EARTH SCIENCE, B.S. - CONCENTRATION: NATURAL RESOURCES

120 Overall Credits Required

LIBERAL EDUCATION PROGRAM AND WRITING REQUIREMENTS

Liberal Education Program
Students must complete a comprehensive three-tiered Liberal Education Program (LEP). View all requirements of the tiers on the Liberal Education Program.

While the choice of courses that fulfill the requirements is generally left up to students, courses in the major and/or cognate may also satisfy LEP requirements. These shared courses are recommended below to fulfill both areas, although the course credits are only counted once towards the 120 credits required for graduation.

Tier 1 - Quantitative Reasoning (select one):
MAT 120 - College Algebra
MAT 122 – Precalculus
MAT 150 – Calculus I

Tier 2 – Natural World I: Physical Realm:
CHE 120 – General Chemistry I

Tier 2 – Natural World II: Life and Environment:
ESC 201 — Historical Geology (‘C-’ or better)

Tier 3 – Capstone:
ESC 332 – Invertebrate Paleontology (‘C-’ or better)

Writing Requirements (“W-Courses”)
Three W-courses are required. These may not be taken until after a student has passed ENG 112 — Writing Arguments. W-courses may count toward LEP, major, or cognate requirements, as well as free electives. Course sections that meet this requirement are designated by section numbers ending in “W”.

Transfer students who enter with 60 to 89 credits are required to pass two W-courses, while transfer students who enter with 90 credits or more must pass one W-course.

MAJOR REQUIREMENTS

48 Credits Required
‘C-’ or better required

Requirements:
ESC 200 - Physical Geology  
ESC 201 - Historical Geology  
ESC 205 - Principles of Meteorology  
ESC 210 - Principles of Astronomy  
ESC 311 - Mineralogy  
ESC 312 - Petrology or ESC 325 - Stratigraphy and Sedimentation  
ESC 332 - Invertebrate Paleontology  
ESC 350 - Structural Geology and Tectonics  
ESC 430 - Field Methods  

Select three courses from:  
ESC 210 - Principles of Astronomy  
ESC 220 - Physical and Chemical Oceanography  
ESC 303 - Environmental Earth Science  
ESC 312 - Petrology  
ESC 315 - Geomorphology  
ESC 325 - Stratigraphy and Sedimentation  
ESC 420 - Earth Resources  
ESC 421 - Marine Geology  
ESC 457 - Hydrology  
ESC 458 - Soil Science  
ESC 459 - Engineering Geology  
ESC 460 - Geochemistry  

Select one option from the following two:  
• ESC 492 – Undergraduate Thesis Proposal  
  • and ESC 493 – Undergraduate Thesis  
• Two additional ESC courses above the 200-level  

**Cognate Requirements**  
31 Credits Required  

Requirements:  
BIO 102 - Biology I  
BIO 103 - Biology II  
CHE 120 - General Chemistry I  
MAT 107 or MAT 221 - Mathematics Cognate  
MAT 120 , MAT 122, or MAT 150 - Mathematics Cognate  
PHY 200 - General Physics I  

Select three from:  
BIO 202 - Ecology  
BIO 210 - Environmental Biology and Conservation  
BIO 215 - Animal Behavior  
BIO 228 - Vertebrate Zoology  
BIO 229 - Invertebrate Zoology  
BIO 232 - Morphology of Non-Vascular Plants
BIO 233 - General Microbiology
BIO 250 - Plant Taxonomy and Systematics
BIO 327 - Field Natural History
BIO 429 - Limnology

Non-Course Requirement:
Pass Praxis® II with a score of 157 or higher

FREE ELECTIVES

Remaining credits to reach total Overall Credits Required (listed above).