

EARTH AND SPACE SCIENCE (BS) - SECONDARY EDUCATION TRACK

Program of Study

Code	Title	Credit Hours
Core IMPACTS Area : Institutional Priorities ¹		4-5
Choose one of the following communication options		3
COMM 1110	Public Speaking	
Foreign Language Course Options		
AMSL, ARAB, CHIN, FREN, GERM, GREK, ITAL, JAPN, KREN, LATIN, PORT, SPAN - 1001, 1002, 2001, 2002; SWAH - 1001, 1002.		
Take one of the following courses		1-2
ITDS 1779	Scholarship Across the Disciplines	
LEAD 1705	Introduction to Servant Leadership	
PERS 1506	Perspectives 1-hour	
PERS 1507	Perspectives 2-hour	
Core IMPACTS Area : Mathematics & Quantitative Skills ¹		3-7
DATA 1501	Introduction to Data Science	3
MATH 1001	Quantitative Skills and Reasoning	3
MATH 1101	Introduction to Mathematical Modeling	3
MATH 1111	College Algebra	3
MATH 1113	Pre-Calculus	4
MATH 1125	Applied Calculus	3
MATH 1131	Calculus with Analytic Geometry I	4
MATH 1132	Calculus with Analytic Geometry II	4
MATH 1165	Computer-Assisted Problem Solving	3
MATH 1401	Introduction to Statistics	3
MATH 1501	Calculus I	4
MATH 2125	Introduction to Discrete Mathematics	3
STAT 1401	Elementary Statistics	3
Core IMPACTS Area : Political Science and U.S. History		6
HIST 2111	U. S. History to 1865	3
or HIST 2112	U. S. History since 1865	
POLS 1101	American Government	3
Core IMPACTS Area : Arts, Humanities, and Ethics		6
Select one Fine Arts course		3
ARTH 1100	Art Appreciation	
ARTH 2125	Introduction to the History of Art I– Prehistoric through Gothic	
ARTH 2126	Introduction to the History of Art II– Renaissance through Modern	
MUSC 1100	Music Appreciation	
THEA 1100	Theatre Appreciation	
ITDS 1145	Comparative Arts ²	
Select one Humanities course		3
ENGL 2111	World Literature I	
ENGL 2112	World Literature II	
ITDS 1155	The Western Intellectual Tradition	

ITDS 1774	Introduction to Digital Humanities	
PHIL 2010	Introduction to Philosophy	
ITDS 1145	Comparative Arts ²	
Core IMPACTS Area : Communicating in Writing		6
ENGL 1101	English Composition I	3
ENGL 1102	English Composition II	3
Core IMPACTS Area : Technology, Mathematics, and Sciences ^{1,3}		7-11
ANTH 1145	Human Origins	3
ASTR 1105	Descriptive Astronomy: The Solar System	3
ASTR 1106	Descriptive Astronomy: Stars and Galaxies	3
ASTR 1305	Descriptive Astronomy Lab	1
ATSC 1112	Understanding the Weather	3
ATSC 1112L	Understanding the Weather Lab	1
BIOL 1125	Contemporary Issues in Biology Non-Lab	3
BIOL 1215K	Introductory Biology	4
BIOL 1225K	Contemporary Issues in Biology with Lab	4
CHEM 1151 & 1151L	Survey of Chemistry I and Survey of Chemistry I Lab	4
CHEM 1152 & 1152L	Survey of Chemistry II and Survey of Chemistry II Lab	4
CHEM 1211 & 1211L	Principles of Chemistry I and Principles of Chemistry I Lab	4
CHEM 1212 & 1212L	Principles of Chemistry II and Principles of Chemistry II Lab	4
CPSC 1105	Introduction to Computing Principles and Technology	3
CPSC 1301K	Computer Science I	4
ENVS 1105	Environmental Studies	3
ENVS 1105L	Environmental Studies Laboratory	1
ENVS 1205K	Sustainability and the Environment	4
GEOG 2215	Introduction to the Geographic Information Systems	3
GEOL 1110	Natural Disasters: Our Hazardous Environment	3
GEOL 1121	Introductory Geoscience I: Physical Geology	3
GEOL 1121L	Introductory Geoscience I: Physical Geology Lab	1
GEOL 1122	Introductory Geo-sciences II: Historical Geology	3
GEOL 1322	Introductory Geo-sciences II: Historical Geology Lab	1
GEOL 2225	The Fossil Record	4
PHYS 1111 & PHYS 1311	Introductory Physics I and Introductory Physics I Lab	4
PHYS 1112 & PHYS 1312	Introductory Physics II and Introductory Physics II Lab	4
PHYS 1125	Physics of Color and Sound	3
PHYS 1325	Physics of Color and Sound Lab	1
PHYS 2211 & PHYS 2311	Principles of Physics I and Principles of Physics I Lab	4
PHYS 2212 & PHYS 2312	Principles of Physics II and Principles of Physics II Lab	4
Core IMPACTS Area : Social Sciences		6
Select one Behavioral Science course		
ECON 2105	Principles of Macroeconomics	
ECON 2106	Principles of Microeconomics	
PHIL 2030	Moral Philosophy	

