

BIOLOGICAL SCIENCES DEGREE: Microbiology Emphasis Plan (AY 2017-2018)

GENERAL EDUCATION CURRICULUM (See Undergraduate Bulletin for full description of GEC)

GEC 01. Written Communication (Select both)	Credit Hours
ENG 101 - Composition One	3
ENG 102 - Composition Two	3
GEC 02. Natural Science Requirement (Select both)	
BSC 110/L* - Principles of Biological Sciences I & Lab	3/1
BSC 111/L* - Principles of Biological Sciences II & Lab	3/1
GEC 03. Humanities (Select 3 courses)	
01. REQUIRED: ENG 203 - World Literature	3
02. SELECT 2 courses. One history course is required.	
HIS 101 - World Civilizations: Beginning to 1500 C.E.	3
HIS 102 - World Civilizations: 1500 C.E. to the Present	3
PHI 151 - Introduction to Philosophy	3
PHI 171 - Ethics and Good Living	3
REL 131 - Comparative Religions	3
GEC 04. Aesthetic Values. SELECT 1 course.	
ART 130 - Art Appreciation	3
DAN 130 - Dance Appreciation	3
MUS 165 - The Enjoyment of Music	3
THE 100 - Theatrical Expressions	3
GEC 05. Social and Behavioral Sciences. SELECT 2 courses.	
ANT 101 - The Human Experience: A Global Perspective on Human Diversity	3
COH 100 - Concepts of Wellness	3
ECO 101 - Basic Economics	3
GHY 101 - World Geography: Dynamics of a Changing Earth	3
PS 101 - American Government	3
PSY 110 - General Psychology	3
SOC 101 - Understanding Society: Principles of Sociology	3
GEC 06. Mathematics Requirement. SELECT 1 of the following calculus courses.**	
MAT 114 - Calculus for Arts and Sciences OR	3
MAT 167 - Calculus I with Analytical Geometry	3
GEC 07. Writing-Intensive Requirement. SELECT 1 course.	
ENG 333 - Technical Writing (WI) (Prerequisites = ENG 101 & 102) OR	3
Any upper-level approved writing-intensive (WI) class	
GEC 08. Speaking-Intensive Requirement. SELECT 1 course.	
CMS 111 - Oral Communication	3
CMS 305 - Interpersonal Communication	3
CMS 320 - Business and Professional Speaking	3
CMS 330 - Small Group Communication	3
GEC 09. Capstone Requirement (Major Area)	
BSC 497* - Senior Practicum	1

* This course is required for the major.

**Calculus is required for this major. MAT 114 is recommended for biology majors. MAT 167 is generally taken by student desiring a minor or a second major in mathematics. Students may enroll in MAT 114 if their ACT mathematics subtest score is ≥ 24 . Students enrolling in MAT 167 must have an ACT mathematics subtest score of ≥ 26 . Students entering USM with an ACT mathematics subtest score of 20 to 23 must complete MAT 101 (College Algebra) with a C or better before taking MAT 114. Students entering USM with an ACT mathematics subtest score of ≤ 19 must take MAT 099 (Intermediate Algebra) during their first semester and earn at least a C prior to enrolling in MAT 101(which must also be completed satisfactorily prior to enrolling in MAT 114). MAT 103 (Trigonometry) is recommended for students lacking a good background in mathematics.

PROGRAM CURRICULUM

DEG 01. Major Area of Study Requirements

TOTAL BSC HOURS MUST EQUAL A MINIMUM OF 41 HOURS, including BSC 110/L, BSC 111/L, and BSC 497. Students must complete a minimum of three laboratory-based BSC courses at the 300-400 level.

01. BSC 197 - First Year Foundations			1
02. BSC 370 - Genetics			3
03. BSC 380/L - General Microbiology & Lab			3/1
04. BSC 484/L - Virology & Lab			3/1
05. BSC 486/L - Immunology & Serology & Lab			3/1
06. BSC 477/L - Microbial Genetics & Lab			3/1
07. BSC 487/L - Microbial Physiology & Lab			3/1
08. BSC Elective. SELECT 1 course.			
BSC 478/L - Methods in Biotechnology & Lab	3/1	BSC 488/L - Food Microbiology & Lab	3/1
BSC 481 - Pathogenic Microbiology	3	BSC 489/L - Environ. Microbiology & Lab	3/1
09. BSC Elective. SELECT 1 course.			
BSC 382 - Microbial Ecology	3		
BSC 476 - Molecular Biology	3		
BSC 485 - Viral Pathogenesis & Diagnosis	3		
10. BSC Elective. SELECT 2 additional courses from either the list below or from courses listed above in 08 or 09.			
BSC 360 - Cell Biology	3	BSC 412/L - Medical Entomology & Lab	3/1
BSC 403 - Nat'l. Hist. Infectious Diseases	3	BSC 426/L - Intro. to Mycology & Lab	3/1
BSC 410/L - Human Parasitology & Lab	3/1	BSC 463/L - Pathobiology & Lab	3/1

DEG 02. Additional Requirements (32 hours)

01. CHE 106/L - General Chemistry I & Lab	3/1		
02. CHE 107/L - General Chemistry II & Lab	3/1		
03. CHE 255/L - Organic Chemistry I & Lab	3/1		
04. CHE 256/L - Organic Chemistry II & Lab	3/1		
05. CHE421/L - Biochemistry I & Lab	3/2		
06. SELECT 1 course from the following: CHE 422 - Biochemistry II (3 hours); CHE 451 - Medicinal Chemistry (3 hours); CHE 460 - Pharmacology (3 hours); CHE 470 - Survey of Toxicology (3 hours)			
07. PHY 111/L - General Physics I & Lab	3/1		
08. PHY 112/L - General Physics II & Lab	3/1		

DEG 03. Minor Area of Study (Optional)

DEG 04. Electives – Choose as needed (see hours to degree below).

Hours to Degree at The University of Southern Mississippi: 124 credit hours are needed to graduate with a B.S. in Biological Sciences. At least 50% of the hours applied to the degree at The University of Southern Mississippi must be earned in a senior college, and a minimum of 45 of these hours must be in courses numbered 300 or above. Students must earn at least 25% of the credit hours needed for their degree from the University of Southern Mississippi. Students must earn at least 21 of the last 30 hours of course work from The University of Southern Mississippi. In addition, students must earn at least 12 hours at the 300-400 course level, as well as their capstone course, in their major field of study at The University of Southern Mississippi.