

Biotechnology 2014

Major: Biotechnology

Degree Type: B.S.

Required Degree Credits to Graduate: 128

General Education Requirements

First Year Experience (F)

AGRI/UNIV 189	Skills for Academic Success (Students transferring in 24 or more credits do not need to take AGRI 189.)	1
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Communication (C)

ENGL 110	College Composition I	3
ENGL 120	College Composition II	3

Upper Division Writing: Select one from the following: 3

ENGL 320	Business and Professional Writing	
ENGL 321	Writing in the Technical Professions	
ENGL 324	Writing in the Sciences	
ENGL 325	Writing in the Health Professions	
ENGL 459	Researching and Writing Grants and Proposal	
MICR 354	Scientific Writing	
COMM 110	Fundamentals of Public Speaking	3

Quantitative Reasoning (R):

STAT 330	Introductory Statistics	3
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Science & Technology (S)

CHEM 121 & 121L	General Chemistry I and General Chemistry I Laboratory	4
CHEM 122 & 122L	General Chemistry II and General Chemistry II Laboratory	4

Select one sequence from the following: 4

PHYS 211 & 211L	College Physics I and College Physics I Laboratory	
PHYS 251 & 251L	University Physics I and University Physics I Laboratory	

Humanities & Fine Arts (A): Select from current general education list 6

Social & Behavioral Sciences (B): Select from the current general education list 6

Wellness (W): Select from the current general education list 2

Cultural Diversity (D): Select from the current general education list

Global Perspectives (G): Select from the current general education list

Total Credits 42

Major requirements

General Education Requirements 40

Biotechnology Requirements

BIOC 460 & 460L	Foundations of Biochemistry and Molecular Biology I and Foundations of Biochemistry I Laboratory	4
BIOC 461	Foundations of Biochemistry and Molecular Biology II	3
BIOC 465	Principles of Physical Chemistry and Biophysics	4
BIOC 474	Methods of Recombinant DNA Technology	3
MICR 350 & 350L	General Microbiology and General Microbiology Lab	5
MICR 470	Basic Immunology	3
MICR 471	Immunology and Serology Laboratory	2
MICR 482	Bacterial Genetics & Phage	3
MICR 491	Seminar (Biotechnology)	1-5
MICR 494	Individual Study (Senior Research)	2-4
MICR 494	Individual Study (Senior Thesis)	1

Supporting Requirements		
AGRI 150	Agriculture Orientation (Applied to students earning the degree from the CoAFSNR only; Students transferring in 24 or more credits do not need to take AGRI 150)	1
BIOL 150 & 150L	General Biology I and General Biology I Laboratory	4
BIOL 151 & 151L	General Biology II and General Biology II Laboratory	4
CHEM 341 & 341L	Organic Chemistry I and Organic Chemistry I Laboratory	4
CHEM 342	Organic Chemistry II	3
CSCI 114 or CSCI 122	Microcomputer Packages Visual BASIC	3
Select one from the following:		8
MATH 146 & MATH 147	Applied Calculus I and Applied Calculus II	4
MATH 165 & MATH 166	Calculus I and Calculus II	
Select one from the following:		4
PHYS 212 & 212L	College Physics II and College Physics II Laboratory	4
PHYS 252 & 252L	University Physics II and University Physics II Laboratory	
PLSC 315 & 315L	Genetics and Genetics Laboratory	4
Major Elective in Physiology: Select 3 credits from the following:		3
BOT 380	Plant Physiology	4-6
ZOO 460	Animal Physiology	
MICR 480	Bacterial Physiology	
Major Elective in Biotechnology Technique: Select 4-6 credits from the following:		4-6
BIOC 473	Methods of Biochemical Research	6
BIOC 487	Molecular Biology of Gene Expression	
MICR 445	Animal Cell Culture Techniques	
PLSC 411	Genomics	
PLSC 484	Plant Tissue Culture and Biotechnology	
Additional Humanities & Fine Arts or Social & Behavioral Sciences Credits		6
An additional 6 credits from these General Education categories is required for earning a B.S. degree from either the College of Agriculture, Food Systems, and Natural Resources or the College of Science and Mathematics.		
Degree Requirements: Potential of 7 credits to reach 128		7
Total Credits		128-136

Degree Notes:

- The Bachelors of Science degree is the default degree type for this program of study. However, a Bachelor of Arts degree is available if the degree is being earned from the College of Science & Mathematics.
- Bachelor of Arts (B.A.) Degree Requirements: An additional 12 credits of Humanities and/or Social Sciences courses and proficiency of a modern foreign language at the second year level (example: SPAN 201 & 202). Courses for the Humanities and/or Social Sciences may be fulfilled by any course having the following prefix: ADHM, ANTH, ARCH, ART, CJ, CLAS, COMM, ECON, ENGL, FREN GEOG, GERM, HDFS, HIST, LA, LANG, MUSC, PHIL, POLS, PSYC, RELS, SOC, SPAN, THEA, WGS, or any course from the current Humanities & Fine Arts (A) and/or Social & Behavioral Sciences (B) General Education list.