, and ESRM.

Mathematics
f) Finding: Statistics for the SI Tutor Program show increased success for the students who participate in the SI program. Course Level SLO assessments indicate that expansion of the SI Tutor Program and increased Math Center hours are necessary to achieve increased program success. Additionally, the math faculty is confident that expansion of the Tutoring Center services will also increase student success in mathematics.
Initiative: MATH 1-11 Expand Math Center hours and the SI tutoring program for all levels of mathematics courses.
Resources Requested: Increased funding for tutors and SI tutors. ($20,000)

Anthropology
g) Finding: Our annual budget is $ 1,180.00. Additionally, there is no separate budget for laboratory technical assistants (student worker) (See analysis in Program Operating Outcome 3 and 4 and Student Success Outcome 1 and 3).
Initiative: ANTH1202 Addressing Budget Needs
Resources Requested: Funding for student laboratory assistance. ($3,200)

Resource Category 3: Equipment Computers
Chemistry

h) Finding: Elementary Chemistry laboratory is in need of modern data gathering and analysis techniques to better prepare students for higher-level courses and transfer. Computers and data sensors would fill the gap in this area. (See analysis in Student Success Outcome 5.) In order to improve students' ability to measure chemical quantities accurately, the department has developed several strategies to aid student performance on Student Success Outcome 5. Techniques often are first demonstrated by the instructor, but often this is hard for many students to see due to the configuration of the lab room. Access to additional presentation equipment including a data projector, computer and visualizer would aid this. In addition, students would benefit from access to computer data collection sensors and the ability to analyze data using software such as Excel.
Initiative: CHEM2-12 Improve student access to technology in the Elementary Chemistry Laboratory
Resources Requested: Nine computers, visualizer, and a data projector ($11,000)

Engineering

i) Finding: The program review does not consider facilities. Engineering does not have a dedicated classroom. Facilities for engineering courses are lacking in space and audio visual equipment. The engineering materials laboratory is crowded and needs a mounted projector that can be operated from the front of the room. An engineering classroom is needed (may be a shared space), equipped as a "smart classroom".
Initiative: ENGR 3-11 Improve teaching facilities
Resources Requested: Equip SCI 101 as a smart classroom. ($2500).

Geography/GIS

j) Finding: Outfit SCI 106, the new home for the GIS lab, as a computer lab/smart classroom. SCI 106 needs to be outfitted as the GIS (and Engineering) lab by moving the 19 GIS computers in SCI 113 to SCI 106 and adding 5 more machines to bring the seat count to 24 as supported by the room's current infrastructure (computer tables and power/data ports). The room will also need to be outfitted as a smart classroom with a fixed LCD projector connected to an instructor station.
Initiative: GEOG #4-2011 Outfit SCI 106, the new home for the GIS lab, as a computer lab/smart classroom
Resources Requested: 5 GIS capable computers and standard smart classroom infrastructure.

Resource Category 4: Equipment
Biology

k) Finding: REQUIRED - We have 2 safety-related concerns: monitoring air quality and air-conditioning/better ventilation for our students and staff, particularly in our cadaver room (Section A5, Program Operating Outcome 3), and inevitable equipment failures (eg: the autoclave – Section A5) that also would greatly reduce our ability to serve the college.

Initiative: BIO1A-12 Lab safety and continuing operation.
Resources Requested: Formaldehyde monitoring equipment ($2000) and Autoclave ($80,000)

Biology

l) Finding: Biology has ranked 6 initiatives (in the next section of the document), mostly for new or replacement equipment to help us improve instruction.
Initiative: BIO4-1-12 New Body Model (largely for ANAT, ANPH and PHSO classes)
Resources Requested: New body model ($8,000)

Anthropology

m) Finding: Addressing Budget Needs. The Anthropology supply budget is low compared to other science budgets on campus. Due to this, Anthropology attempts to find outside funding sources reducing our ability to equip and maintain laboratory specimens and equipment. We are reliant on the end of year surplus funds. Our annual budget is $ 1,180.00.
Initiative: ANTH1202 Addressing Budget Needs
Resources Requested: $5000 increase in equipment budget.

ESRM

n) Finding: **– (No mention of software for this request) "**The ESRM program development was led by Steve Palladino and he continues to serve as the de facto program head (and with ESRM by default falling under Geosciences, he also is managing it as department chair). This appears to be a good solution as Geosciences most naturally bridges the whole spectrum of courses of this multidisciplinary program area. The Geosciences chair will continue to interface with the Biology and Social Sciences Chairs to coordinate the staff and scheduling of the co-listed courses (ESRM 1 and ESRM 2). It would be good to formalize this management structure and more formally establish the communication strategies for work between departments and faculty in this area. Unfortunately due to the extreme demands of managing 3 programs on only one class release a year (Geosciences has to unnecessarily share a year of one course of release with PHYS/ASTR/ENGR, when both program groupings could each be fully separate departments and get the full-year one course release.) This problem is address in the Geography/GIS Program Review Document in more detail, but it is worth identifying it here as a need. If Geosciences had the full release it deserves (and an additional faculty member) it would be able to give ESRM the directional/management energy required."
Initiative: ESRM#4-2011 SCI 106 Smart Classroom
Resources Requested: Annual software maintenance ($2500)

Resource Category 5: Facilities

o) Finding: REQUIRED. We have a safety-related concerns: air-conditioning/better ventilation for our students and staff, particularly in our cadaver room (Section A5, Program Operating Outcome 3). In addition, we continue to have electrical system problems in the Biology lab areas as mentioned in several previous Program Reviews.

