

**EXECUTIVE COMMITTEE  
COLLEGE OF NATURAL AND AGRICULTURAL SCIENCES  
REPORT TO RIVERSIDE DIVISION  
MAY 26, 2020**

To be adopted:

Proposed changes to the Earth Science major (B.S.).

**Geosystems, Climate Change, Geobiology, and Geophysics Concentrations**

Core Requirements (61-66 units)

1. Lower division core requirements (48-53 units)

a) GEO 001

b) GEO 002 or GEO 009 or GEO 011

c) GEO 003/BIOL 010

d) GEO 004 or GEO 007 or GEO 008 or GEO 010 or GEO 012

e) BIOL 005A and BIOL 005LA or BIOL 020

f) Either CHEM 001A and CHEM 01LA or CHEM 01HA and CHEM 1HLA, either CHEM 001B and CHEM 01LB or CHEM 01HB and CHEM 01HLB

g) MATH 007A or MATH 009A, MATH 007B or MATH 009B, MATH 046

h) Either PHYS 040A, PHYS 040B or PHYS 002A and PHYS 002LA, PHYS 002B and PHYS 002LB

Students interested in elective classes in Geophysics are recommended to take PHYS 040C or PHYS 002C. Students interested in elective classes in Geochemistry are recommended to take CHEM 001C.

2. Upper division core requirements (13 units)

a) GEO 111, GEO 115, GEO 157

**Geosystems Concentration**

1. Upper division requirements (~~34-40~~ units)

a) ~~GEO 101~~, GEO 118

**Geosystems, Climate Change, Geobiology, and Geophysics Concentrations**

Core Requirements (61-66 units)

1. Lower division core requirements (48-53 units)

a) No Change

b) No Change

c) No Change

d) GEO 004 or GEO 007 or GEO 008 or GEO 010 or GEO 012 or GEO 080

e) No Change

f) No Change

g) No Change

h) No Change

Students interested in elective classes in Geophysics are recommended to take PHYS 040C or PHYS 002C. Students interested in elective classes in Geochemistry are recommended to take CHEM 001C.

2. Upper division core requirements (13 units)

a) No Change

**Geosystems Concentration**

1. Upper division requirements (35-41 units)

a) GEO 101A, GEO 101B, GEO 118

b) Three of GEO 100, GEO 116, GEO 122, GEO 132, GEO 151, GEO 152, GEO 162

c) Three ~~additional classes from~~ GEO 100, GEO 116, GEO 122, GEO 132, GEO 136, GEO 137, GEO 138, GEO 140, GEO 144, GEO 145, GEO 147, GEO 151, GEO 152, GEO 160, GEO 161, GEO 162, GEO 169, STAT 100A, STAT 100B

Students interested in pursuing professional licensure through the California Geologist In Training (GIT) are advised to take the Geology Major.

### **Climate Change Concentration**

1. Lower division requirements (5 units)

a) CHEM 001C and CHEM 001LC, or CHEM 001HC and CHEM 001HLC

2. Upper division requirements (32–35 units)

a) GEO 160, GEO 161

b) Three of GEO 136, GEO 137, GEO 162, ENSC 102

c) Three ~~additional classes from~~ GEO 100, GEO 101, GEO 116, GEO 118, GEO 122, GEO 132, GEO 136, GEO 137, GEO 140, GEO 144, GEO 145, GEO 147, GEO 151, GEO 152, GEO 162, GEO 169, STAT 100A, STAT 100B

### **Geobiology Concentration**

1. Lower division requirements (8 units)

a) BIOL 005B, BIOL 005C

2. Upper division requirements (32–35 units)

a) GEO 151 and GEO 152/BIOL 152

b) Three of GEO 136, GEO 137, GEO 161, GEO 169, ENTM/BPSC/BIOL 112, BIOL 151

c) Three ~~additional classes from~~ GEO 100, GEO 101, GEO 116, GEO 118, GEO 122, GEO 132, GEO 136, GEO 137, GEO 140, GEO 144, GEO 145, GEO 147, GEO 160, GEO 161, GEO 162, GEO 169, STAT 100A, STAT 100B

b) No Change

c) Three of GEO 100, GEO 116, GEO 122, GEO 132, GEO 136, GEO 137, GEO 138, GEO 140, GEO 144, GEO 145, GEO 147, GEO 151, GEO 152, GEO 160, GEO 161, GEO 162, GEO 169, GEO 180, GEO 181, STAT 100A, STAT 100B

Students interested in pursuing professional licensure through the California Geologist In Training (GIT) are advised to take the Geology Major.

### **Climate Change Concentration**

1. No Change

a) No Change

2. Upper division requirements (32–36 units)

a) No Change

b) No Change

c) Three of GEO 100, GEO 101A and GEO 101B, GEO 116, GEO 118, GEO 122, GEO 132, GEO 136, GEO 137, GEO 140, GEO 144, GEO 145, GEO 147, GEO 151, GEO 152, GEO 162, GEO 169, GEO 180, GEO 181, STAT 100A, STAT 100B

### **Geobiology Concentration**

1. No Change

a) No Change

2. Upper division requirements (32–36 units)

a) No Change

b) No Change

c) Three of GEO 100, GEO 101A and GEO 101B, GEO 116, GEO 118, GEO 122, GEO 132, GEO 136, GEO 137, GEO 140, GEO 144, GEO 145, GEO 147, GEO 160, GEO 161, GEO 162,

GEO 169, GEO 180, GEO 181, STAT 100A, STAT 100B

**Geophysics Concentration**

1. Lower division requirements (5 units)
  - a) PHYS 002C and PHYS 002LC, or PHYS 040C
2. Upper division requirements (33-~~37~~ units)
  - a) GEO 140, GEO 145
  - b) Three of GEO 116, GEO 118, GEO 144, GEO 147
  - c) Three ~~additional classes from GEO 100~~, GEO 101, GEO 116, GEO 118, GEO 122, GEO 132, GEO 136, GEO 137, GEO 144, GEO 147, GEO 151, GEO 152, GEO 160, GEO 161, GEO 162, GEO 169, STAT 100A, STAT 100B

**Geophysics Concentration**

1. No Change
  - a) No Change
2. Upper division requirements (33-38 units)
  - a) No Change
  - b) No Change
  - c) Three of GEO 100, GEO 101A and GEO 101B, GEO 116, GEO 118, GEO 122, GEO 132, GEO 136, GEO 137, GEO 144, GEO 147, GEO 151, GEO 152, GEO 160, GEO 161, GEO 162, GEO 169, GEO 180, GEO 181, STAT 100A, STAT 100B

**Justification:**

Wording changed to be consistent with other majors in the program.

Addition of GEO 080 (Astrobiology) to the lower division requirements: This is a new class offered by the Department, and will be of interest (and of use) to a wide range of students who may be interested in majoring in Earth and Planetary Sciences.

Replacement of GEO 101 (Field Geology) by GEO 101A and GEO 101B: The Department decided last year to split and augment our previous field geology class into a two-course sequence. We are now updating the curriculum to reflect that change, and the one additional unit that came with it.

Addition of GEO 180 (Exoplanet Detection) and GEO 181 (Exoplanet Characterization): These are new courses that will be of interest and relevance to students interested in Earth and Planetary Science.

**Approvals:**

Approved by the faculty of the Department of Earth and Planetary Sciences:	October 30, 2019
Approved by the Executive Committee of the College of Natural and Agricultural Sciences:	January 14, 2020
Approved by the Committee on Educational Policy:	April 10, 2020