EARTH SCIENCE 7-12, B.S.

This program has a separate admission process. Please consult the admission requirements for this program on the College of Education page for more information.

Overall GPA of 2.7 Required
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 122 – Precalculus
MAT 150 – Calculus I

Tier 2 – American Experience (select one):
HIS 110 – United States History I
HIS 111 – United States History II

Tier 2 – Mind and Body:
SHE 203 – School Health (‘C’ or better)

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 2 - Social Structure, Conflict, and Consensus
EDU 200 - Teachers, Schools, and Society (‘C’ or better)

Tier 2 – Time and Place:
ESC 210 — Principles of Astronomy (‘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

74 Credits Required

Earth Science Requirements
47 Credits Required
‘C-' or better required

Requirements:
ESC 200 — Physical Geology
ESC 201 — Historical Geology ('C-' or better)
ESC 210 — Principles of Astronomy ('C-' or better)
ESC 205 — Principles of Meteorology
ESC 220 — Physical and Chemical Oceanography
ESC 311 — Mineralogy
ESC 332 — Invertebrate Paleontology ('C-' or better)
ESC 350 — Structural Geology and Tectonics
ESC 430 — Field Methods

Select one from:
• ESC 312 — Petrology
• ESC 325 — Stratigraphy and Sedimentation

Select one from:
• ESC 404 — Air Pollution Meteorology
• ESC 420 — Earth Resources
• ESC 421 — Marine Geology
• ESC 457 — Hydrology
• ESC 458 — Soil Science

Select two from:
• ESC 303 — Environmental Earth Science
• ESC 312 — Petrology
• ESC 315 — Geomorphology
• ESC 325 — Stratigraphy and Sedimentation
• ESC 404 — Air Pollution Meteorology
• ESC 420 – Earth Resources
• ESC 421 – Marine Geology
• ESC 457 — Hydrology
• ESC 458 — Soil Science

**Education Requirements**

27 Credits Required

Requirements:
EDU 316 - Child Development and Psychology for Educators ('C' or better)
EDU 413 – Secondary Education ('C' or better)
EDU 471 - Supporting English Learners for School Success ('C' or better)
RDG 470 - Literacy in the Content Areas ('C' or better)
SCE 490 – Science (Secondary School) ('C' or better)
SCE 494 – Student Teaching (Science)
SCE 496 – Student Teaching Seminar (Science)
SED 482 – Teaching Exceptional Students in the Secondary Education Classroom ('C' or better)

Non-Course Requirements:
Module 1: Behavioral Difficulties (Social and Emotional Development)
Module 2: Dyslexia Required

**COGNATE REQUIREMENTS**

25 Credits Required

Requirements:
CHE 120 – General Chemistry I
EDU 200 - Teachers, Schools, and Society ('C' or better)
HIS 110 – United States History I or HIS 111 – United States History II
MAT 122 – Precalculus or MAT 150 – Calculus I
PHY 200 – General Physics I
SHE 203 – School Health ('C' or better)

Select one from:
• BIO 102 – Biology I
• BIO 120 – Microbiology
• CHE 121 – General Chemistry II
• PHY 201 – General Physics II

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

**FREE ELECTIVES**

Students must take remaining credits to reach Overall Credits Required (listed above).