Initiative: Health and safety of students and staff and the viability of the program at risk due to aging and inadequate building infrastructure, and the aging of our capital equipment. Resources Requested: Air conditioning, ventilation for cadaver room, and electrical upgrade for lab rooms. Bids required.

Anthropology

p) Finding: The lab facility remains unfinished posing both safety concerns and hampering curriculum. We are reliant on end of year surplus funds for basic consumables which greatly reduces the number of sections we can offer. This weakens our ability to provide students a strong background in laboratory curriculum required for transfer.   In addition to consumables, there are occasionally onetime costs associated with purchasing osteological models used in both lecture and laboratory classes.
Initiative: ANTH1202 Addressing Budget Needs.
Resources Requested: Facility Completion, MCE224 (Biological Anthropology Lab)

Resource Category 6: Grants
ESRM

q) Finding: Currently we do not have any lab oriented classes in ESRM. For many jobs in Environmental Sciences and Resource management, there are key hands on skill students will need. While some of these will be picked up in upper division courses for those students transferring, other students will go into the field armed with an liberal studies AA and our Proficiency Award. It would be very helpful to both of these groups to have some exposure to the tools used by professionals in these areas. Thanks to the various grants received by Bill Budke, we have most of the equipment needed to offer a lab course. This may be paired with one of the existing ESRM courses or be a standalone course. All that is needed is an investigation of the curriculum options/latest technologies, time to develop the course, and some supplies and limited updates to our current technology. Over time there will be a need for updated technologies, but that may be covered in future grants, if campus resources are not available
Initiative: ESRM #3-2011 ESRM tools/tech course
Resources Requested: Investigation of the curriculum options/latest technologies, time to develop the course, and some supplies and limited updates to our current technology

r) Resource Category 7: Operating Budgets

Finding: **Addressing Budget Needs. The Anthropology supply budget is low compared to other science budgets on campus. Due to this, Anthropology attempts to find outside funding sources reducing our ability to equip and maintain laboratory specimens and equipment. We are reliant on the end of year surplus funds. The provided Budget Expenditure Report for Equipment stated an incorrect amount of $13,713. Our annual budget is $ 1,180.00. Additionally, there is no separate budget for laboratory technical assistants (student worker) (See analysis in Program Operating Outcome 3 and 4 and Student Success Outcome 1 and 3).**

For Biological Anthropology: The lab facility remains unfinished posing both safety concerns and hampering curriculum. We are reliant on end of year surplus funds for basic consumables which greatly reduces the number of sections we can offer. This weakens our ability to provide students a strong background in laboratory curriculum required for transfer. In addition to consumables, there are occasionally onetime costs associated with purchasing osteological models used in both lecture and laboratory classes.

For Cultural Anthropology: The use of ethnographic films in the classroom is an essential element in Anthropological study. There is no better way to bring cultures alive in the classroom than through film. The films provide an excellent backdrop for class discussion and critical thinking. Anthropology students must cultivate the perspective of cultural relativism and viewing films allows for that to happen in a setting that lends itself to analysis. The collection is limited and outdated. While the program continually seeks Education Grants from the VC Foundation to address these needs, it is sporadic and needs are continuous.

Initiative: ANTH1202 Addressing Budget Needs
Resources Requested: An additional $5000 to supplement budget.

Resource Category 8: Other

(You may add to this list if more are needed to represent the division's greatest needs.)

IV.   Program Discontinuance:
If you had a program or programs on the discontinuance list (part of the planning parameters), explain your division's position and rationale for each.
1. Computer Science should continue as a program. CS courses are required by some universities for Science majors such as engineering and computer science, and computer literacy is a requirement at several universities.

V.   Minority opinions on other resource requests:
If applicable, explain areas of disagreement pertaining to the division priorities in the categories of faculty, other personnel, equipment/computer, facilities, operating budget, and other.
None presented at the division meeting.

VI.   Appeals:
If any of the minority opinions will be appealed to the College Planning Council, please list and explain below. Appeal presentations are scheduled for November 9.

a) Appeals have not been submitted as of now.
b)
c)

VII.   Additional Information:

10.10.11

Is there any additional information you would like to provide to the College Planning Council about your division's process?