

Degree: **Bachelor of Science**  
 Major: **BIOLOGY**  
 Emphasis: **INTEGRATIVE**

**UNIVERSITY CORE CURRICULUM**

_____	COMM 1311	Foundation of Communication
_____	ENGL 1302	Writing and Rhetoric
_____	See Catalog	
_____	HIST 1301	US History to 1865
_____	HIST 1302	US History Since 1865
_____	POLS 2305	US Government and Politics
_____	POLS 2306	State and Local Government
_____	See Catalog	
_____	PSYC 2301	General Psychology
_____	MATH 2413	Calculus I
_____	BIOL 1406	Gen Biology I
_____	BIOL 1407	Gen Biology II
_____	CHEM 1411	Gen. Chemistry I
_____	CHEM 1412	Gen. Chemistry II

Communication	3
Communication	3
Language, Philosophy, and Culture	3
American History	3
American History	3
Government/Political Science	3
Government/Political Science	3
Creative Arts	3
Social and Behavioral Science	3
Mathematics	(3) See catalog for pre-requisite courses
Life and Physical Sciences	(3)
Life and Physical Sciences	(3)
Component Area Option	(3)
Component Area Option	(3)

**SCH PREREQUISITES**

**First-Year Seminars/ Professional Skills**

2 Credits required

Choose UCCP 1101 & UCCP 1102 or BIOL 2200

_____	UCCP 1101 & UCCP 1102	<u>First-Year Seminar</u>	2
_____	BIOL 2200	<u>Professional Skills</u>	2

**Biology Core:**

_____	BIOL 1406	<u>Biology I</u>	*Life and Physical Sciences Core Course	4	MATH 1314 or see catalog for placement criteria
_____	BIOL 1407	<u>Biology II</u>	*Life and Physical Sciences Core Course	4	BIOL 1406
_____	BIOL 2416	<u>Genetics</u>		4	BIOL 1406 w "C", 1407, CHEM 1411, 1412
_____	BIOL 2421	<u>Microbiology</u>		4	BIOL 1406 w "C", 1407, CHEM 1411, 1412
_____	BIOL 2371	Principles of Evolution		3	BIOL 1407
_____	BIOL 3428	Principles of Ecology		4	BIOL 1407, CHEM 1411, BIOL 2200 or UCCP1101, 1102, MATH 2312
_____	CHEM 1411	Gen. Chemistry I	*Component area Option Core Course	4	MATH 1314 or see catalog for placement criteria
_____	CHEM 1412	Gen. Chemistry II	*Component area Option Core Course	4	Chem 1411
_____	*CHEM 3411	Organic Chemistry I		4	Chem 1411
_____	*CHEM 3412	Organic Chemistry II		4	Chem 1412
_____	MATH 2413	Calculus I		4	MATH 1314 and 1316, or MATH 2312, or placement beyond MATH 2312
_____	*BIOL 4292	Senior Presentation		2	BIOL 2200, Sr. standing

**Math requirement:**

Choose one from the following:

_____	MATH 1314	<u>College Algebra</u>	3	College Ready
_____	MATH 1316	<u>Trigonometry</u>	3	MATH 1314, level IV ready
_____	MATH 2312	<u>Precalculus</u>	3	MATH 1314, level IV ready
_____	MATH 2414	<u>Calculus II</u>	4	MATH 2413
_____	MATH 3342	<u>Applied Probability and Stats</u>	3	MATH 2413

**Chemistry of Life/Cell Biology Requirement: Choose one from the following:**

_____	BIOL 3403	<u>Molecular Biology (SP)</u>	4	BIOL 2416 and BIOL 2421
_____	BIOL 3410	<u>Cell Biology (FL)</u>	4	CHEM 3411 and BIOL 2416
_____	CHEM 4401	<u>Biochemistry I</u>	4	CHEM 3412 and one year biology

**Form and Function requirement: Choose one from the following:**

_____	BIOL 3425	<u>Functional Anatomy (SP)</u>	4	BIOL 1407
_____	BIOL 3430	<u>Physiology (FL,SS)</u>	4	BIOL 1407
_____	BIOL 3455	<u>Plant Form and Function (alt)</u>	4	BIOL 1407

**Organismal Biology requirement: Choose one from the following:**

_____	BIOL 2472	<u>Principles of Botany</u>	4	BIOL 1407, CHEM 1411
_____	BIOL 3413	<u>Invertebrate Zoology (FL,SS)</u>	4	BIOL 1407
_____	BIOL 3414	<u>Vertebrate Zoology (FL)</u>	4	BIOL 1407

**INTEGRATIVE REQUIRED CLASSES: 20 sem hours (8 can count in BIOL core)**

_____	BIOL 3410	<u>Cell Biology (FL)</u>	4	CHEM 3411 and BIOL 2416
_____	BIOL 3425	<u>Functional Anatomy (SP)</u>	4	BIOL 1407
_____	BIOL 3430	<u>Physiology (FL,SS)</u>	3	BIOL 1407
_____	PHYS 1401 or 2425	<u>Physics I</u>	4	see catalog, prerequisite depends on
_____	PHYS 1402 or 2426	<u>Physics II</u>	4	Physics chosen