PSYC 1101	Introduction to General Psychology	
SOCI 1101	Introduction to Sociology	
Select one World Cultures course		3
ANTH 1107	Discovering Archaeology	
ANTH 1105	Cultural Anthropology	
ANTH 2105	Ancient World Civilizations	
ANTH 2136	Language and Culture	
ENGL 2136	Language and Culture	
GEOG 1101	World Regional Geography	
HIST 1111	World History to 1500	
HIST 1112	World History since 1500	
ITDS 1156	Understanding Non-Western Cultures	
Core IMPACTS Total Hours		42
Health and Wellness		3
KINS 1106	Lifetime Wellness	2
or PHED 1205	Concepts of Fitness	
Select one of the following		1
Any PEDS course		
MUSC 1206	Body Mapping (Music Majors Only)	

¹ The hours applied in the Institutional Priorities; Mathematics & Quantitative Skills; and Technology, Mathematics, and Sciences areas must add to 18 credit hours.

² ITDS 1145 Comparative Arts, though listed under both Fine Arts and Humanities, may be taken only once.

³ At least 4 of the credit hours in this area must be in a lab science course.

Major Requirements

Code	Title	Credit Hours
Core Requirements		
Complete the core requirements for this program		45
Core Total		45
Field of Study Requirements		
Minimum grade of C is required		
ASTR 1105	Descriptive Astronomy: The Solar System	3
ATSC 1112	Understanding the Weather	3
ENVS 1205K	Sustainability and the Environment	4
GEO 1121	Introductory Geoscience I: Physical Geology	3
GEO 1121L	Introductory Geoscience I: Physical Geology Lab	1
Select one of the following sequences:		4
Sequence 1:		
PHYS 1111	Introductory Physics I	
PHYS 1311	Introductory Physics I Lab	
Sequence 2:		
PHYS 2211	Principles of Physics I	
PHYS 2311	Principles of Physics I Lab	
Field of Study Requirements Total		18
Required for the Major		
Minimum grade of C is required.		
ATSC 5117U	Global and Climate Change	3
GEO 1122	Introductory Geo-sciences II: Historical Geology	3

Choose one following sequences:		4
Sequence 1:		
PHYS 1112	Introductory Physics II	
PHYS 1312	Introductory Physics II Lab	
Sequence 2:		
PHYS 2212	Principles of Physics II	
PHYS 2312	Principles of Physics II Lab	
Choose one of the following ASTR courses:		3
ASTR 3105	Physics, Chemistry, and Geology of the Solar System	
ASTR 3115	Introduction to Astrophysics	
UTeach Columbus Teaching Option:		
(Only two attempts allowed for each of the following courses)		
SPED 4115	Teaching Math and Science to Exceptional Learners (Students must earn a grade of B or better in order to be certified to teach in the state of Georgia.)	2
UTCH 1201	Step I: Inquiry Approaches to Teaching	1
UTCH 1202	Step II: Inquiry-Based Lesson Design	1
UTCH 2105	Knowing and Learning in Mathematics and Science	3
UTCH 2203	Step III: Technological and Pedagogical Content Knowledge	3
UTCH 3205	Classroom Interactions	3
UTCH 3215	Research Methods	3
UTCH 4205	Inquiry-Based Instruction	3
UTCH 4485	Student Teaching	9
UTCH 4795	Student Teaching Seminar	1
Required for the Major Total		42

Major Electives

Total of at least 15 credits in ESS major courses over 3000 must be met in Major Electives, and a total of at least 18 hours in Major Electives courses.

Choose one of the following GEOL courses:		4
GEOL 4275	Structural Geology	
GEOL 3201	Mineralogy and Petrology I	
Choose one of the following ENVS courses:		4
ENVS 3105	Foundations of Environmental Science	
ENVS 5206U	Water Resources Management	
ENVS 5405U	Topics in Conservation	
Choose one of the following bio-geology courses:		3-4
GEOL 5135U	Oceanography	
GEOL 5165U	Hydrology	
GEOL 5215U	Geomorphology	
Choose one of the following Natural Hazards courses:		3-4
GEOL 5255U	Environmental Geology	
ATSC 5125U	Severe and Hazardous Weather	
ATSC 5116U	Meteorology	
ATSC#5116U Meteorology Complete 2 hours of department-approved electives		2
Select 0-2 hours from the following (to total 18 Hours in Major Electives);		
Any 3000+ ATSC, ANTH, ASTR, BIOL, CHEM, ENVS, ENGR, GEOL or PHYS course		

Major Electives Total	18
Total Credit Hours	123