

EARTH SYSTEM SCIENCE (B.S.)

Major Requirements

Code	Title	Hours
MET 200	INTRO TO METEOROLOGY	3
MET 210	CLIMATOLOGY	3
METL 219	WEATHER ANALYS/FORECASTG LAB I	1
SCI 205 & SCIL 205	EARTH & SPACE SCIENCE and EARTH & SPACE SCIENCE LAB	4
SCI 215	GLOBAL CHANGE	3
SCI 310 & SCIL 310	EARTH HISTORY and EARTH HISTORY LAB	4
SCI 320	SEDIMENTARY ENVIRONMENTS	3
SCI 325	MINERALOGY PETROLOGY	3
SCI 331	INTRO TO GIS & REMOTE SENSING	3
SCI 410	MET&CUR MAT FOR SCIENCE CR	3
SCI 415	GEOCHEMISTRY	2
SCI 420	STRUCTURAL GEOLOGY	3
SCI 425	ENVIRONMENTAL GEOLOGY	2
SCI 432	HYDROLOGY	3
SCI 480	EARTH SCIENCE SEMINAR	1
SCI Elective		6
PHY 211 & PHYL 211	General Physics I and GENERAL PHYSICS LAB I	4
PHY 212 & PHYL 212	General Physics II and GENERAL PHYSICS LAB II	4
PHY 241	INTRODUCTN TO ASTRONOMY	4
CHEM 142 & CHML 142	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LAB	4
MATH 241	CALCULUS I WITH LABORATORY	3
MATH 242	CALCULUS II WITH LABORATORY	3

Total Hours **69**

Curriculum Map

Course	Title	Hours
Freshman		
Spring		
BIO 114	Introduction to Marine & Environmental Sciences	3
CHEM 142 & CHML 142	GENERAL CHEMISTRY II and GENERAL CHEMISTRY II LAB	4
ENG 105 or ENG 112	COMPOSITION II or COMPOSITION	3
MATH 241	CALCULUS I WITH LABORATORY	3
Pathway Option		3
Hours		16
Fall		
MATH 118	ALGEBRA II & TRIGONOMETRY	5
CHEM 141 & CHML 141	GENERAL CHEMISTRY I and GENERAL CHEMISTRY LAB	4
UNIV 100	UNIVERSITY SUCCESS	2
ENG 104 or ENG 103 or ENG 111	COMPOSITION I or English Composition I with Co-requisite Support or COMPOSITION & LITERATURE FOR L	3

Humanities & Fine Arts Option		3
Hours		17
Sophomore		
Spring		
SCI 205 & SCIL 205	EARTH & SPACE SCIENCE and EARTH & SPACE SCIENCE LAB	4
Speech Arts		3
PHY 212 & PHYL 212	General Physics II and GENERAL PHYSICS LAB II	4
UNIV 200	CIVIC ENGAGEMENT	1
Pathway Option		3
Restricted Elective		3
Hours		18
Fall		
MATH 242	CALCULUS II WITH LABORATORY	3
MET 200	INTRO TO METEOROLOGY	3
PHY 211 & PHYL 211	General Physics I and GENERAL PHYSICS LAB I	4
SCI 215	GLOBAL CHANGE	3
Pathway Option		3
Hours		16
Junior		
Spring		
SCI 320	SEDIMENTARY ENVIRONMENTS	3
SCI 325	MINERALOGY PETROLOGY	3
MET 210	CLIMATOLOGY	3
Social & Behavioral Science Option		3
Restrictive Elective		3
Hours		15
Fall		
BIO 111 & BIOL 111	GENERAL BIOLOGY and GENERAL BIOLOGY LAB	4
Social & Behavioral Science Option		3
PHY 241	INTRODUCTN TO ASTRONOMY	4
SCI 310 & SCIL 310	EARTH HISTORY and EARTH HISTORY LAB	4
Hours		15
Senior		
Spring		
SCI 425	ENVIRONMENTAL GEOLOGY	2
SCI 432	HYDROLOGY	3
SCI 480	EARTH SCIENCE SEMINAR	1
Restrictive Elective		3
Humanities & Fine Arts Option		3
Humanities & Fine Arts Option		3
Hours		15
Fall		
SCI 410	MET&CUR MAT FOR SCIENCE CR	3
SCI 415	GEOCHEMISTRY	2
SCI 420	STRUCTURAL GEOLOGY	3
SCI 331	INTRO TO GIS & REMOTE SENSING	3
Restrictive Elective		3
Hours		14
Total Hours		126

Notes:

- Candidates that transfer 12 or more hours of college credit are exempt from UNIV 100 UNIVERSITY SUCCESS; however, the student must take 2 hours of general electives to replace the UNIV course.
- Online Graduation Clearance (**to be completed during the graduating semester only**).

Restrictive Elective Options

Students must choose twelve (12) hours of restrictive electives course options from the list below:

Code	Title	Hours
BIO 103	ENVIRONMENTAL SCIENCE	2
BIO 201	INTRO TO ENVIRONMENTAL SCIENCE	3
BIO 404	ENVIRONMENTAL SCIENCE	3
BIO 412	NATURAL RES & CONS	3
CHEM 410	ENVIRONMENTAL CHEMISTRY	3
CIV 222	ENGINEERING MECHANICS I	3
CIV 310	ENGINEERING SURVEYING	2
CIV 380	INTRO TO GEOTECHNICAL ENGINEER	3
CSC 118	COMPUTER SCIENCE I	3
CSC 119	COMPUTER SCIENCE II	3
CSC 215	DATA ANALYTICS	3
CSC 245	INTRODUCTION TO BIOINFORMATICS	3
MET 303	MEASUREMENTS & OBSERVATIONS	3
PHY 361	MATH MET OF PHYSICS & CHEMISTRY	3
PHY 362	MATH MET OF PHYSICS & CHEMISTRY	3
PHY 380	INDEPENDENT STUDY	1-6
PHY 480	RESEARCH PROJECT	3

Student Learning Outcomes

Student Learning Outcome 1

Students know characteristics and are able to identify common Earth rocks and minerals.

Student Learning Outcome 2

Students know the physical and chemical characteristics of Earth's crust, mantle, and core.

Student Learning Outcome 3

Students are familiar with the physical and chemical characteristics of Earth's waters in oceans, lakes, rivers, and underground.

Student Learning Outcome 4

Students become familiar with Earth's atmosphere including air composition, weather patterns, and short –long term climate changes.

Student Learning Outcome 5

Students know events that shaped the Earth during the past 4.5 Billion years.