**Integrative Advanced Mathematics Requirement: Choose one from the following:**

_____	MATH 2414	<u>Calculus II</u>	4	MATH 2413
_____	MATH 3342	<u>Applied Probability and Stats</u>	3	MATH 2413

**INTEGRATIVE ELECTIVES: See elective list**

18-19

**University Requirements**

Minimum Total Hours for degree:	120	Minimum Major grade point average (g.p.a.):	2.5
*Upper Division minimum total hours:	45		
*Upper Division minimum residency hours:	36		
*Upper Division minimum major residency hrs:	12		
Cumulative TAMU-CC minimum g.p.a.:	2	First Year Seminar Requirement: UCCP 1101/1102	
Foreign Language Requirement:	see catalog		



**Integrative Electives: Choose 18-19 hours**

<b>COURSE</b>		<b>PRE-REQ</b>
BIOL 2472	Principles of Botany	*If not used elsewhere for degree
BIOL 3300	Animal Nutrition	4 BIOL1407, CHEM1411
BIOL 3345	Cell Physiology	3 BIOL 1407, CHEM3411, Pre/Corequisite of CHEM3412
BIOL 3403	Molecular Biology	3 BIOL 2200, BIOL3410
BIOL 3413	Invert. Zoology	*If not used elsewhere for degree
BIOL 3414	Vert. Zoology	*If not used elsewhere for degree
BIOL 3455	Plant Form & Function	*If not used elsewhere for degree
BIOL 3479	Plant Ecology	4 BIOL 2416, BIOL2421
BIOL 4299	Directed Independent Research	4 BIOL 1407
BIOL 4301	Embryology	4 BIOL 1407
BIOL4302	Coral Reef Conservation	4 BIOL 1407
BIOL 4304	Biology of Viruses	3 BIOL 2416
BIOL 4319	Marine Mammals	3 BIOL3428
BIOL 4323	Global Change Ecology	3 BIOL 2416, BIOL2421, CHEM1411
BIOL 4326	Toxic & Therapeutic Plants	3 BIOL 1407
BIOL 4340	Genomics, Proteomics, & Bioinformatics	3 none
BIOL 4350	Research & Design	3 BIOL 1407
BIOL 4370	Mariculture	3 BIOL 2416 & BIOL3410 or CHEM4401
BIOL 4371	Population Genetics	3 PROF. PERM.
BIOL 4396	Directed Independent Study	3 BIOL 1407
BIOL 4405	Limnology	3 BIOL 2416, MATH1442 or 2413
BIOL 4406	Immunology	3 20 HRS. BIO & PROF. PERM.
BIOL 4407	Biology of the Fungi	4 BIOL 3428
BIOL 4408	Microbial Diversity & Ecology	4 BIOL 2421
BIOL 4409	Field & Sampling Techniques	4 BIOL 2421
BIOL 4411	Animal Behavior	4 BIOL 2421
BIOL 4413	Entomology	4 PROF. PERM.
BIOL 4422	Plant Taxonomy	4 BIOL 1407
BIOL 4425	Ornithology	4 BIOL 1407
BIOL 4428	Fisheries	4 BIOL 3414
BIOL 4429	Marine Botany	4 BIOL 1407
BIOL 4431	Mammology	4 BIOL 1407
BIOL 4432	Ichthyology	4 BIOL 3414
BIOL 4433	Parasitology	4 BIOL 1407
BIOL 4435	Biological Microtechniques	4 BIOL 1407
BIOL 4436	Marine Ecology	4 BIOL 3414
BIOL 4442	Herpetology	4 BIOL 3414
BIOL 4444	Estuarine Organisms	4 BIOL 3413
BIOL 4446	Tropical Ecos & Conserv	4 BIOL 3428
BIMS3401	Pathophysiology	4 CHEM1411, BIOL1407, BIOL2401
BIMS4311	Biology of Cancer	3 BIOL2416, BIOL3410 strongly recommended
BIMS4323	Neurobiology	3 BIOL2416
BIMS4327	Intro to Toxicology	3 BIOL1407, CHEM1412
BIMS4330	Biological Basis of Aging	3 BIOL1407, CHEM3411
BIMS4333	Medical Entomology	3 BIOL1407
BIMS4334	Human Genetics	3 CHEM3412, BIOL2416
BIMS4335	Endocrinology	3 BIOL2200, CHEM3412, BIOL2416
BIMS4374	Medical Microbiology	3 BIOL2421
BIMS4375	Mechanisms of Microbial Pathogenesis	3 BIOL2421
BIMS4410	Histology	4 BIOL3425
MATH2414	Calculus II	*If not used elsewhere for degree
BIOL4590	Selected Topics	With Faculty Mentor Approval
*Electives		With Faculty Mentor Approval