

Microbiology Option Recommended Courses Updated 05/07

Classes in italics are considered preparatory classes for the Biology Program. Ask your advisor on how these courses may or may not count towards your degree. See note on back. Consult your advisor for your specific schedule.

Grade	Course	Credit Hours	Title
Basic Core Courses (22 credits)			
	BIOL 107	1	Biol Freshman Experience
	BIOL 101	4	Intro to Biology 1
	BIOL 102	4	Intro to Biology 2
	BIOL 243	4	Intro Cell Biology
	BIOL 244	3	Genetics
	BIOL 244L	1	Genetics Lab
	BIOL 316	4	Basic Microbiology
	BIOL 428	1	Senior Seminar
Optional core courses – choose 1 (4 credits)			
	BIOL 333	4	Ecology
	BIOL 357	4	Intro Animal Physiology
Biology Electives (12 credits) 300 level or above (except BIOL 330 and BIOL 339)			
Chemistry minimum 19 credits			
	CHM 115	4	Gen Chemistry 1
	CHM 116	4	Gen Chemistry 2
	CHM 255	3	Organic Chemistry
	CHM 255L	1	Organic Chemistry Lab
	CHM 256	3	Organic Chemistry 2
	CHM256L	1	Organic Chemistry Lab 2
	CHM 333	3	Principles of Biochemistry
Physics minimum 8 credits			
	PHYS 220	4	Gen Physics 1
	PHYS 221	4	Gen Physics 2
or course sequence of			
	PHYS 152	4	Mechanics
	PHYS 251	5	Heat, Elect. & Optics
	PHYS 342	3	Modern Phys
	PHYS 343	1	Lab

EMS Freshman Advisor

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Biological Sciences Advisor:

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Grade	Course	Credit Hours	Title
Mathematics minimum 12 credits			
	MA 223 or MA 163	3 5	Intro Analysis (Calculus) Calculus 1
	MA 224 or MA 164	3 5	Intro Analysis 2 (Calculus) Calculus 2
	BIOL 330 or STAT 301	3 3	Biostatistics Elem Stat Method
	Any CS or CIS	3	CS 342 or CIS 204/304 encouraged
English/Communication required 6-13 credits			
	ENGL 104	3	English Composition 1
	ENGL 105	3	English Composition 2
	OR ENGL 108	3	Advanced English Comp *for qualified students instead of 104/105*
	COM 114	3	Fndmtls of Speech Comm
Humanities/Social Science Electives (15 credits) (min. 3 credits for both humanities and social sciences categories-see back)			
Free Electives 24-28 credits can be used for minor study area			
	<i>CHM 100</i>	3	<i>Prep for Gen Chemistry</i>
	<i>ENGL 100</i>	4	<i>English Composition</i>
	<i>MA 021</i>	0	<i>Beginning Algebra</i>
	<i>MA 115</i>	3	<i>Intermediate Algebra</i>
	<i>MA 153</i>	3	<i>Algebra and Trig 1</i>
	<i>MA 154</i>	3	<i>Algebra and Trig 2</i>
	<i>Or MA 159</i>	5	<i>Pre-Calculus *for qualified students instead of 153/154*</i>

Graduation Checklist:

- _____ *124 credit hours completed (not including 000 level courses or any F grades)*
- _____ *C grade or higher in BIOL 101/102 and a C average in all biology core courses*
- _____ *C average overall for all biology courses*
- _____ *32 credit hours at the 300 level and above*

MICROBIOLOGY OPTION Updated 04/07

The **National Registry of Microbiologists (NRM)** was founded in 1958 and is the only organization certifying microbiologists in both clinical and nonclinical specialty areas. The NRM certifies professional microbiologists at the baccalaureate (Registered Microbiologist, [RM]NRM); master's, doctoral, and baccalaureate (Specialist Microbiologist, [SM]NRM); and prebaccalaureate/baccalaureate (Conditional Registrant) levels (from www.asm.org). Those interested in working in medical or industrial fields are encouraged to become registered. For more information and an application, go to <http://www.asm.org/Academy/index>.

SAMPLE Plan of Study- Consult your advisor for individual plans
Credit hours are in parenthesis.

Fall Semester	Spring Semester	Summer or Maymester
Prep classes CHM 100 MA 021/115/153/154		
BIOL 107 (1) ENGL 100 or ENGL 104 (3) BIOL 101 (4) CHM 115 (4) COM 114 (3) (Total semester credits 15)	ENGL 105 (3) BIOL 102 (4) CHM 116 (4) CIS Course (3) (Total semester credits 14)	
MA 223 (3) BIOL 333 (4) CHM 255 /255L (4) HUMANITES/SOC SCI Elective (Total semester credits 14)	MA 224 (3) BIOL 316 (4) CHM 256/256L (4) HUMANITES/SOC SCI Elective Free Elective (Total semester credits 17-18)	
BIOL 244/244L (4) PHYS 220 (4) HUMANITES/SOC SCI Elective Free Elective (Total semester credits 14-15)	BIOL 243 (4) PHYS 221 (4) CHM 333 (3) HUMANITES/SOC SCI Elective Free Elective (Total semester credits 18-19)	
BIOL 330 (3) BIOL Elective BIOL Elective HUMANITES/SOC SCI Elective Free Elective (Total semester credits 15-18)	BIOL 428 (1) BIOL Elective HUMANITES/SOC SCI Elective Free Elective Free Elective (Total semester credits 13-16)	

NOTE: CHEM 100, MA 021/115/153/154/159 are considered preparatory classes for Biology program. MA 021 credit hours do not count towards a biology degree. However, these classes count towards full-time status for students. MA 163/164 is geared towards engineering students.

Humanities and Social Science Credit Requirements: Minimum 3 credits should be in Humanities (philosophy, literature, or creative arts classes) **AND** a minimum 3 credits in any Social Sciences (economics, history, political science, psychology, or sociology classes). Remaining credits can be from any Humanities and Social Science course.

*Biology electives must be 300 level or higher. BIOL 330 and BIOL 339 are not considered biology electives.

Recommended Microbiology Elective Courses

BIOL 477 Phycology
 BIOL 507 Molecular Biology
 BIOL 508 Recombinant DNA Tech
 BIOL 524 Microbiology I

BIOL 533 Medical Microbiology
 BIOL 534 Med Microbiology Lab
 BIOL 561 Immunology
 BIOL 595 Food Microbiology

BIOL 595 Environmental Micro
 BIOL 595 Tissue Culture
 BIOL 595 Bioinformatics
 BIOL 595 Microbiology Research