

Applied Biotechnology (APBT)

The applied biotechnology major requires 120 semester hours of course work, including 41 semester hours of the university core curriculum. All courses and related activities required for the major cover general biological and chemical sciences, theory and methodology of biotechnology, bioinformatics, microbiology, molecular biology, genetics/genomics, general plant pathology and physiology, general entomology and insect/plant physiology, pesticide toxicology, genetics, medical entomology, and cell biology. The minimum number of hours required for an undergraduate major is 30 hours of course work in the discipline or a closely allied field. Of these hours, a minimum of 16 must be taken in upper-division (numbered 3000 or above) courses in the major area. The curriculum is the combination of laboratory skills, applied coursework and the biotechnology internship experience which complete an approved academic program for earning a B.S. degree in Applied Biotechnology.

Freshman

Fall	Hours	Spring	Hours
MATH 1130 Pre-Calculus Trigonometry	3	BIOL 1020 Principles of Biology & BIOL 1021 Principles of Biology Laboratory	4
CHEM 1030 Fundamentals Chemistry I	3	CHEM 1040 Fundamental Chemistry II	3
CHEM 1031 Fundamental Chemistry I Laboratory	1	CHEM 1041 Fundamental Chemistry II Laboratory	1
ENGL 1100 English Composition I	3	ENGL 1120 English Composition II	3
APBT 1000 Introduction to Applied Biotechnology	1	Core Fine Arts	3
COMM 1000 Public Speaking	3		
	14		14

Sophomore

Fall	Hours	Spring	Hours
BIOL 1030 Organismal Biology & BIOL 1031 Organismal Biology Laboratory	4	CHEM 2030 Survey of Organic Chemistry <i>or</i> 2070 Organic Chemistry I	3
STAT 2510 Statistics for Biological and Health Sciences	3	CSES 2040 Basic Soils Science or ENTM 2040 Insects or ENTM/PLPA 2000 Pests and People	4
ECON 2020 Principles of Microeconomics	3	APBT 2950 Professional Development	1
Core Literature	3	PHYS 1000 Foundations of Physics	4
Free Electives	2	Core History I	3
		Free Electives	2
	15		16

Junior

Fall	Hours	Spring	Hours	Summer	Hours
Select 4 credits of the following:	4	PLPA 3000 General Plant Pathology or ENTM 3040 General Entomology or CSES 3120 Principles of Weed Science	4	APBT 4920 High Impact Experiences <i>or</i> 4980 Undergraduate Research	3

BIOL 3020 Genomic Biology	APBT 3100 Methods of Synthetic Biology	4
BIOL 3100 Plant Biology*	Core Humanities	3
BIOL 3200 General Microbiology & BIOL 3201 General Microbiology Laboratory	Professional Science core electives¹	3
AGRI 3000 Agricultural Genetics		4
BCHE 3200 Principles of Biochemistry or 5180 Biochemistry I		3
Core History II		3
Free Electives		2
	16	14
		3
Senior		
Fall	Hours	Spring
APBT 4100 Applied Biotechnology	4	Professional Science core electives¹
Professional Science core electives¹	8	Core Social Science
BIOL 4100 Cell Biology	3	UNIV 4AA0 Achieve the Creed
	15	13

Total Hours: 120

Six credits of advanced ROTC can be substituted for free electives.

CHEM 1110/CHEM 1111 and CHEM 1120/CHEM 1121 sequence can substitute for CHEM 1030/CHEM 1031 and CHEM 1040/CHEM 1041.

* CSES 5100 and BIOL 3020 may not both be taken for credit.

¹ See advisor or DegreeWorks for approved list.