GEOGRAPHY-EARTH SCIENCE PROGRAM
EARTH-SPACE SCIENCE MAJOR – B.S.Ed.

Geography-Earth Science (24 Cr)

Earth Science Core (12 Cr)
- ESS 210 Physical Geology*
- ESS 212 Historical Geology
- ESS 220 Oceanography*
- ESS 355 Meteorology*

Earth Science Elective (6 Cr)
- ESS 108 Intro to Env Sustainability
- ESS 214 Geology of National Parks
- ESS 220 Oceanography*
- GEO 202 GIS I: Intro to GIS
- GEO 203 Climatology*
- GEO 224 Soils*
- GEO 226 Hydrology*
- GEO 306 Geomorphology
- GEO 339 Remote Sensing
- GEO 352 Cartography
- GEO 363 GIS II: Intermediate GIS
- GEO 397 Intro to Research
- GEO 400 GIS III: Advanced GIS
- GEO 440 Field Techniques*
- GEO 444 Env. Land Use Planning*
- Marine Science Consortium (1-6 Cr)

Professional Education Requirements (34 Cr)

(all are required)
- EEC 273 Intro to Exceptionalities
- EEC 423 Effective Instructional Strategies
- EEC 483 Assessing Child Exceptionalities
- RDG 413 Teach Read to Eng. Lang. Learners
- TCH 207 Org. and Psych. Found. in 2nd Edu.
- EDU 440 Teaching Science 2nd School (4)
- EDU 441 Curriculum and Eval in 2nd Science
- EDU 495 Student Teaching/Prof Pract (12)

All education majors must pass the 1st level PAPA assessments before earning 48cr of coursework. These basic skills tests must be passed before students are permitted to take any 300+ level education courses.

Allied Sciences (25+ Cr)

Biology (9 Cr by advisement)
- BIO 161 Prin of Bio: Cell Struct and Func (4)
- BIO 162 Principles of Bio: Org Diversity (4)
- BIO 145 Environmental Biology
- BIO 242 Ecology (prereq BIO 162)
- BIO 208 Field Biology (prereq BIO 162)
- BIO 448 Field Bot & Plant Tax (prereq BIO 162)

Chemistry (4 Cr)
- CHM 122 Chemical Dynamics (3)
- CHM 126 Lab II: Equilibrium and Instr (1)

Physics (8 Cr)
- PHY 121 Intro to Physics I (3)
- PHY 123 Lab (1)
- PHY 122 Intro to Physics II (3)
- PHY 125 Lab (1)

Math (4+ Cr by advisement)
- MAT 211 Calculus I (4)
- MAT 212 Calculus II (4)

Recommended: General Science Cert. (39 Cr)

In order to complete a General Science Certification, students must take 1 of the following in addition to their Earth-Space program:
- CSC 103 Overview of Computer Science
- CSC 180 Microcomputer Basic
- EDU 420 Microcomputers in the Classroom

Optional: Env Education Certificate (24 Cr)

Courses listed as * fulfill elective req.

Required
- EDU 410 Environmental Education Practicum
- BIO 142 Intro to Ecology or 242 Ecology
- BIO 208 Field Bio or 210 Field Zoo or 448 Field Bio
- ESS 210 Physical Geol or 111 Intro Atmos
- BIO 145 Env Bio or ESS 108 Con Nat Res

An additional 9 Cr of related electives

General Education Requirements (45 Cr)

Courses filled-in below are DIRECTED general education courses that MUST be taken for the major. All other general education courses can be chosen from the list on the back of this page.

Foundations (15 cr total)
- U 3
- W 3
- O 3
- H 3
- Q 3 MAT 117

Interconnections (9 cr total)
- D* 3+
- G* 3+
- F 1

At least 1 course each from D and G.

Citizenship (6 cr total)
- S e ESS 108
- E e
- R e

1 course from two different categories.

Natural World (9cr total)
- N* 6+ CHM 121, CHM 125, PHY 108
- T e CSC 103

At least 1 course.

Creativity (6 cr total)
- L* 3
- A e
- C e

* At least 1 L course.

March 5, 2019