

# BIOLOGY (BS) - SECONDARY EDUCATION TRACK

## Program of Study

Code	Title	Credit Hours
<b>Core IMPACTS Area : Institutional Priorities <sup>1</sup></b>		<b>4-5</b>
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	
<b>Core IMPACTS Area : Mathematics &amp; Quantitative Skills <sup>1</sup></b>		<b>3-7</b>
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
<b>Core IMPACTS Area : Political Science and U.S. History</b>		<b>6</b>
HIST 2111	U. S. History to 1865	3
	or HIST 2112 U. S. History since 1865	
POLS 1101	American Government	3
<b>Core IMPACTS Area : Arts, Humanities, and Ethics</b>		<b>6</b>
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 <sup>2</sup>	
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 <sup>2</sup>	
<b>Core IMPACTS Area : Communicating in Writing</b>		<b>6</b>
ENGL 1101	English Composition I	3
ENGL 1102	English Composition II	3
<b>Core IMPACTS Area : Technology, Mathematics, and Sciences <sup>1,3</sup></b>		<b>7-11</b>
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
<b>Core IMPACTS Area : Social Sciences</b>		<b>6</b>
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	
<b>Core IMPACTS Total Hours</b>	<b>42</b>
<b>Health and Wellness</b>	<b>3</b>
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)	

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

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

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

Major Requirements

Code	Title	Credit Hours
<b>Core Requirements</b>		
Complete the core requirements for this program		45
<b>Field of Study Requirements</b>		
Minimum grade of C is required		
BIOL 1107K	Principles of Biology I	4
BIOL 1108K	Principles of Biology II	4
BIOL 2206K	Organismic Biology I	4
BIOL 2207K	Organismic Biology II	4
Select 2 credit of General Electives		2
Field of Study Requirements Total		18
<b>Required for the Major</b>		
Minimum grade of C is required.		
BIOL 3215K	Cell Biology	4
BIOL 3216K	Genetics	4
BIOL 3217K	Ecology	4
BIOL 4795	Capstone Senior Seminar	2
MATH 1111	College Algebra	3
Use a general elective to substitute for MATH 1111 if shown to be math ready at a higher level.		
Select the following UTeach Columbus Courses (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 3215	Research Methods	3
UTCH 3205	Classroom Interactions	3
UTCH 4205	Inquiry-Based Instruction	3
UTCH 4485	Student Teaching	9
UTCH 4795	Student Teaching Seminar	1
Required for the Major Total		46

**Major Electives**

Minimum grade of C is required

Select 3-4 credits from Cellular and Molecular Biology Electives		3-4
BIOL 5117U	Medical Genetics and Genomics	
BIOL 5118U	Neuroscience	
BIOL 5215U	Developmental Biology	
BIOL 5216U	Histology and Histotechniques	
BIOL 5217U	Cell and Molecular Techniques	
BIOL 5218U	Introduction to Virology	
BIOL 5219U	Immunology	
BIOL 5225U	Microbial Pathogenesis	
BIOL 5317U	Genomics and Bioinformatics Lab	
BIOL 5318U	Neuroscience Lab	
BIOL 5515U	Selected Topics in Cell and Molecular Biology	

Select 3-4 hours from Organismal Biology Electives		3-4
BIOL 5245U	Comparative Animal Physiology	
BIOL 5246U	Entomology	
BIOL 5247U	Microbial Diversity	
BIOL 5248U	Ornithology	
BIOL 5249U	Parasitology	
BIOL 5255U	Vertebrate Diversity	
BIOL 5256U	Plant Taxonomy	
BIOL 5257U	Biology of Aging	
BIOL 5259U	Comparative Vertebrate Anatomy	
BIOL 5265U	Food Microbiology	
BIOL 5525U	Selected Topics in Organismic Biology	

Select 3-4 credits from Ecological and Evolutionary Electives		3-4
BIOL 5285U	Aquatic Biology	
BIOL 5286U	Community Ecology	
BIOL 5287U	Conservation Genetics	
BIOL 5288U	Plant Ecology	
BIOL 5289U	Environmental Toxicology	
BIOL 5295U	Animal Communication	
BIOL 5535U	Selected Topics in Ecological and Evolutionary Biology	

Major Electives Total 11-12

**General Electives**

Select 2-6 credits	2-6
Apply additional hours from Field of Study Requirements to General Electives	

General Electives Total	2-6
<b>Total Credit Hours</b>	<b>123</b>

<sup>1</sup> If ITDS 2125 Historical Perspectives on the Philosophy of Science and Mathematics is not taken in Area C.