MEMORANDUM

TO: Stephen Halperin  
Dean, College of Computer, Mathematical and Physical Sciences

FROM: Phyllis Peres  
Associate Provost for Academic Planning and Programs

SUBJECT: Proposal to modify the curriculum of the B.S. in Geology, Professional Track  
(PCC log no. 07072)

At its meeting on May 16, the Senate Committee on Programs, Curricula and Courses approved your proposal to modify the curriculum of the B.S. in Geology, Professional Track. A copy of the approved proposal is attached.

The changes are effective Fall, 2008. The College should ensure that the changes are fully described in the Undergraduate Catalog and in all relevant descriptive materials, and that all advisors are informed.

CWR/

Enclosure

c: Carmen Balthrop, Chair, Senate PCC Committee
Sarah Bauder, Office of Student Financial Aid
Reka Montfort, University Senate
Barbara Hope, Data Administration
Denise Nadasen, Institutional Research & Planning
Anne Turkos, Archives
Linda Yokoi, Office of the Registrar
Scott Wolpert, Undergraduate Studies
David Lay, College of Computer, Mathematical and Physical Sciences
John Merck, Department of Geology
DATE SUBMITTED: 3/8/2008

COLLEGE/SCHOOL: CMPS

DEPARTMENT/PROGRAM: Gegl

PROPOSED ACTION (A separate form for each) ADD ___ DELETE ___ CHANGE X

DESCRIPTION (Provide a succinct account of the proposed action. Details should be provided in an attachment. Provide old and new sample programs for curriculum changes.)

This is a proposal to change the Major in Geology – Professional Track. See attached.

JUSTIFICATION/REASONS/RESOURCES (Briefly explain the reason for the proposed action. Identify the source of new resources that may be required. Details should be provided in an attachment.)

To reflect the growing prominence of geophysics in the Department of Geology’s research effort, and increased presence of geophysicists among its faculty; and to ensure that Maryland Geology graduates possess general competence in Geophysics, Geology proposes changing GEOL446 – Introduction to Geophysics (note new title) from one of two optional geodynamics courses to a major requirement. See attached.

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APPROVAL SIGNATURES

1. Department Committee Chair
   [Signature] John Mark 3/8/08

2. Department Chair
   [Signature] 3/16/08

3. College/School PCC Chair
   [Signature] David C. Lea 4/11/08

4. Dean
   [Signature] David C. Lea 4/11/08

5. Dean of the Graduate School (if required)

6. Chair, Senate PCC
   [Signature] 5/15/08

7. Chair of Senate
   [Signature] 5/20/08

8. Vice President for Academic Affairs & Provost
   [Signature] 5/20/08

VPAAP Rev. 3/1/04
Geology Major, Professional Track

1. This is a proposal to alter requirements for an existing major.

2. The Catalog Description is unchanged. The proposed program follows. Change is in boldface.

Courses currently required for the major are:

• Geology Courses
  One of the following:
  GEOL 100/110—Physical Geology and Laboratory
  GEOL 120/110—Environmental Geology and Lab
  GEOL 102—Historical Geology
  GEOL 322—Mineralogy
  GEOL 340—Geomorphology
  GEOL 341—Structural Geology
  GEOL 342—Stratigraphy and Sedimentation
  GEOL 393—Technical Writing
  GEOL 394—Research Problems
  One of the following:
  GEOL 444—Low-Temperature Geochemistry
  GEOL 445—High-Temperature Geochemistry

One of the following:
GEOL 446—Geophysics
GEOL 472—Tectonics

GEOL 451—Groundwater
GEOL 423—Optical Mineralogy
GEOL 443—Petrology
GEOL 490—Field Camp

• Supporting Courses
  One of the following
  CHEM 131—Fundamentals of General Chemistry and CHEM 132—Fundamentals of General Chemistry Laboratory (4)
  CHEM 135—Chemistry for Engineers and CHEM 136—Chemistry for Engineers Laboratory (4)
  MATH 140—Calculus I
  MATH 141—Calculus II
  PHYS 141—General Physics
  One of the following
  PHYS 142—General Physics
  BIOM 301—Introduction to Biometrics
  Any of GEOL-444, GEOL 445, GEOL 446 or GEOL 472 not already completed to meet the requirements above or any other 300 or 400 level Geology course not listed above
Courses to be required for the major under the proposed revision are:

• Geology Courses
  One of the following:
  GEOL 100/110—Physical Geology and Laboratory
  GEOL 120/110—Environmental Geology and Lab
  GEOL 102—Historical Geology
  GEOL 322—Mineralogy
  GEOL 340—Geomorphology
  GEOL 341—Structural Geology
  GEOL 342—Stratigraphy and Sedimentation
  GEOL 393—Technical Writing
  GEOL 394—Research Problems
  One of the following:
    GEOL 444—Low-Temperature Geochemistry
    GEOL 445—High-Temperature Geochemistry

**GEOL 446—Introduction to Geophysics**

GEOL 451—Groundwater
GEOL 423—Optical Mineralogy
GEOL 443—Petrology
GEOL 490—Field Camp

• Supporting Courses
  One of the following
  CHEM 131—Fundamentals of General Chemistry and CHEM 132—Fundamentals of General Chemistry Laboratory (4)
  CHEM 135—Chemistry for Engineers and CHEM 136—Chemistry for Engineers Laboratory (4)
  MATH 140—Calculus I
  MATH 141—Calculus II
  PHYS 141—General Physics
  One of the following:
    PHYS 142—General Physics
    BIOM 301—Introduction to Biometrics
    **GEOL 444—Low-Temperature Geochemistry (if not already completed to meet the requirements above)**
    **GEOL 445—High-Temperature Geochemistry (if not already completed to meet the requirements above)**
    Any other 300 or 400 level Geology course not listed above

The proposed change in curriculum reflects the growing prominence of geophysics in the Department of Geology’s research effort, and increased presence of geophysicists among its faculty. Since 2005, four new tenure track faculty with significant research interests in the applications of the methods of physics to major issues of geology have joined our faculty. Additionally, cross-disciplinary collaborations have strengthened our geophysics effort, with Dr. Daniel Lathrop, Professor of Physics, receiving a 10%
appointment to the Geology faculty and several Geology faculty joining the faculty of the Applied Mathematics and Scientific Computation program. Furthermore, since 2006, GEOL446 – Introduction to Geophysics (note new title), after not being taught in roughly a decade, rose to become one of our most popular upper level courses in fall of 2007, enrolling fifteen undergraduates. This is a clear indication of student demand for a Geophysics curriculum. Our conviction is that our undergraduate curriculum should reflect the character of the department’s research effort and provide undergraduates with meaningful access to faculty engaged in all of its aspects. To this end, we are revising our undergraduate curriculum with the addition of two new undergraduate courses in geophysics (GEOL457 and GEOL455) and the creation of a Geophysics Minor.

The proposed revision to the Geology Major (professional track) replaces the current geodynamics option, in which the major chooses between GEOL446 and GEOL472 (Tectonics) with a straightforward requirement for GEOL446 (course title being changed to Introduction to Geophysics). GEOL472, under this proposal, becomes an upper-level elective option.