May 7, 2014

MEMORANDUM

TO: Jayanth Banavar
    Dean, College of Computer, Mathematical, & Natural Sciences

FROM: Elizabeth Beise
       Associate Provost for Academic Planning and Programs

SUBJECT: Proposal to Modify the Minor in Geophysics (PCC log no. 13064)

The proposal to modify the Minor in Geophysics has been administratively approved. A copy of the approved proposal is attached.

The change is effective Fall 2014. Please ensure that the change is fully described in the Undergraduate Catalog and in all relevant descriptive materials.

MDC/

Enclosure

cc: Marilee Lindemann, Chair, Senate PCC Committee
    Barbara Gill, Office of Student Financial Aid
    Reka Montfort, University Senate
    Erin Howard, Division of Information Technology
    Pam Phillips, Institutional Research, Planning & Assessment
    Anne Turkos, University Archives
    Linda Yokoi, Office of the Registrar
    Doug Roberts, Undergraduate Studies
    Roberta Rudnick, Department of Geology
This is a proposal for the modification of the minor in Geophysics. See attached.

To bring Geology's minor in Geophysics up to date by inclusion of recently developed curriculum.
Proposal for changes to the Minor in Geophysics

1. This is a proposal to change an existing minor.

2. Catalog Description is unchanged.

Courses currently required for the minor (those to be changed or eliminated in the revision in boldface):

Required:

One of the following:
- GEOL 100/110 Physical Geology/Physical Geology lab (4)
- GEOL 120/110 Environmental Geology/Physical Geology Lab (4)
- GEOL 446 Geophysics (3)
- GEOL 457 Seismology (3)

Plus two from:

- **GEOL 322 Mineralogy (4)**
- GEOL 341 Structural Geology (4)
- GEOL 472 Tectonics (3)
- GEOL 455 Marine Geophysics (3)
- GEOL 499 Special Problems in Geology (3)

Proposed courses for the revised minor (new/changed requirements are boldfaced):

Required:

One of the following:
- GEOL 100/110 Physical Geology/Physical Geology Lab (4)
- GEOL 120/110 Environmental Geology/Physical Geology Lab (4)

Any two of the following:
- **GEOL 446 Geophysics (3)**
- GEOL 447 Observational Geophysics (3)
- GEOL 457 Seismology (3)

Plus two from:

- GEOL 341 Structural Geology (4)
- **GEOL 446 Geophysics (3)** (If not used to satisfy requirement above)
- **GEOL 447 Observational Geophysics (3)** (If not used to satisfy requirement above)
- GEOL 455 Marine Geophysics (3)
- GEOL 456 Engineering Geology (3)
- **GEOL 457 Seismology (3)** (If not used to satisfy requirement above)
- GEOL 412 Geology of the terrestrial planets
GEOL 499 Special Problems in Geology (3)

Geology’s existing minor in Geophysics was developed in 2008. This minor focuses on the application of the methods of Physics to issues in geosciences and is intended for majors in related fields, including Physics to obtain background in geoscience applications of their major studies. Since 2008, however, geophysics has developed into one of the department’s primary research communities. Consequently, Geology has hired several new faculty members who have brought in new expertise and significantly increased its range of course offerings in this area. We now propose revisions to four of our minors in order to bring them up to date with our current curriculum resources.

Specific changes to the Geophysics minor include:

- The replacement of separate requirements for GEOL446 – Geophysics, and GEOL457 – Seismology with a requirement for any two of GEOL446, GEOL457, or GEOL447 – Observational Geophysics.

- The inclusion of GEOL446 – Geophysics, GEOL447 – Observational Geophysics, and GEOL457 – Seismology, in the list of electives, if they are not being used to satisfy the requirement described above.

- The elimination of GEOL322 – Mineralogy from elective options

- The addition of GEOL456 – Engineering Geology and GEOL412 – Geology of the Terrestrial Planets to the list of elective courses.

All three changes are meant to incorporate new geophysics-oriented courses into our curriculum. The original requirement of GEOL446 – Geophysics, and GEOL457 – Seismology was intended to insure that Geophysics minors come to grips with core geophysics material. The addition of GEOL447 – Observational Geophysics to our curriculum enables us to expand this geophysics core requirement to encompass this new course about the numerical deconvolution of geophysical data. The inclusion of each of these three courses in the elective list is intended to avoid discouraging students from taking them if they are not being used to satisfy the core requirement. GEOL322 – Mineralogy, is removed from the list of electives because it is deemed less relevant to geophysics than two newer course options that have recently become available. The new courses GEOL456 – Engineering Geology, and GEOL412 – The Geology of the Terrestrial Planets, which significantly address the application of the methods of physics to their respective topics, are now included among elective options. The proposed changes do not alter that course load or general prerequisites needed to complete the minor.