

BIOLOGICAL SCIENCES DEGREE: Molecular Biology Emphasis Plan rev Fall 2008

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

GEC 01. Written and Oral Communication (6 hrs)		Credit Hours
01. ENG 101	Composition One	3
02. ENG 102	Composition Two	3

GEC 02. Basic Science and Mathematics (11 hrs)

Science Requirement (8 hours)

01. Take 2 science courses with labs		
BSC 110/L*	Principles of Biological Science I & Lab	3/1
BSC 111/L*	Principles of Biological Science II & Lab	3/1

*This particular GEC course is required for this major.

Mathematics Requirement (3 hours)

02. Select 1 course**:		
MAT 314 OR	Calculus for Arts and Science	3
MAT 167	Calculus I with Analytical Geometry	3

Calculus is required for this major. Students may enroll in Calculus if the ACT mathematics subtest score is ≥ 26 ; otherwise, they must take prerequisite courses, typically College Algebra (MAT 101) and/or Trigonometry (MAT 103). Entering freshmen with an ACT mathematics subtest score of ≤ 16 must take Intermediate Algebra (MAT 099) during the first semester. Students with an ACT mathematics subtest score of 17-19 are **strongly encouraged to take Intermediate Algebra before taking College Algebra. Students may take Trigonometry if the ACT mathematics subtest score is ≥ 24 or if they have a grade of C or better in College Algebra.

MAT 314 is the *non-majors* Calculus course, recommended for students in the Department of Biological Sciences.

GEC 03. Global History and Culture (12 hrs)

Social Sciences Requirement (3 hrs)

01. Select 1 course:		
ANT101	The Human Experience	3
GHY 101	World Regional Geography	3
SOC 101	Understanding Society	3

Humanities Requirement (9 hrs)

02. ENG 203	World Literature	3
03. Select 2 courses; 1 History is required		
HIS 101	World Civilizations: Beginnings to 1500 C.E.	3
HIS 102	World Civilizations: 1500 to the Present	3
PHI 151	Introduction to Philosophy	3
REL 131	Comparative Religion	3

GEC 04. Aesthetic Values (3 hrs)

01. Select 1 course:		
ART 130	The Art Experience	3
DAN 130	Dance Appreciation	3
MUS 365	The Enjoyment of Music	3
THE 100	Theatrical Expressions	3

GEC 05. Decision-Making and Responsibility (3 hrs)

01. Select 1 course:		
COH 100	Concepts of Wellness	3
ECO 101	Basic Economics	3
PHI 171	Ethics and Good Living	3
PS 101	American Government	3
PSY 110	General Psychology	3

GEC 06. Computer Competency Requirement (3 hrs)

01. Select one course:		
CSS 211	Statistical Methods I	3
CSS 240	FORTTRAN Programming	3
CSS 330	Introduction to Programming	3
CSS 333	Problem Solving Using C, I	3
PSY 360	Introduction to Statistics for the Behavioral Sciences	3

GEC 07. Writing-Intensive Requirement* (Major Requirement)	Credit Hours
01. ENG 333 (WI) or any upper-level approved WI class <i>Prerequisites: ENG 101 & ENG 102</i>	3
GEC 08. Oral Communication Requirement (3 hrs)	
01. Select 1 course:	
SCM 111 Oral Communication	3
SCM 305 Interpersonal Communication	3
SCM 320 Business and Professional Speaking	3
SCM 330 Small Group Communication	3
GEC 09. Capstone Requirement* (Major Area)	
01. BSC 497 Senior Practicum <i>Must be taken Senior Year; ENG 101 & ENG 102 prerequisites</i>	1

PROGRAM CURRICULUM

DEG 01. Major Area of Study Requirements

TOTAL MAJOR HOURS include BSC 110/L, BSC 111/L and those listed below:

01. BSC 370 Genetics	4
02. BSC 380/L General Microbiology & Lab	3/1
03. BSC 476 Molecular Biology	3
04. BSC 477/L Microbial Genetics & Lab	3/1
05. BSC 478L Molecular Biology Lab	4
06. BSC 487/L Microbial Physiology & Lab	3/1
07. Select at least 17 hours of 300 or 400 level courses from BSC or CHE, with at least 5 hours from BSC. Recommended courses include:	
BSC 360 Cell Physiology	3
BSC 457 Neurobiology	3
BSC 469 Developmental Biology	3
BSC 471/L Advanced Genetics	3
BSC 479/L Applications of Biotechnology in Marine Biology	3
BSC 484/L Virology & Lab	3/1
BSC 486/L Immunology and Serology & Lab	3/1
CHE 311/L Analytical Chemistry & Lab	3/1
CHE 461/L Physical Chemistry & Lab	3/1
CHE 462/L Physical Chemistry & Lab	3/1
08. BSC 497 Senior Practicum	1

DEG 02. Additional Requirements (33 hours)

01. CHE 106/L General Chemistry I	3/1
02. CHE 107/L General Chemistry II	3/1
03. CHE 255/L Organic Chemistry	3/1
04. CHE 256/L Organic Chemistry	3/2
05. CHE 421/L Biochemistry I & Lab	3/1
06. CHE 423 Analytical Biochemistry	3
07. PHY 111/L General Physics I	3/1
08. PHY 112/L General Physics II	3/1

DEG 03. Minor Area of Study (Optional)

DEG 04. Electives

01. Choose electives as needed. (See Hours to Degree below)

Hours to Degree: 124 hours are needed to graduate with a B.S. in Biological Sciences.

At least 50% of the hours applied to a degree at The University of Southern Mississippi must be earned from a senior college, and 45 of these hours must be in courses numbered 300 or above.

The last 25% of course work must be earned from The University of Southern Mississippi.

The student must earn at least 12 hours in the major field of study from The University of Southern Mississippi.