

























# MICROBIOLOGY, EMPHASIS

 - General Education Course

 - Milestone course: a key success marker for your major. See your advisor to discuss the importance of this course in your plan of study.

## Major

The Core Curriculum is designed to foster critical thinking skills and introduce students to basic domains of thinking that transcend disciplines. The Core applies to all majors. Information on specific classes in the Core can be found at <https://www.marshall.edu/gened/>.

Code	Title	Credit Hours
<b>Core Curriculum</b>		
<i>Core 1: Critical Thinking</i>		
FYS 100	First Yr Sem Critical Thinking	3
	Critical Thinking Course	3
	Critical Thinking Course	3
<i>Core 2</i>		
ENG 101 	Beginning Composition	3
ENG 201 	Advanced Composition	3
CMM 103 	Fund Speech-Communication	3
MTH 140 	Applied Calculus	3
BSC 120  	Principles of Biology <sup>1</sup>	4
	Core II Humanities	3
	Core II Social Science	3
	Core II Fine Arts	3
<i>Additional University Requirements</i>		
	Writing Intensive	3
	Writing Intensive	3
	Multicultural or International	3
BSC 491 	Capstone Experience <sup>2</sup>	2
<b>Major-Specific</b>		
BSC 121  	Principles of Biology <sup>1</sup>	4
CHM 211  	Principles of Chemistry I	3
CHM 217  	Principles of Chem Lab I	2
CHM 212  	Principles Chemistry II	3
CHM 218 	Principles of Chem Lab II	2
CHM 355 	Organic Chemistry I	3
CHM 356	Organic Chemistry II	3
CHM 361	Intro Organic Chm Lab	3
PHY 201 	College Physics I	3
PHY 202 	General Physics I Laboratory	1
PHY 203 	College Physics II	3
PHY 204 	General Physics 2 Laboratory	1
BSC 491 	Capstone Experience (C) <sup>2</sup>	2
<b>Area of Emphasis-Specific</b>		
BSC 324 	Principles of Genetics	4
BSC 302	Principles of Microbiology	3

BSC 304	Microbiology Lab	2
BSC 443	Microbial Genetics	3
BSC 320	Principles of Ecology	4
or BSC 322	Principles Cell Biology	
CHM 365	Introductory Biochemistry	3
Advisor Approved Course		4
<i>AoE Elective</i>		
Select three of the following:		10
BSC 417	Biostatistics	
BSC 424	Animal Parasitology	
BSC 438	Emerging Infect Diseases	
BSC 448	Introductory Immunology	
CHM 467	Intermediate Biochemistry	
Free Elective		3
Free Elective		3
Free Elective		3
Free Elective		3
Free Elective		2

<sup>1</sup> BSC 104 Introduction to Biology and BSC 105 Human Biology will not substitute for BSC 120 Principles of Biology and BSC 121 Principles of Biology for a major in the Department of Biological Sciences.

<sup>2</sup> **Capstone Experience:** It is the responsibility of each student to consult his/her advisor regarding details of meeting the capstone requirement. The capstone may be a traditional independent study research project under the supervision of a faculty member selected by the student, participation in a classroom-based capstone course, or the development and implementation of an internship, co-op, or community-based project.

## Major Information

- Students must pass BSC 120 Principles of Biology and earn a grade of C or better in BSC 121 Principles of Biology, CHM 211 Principles of Chemistry I, and CHM 212 Principles Chemistry II before they can enroll in any upper-level BSC course except BSC 227 Human Anatomy, BSC 228 Human Physiology and BSC 250 Microbiol & Human Disease.
- In addition to the Core General Education requirements, the College of Science requires 3 hours of Calculus, and 40 hours of upper level credit.
- The CHM coursework provides a Chemical Sciences minor.
- Coursework listed as "elective" may vary for each student. Students are encouraged to use elective hours toward a 2nd minor or toward prerequisites.
- Students are strongly encouraged to select courses that meet two or more Core or College requirements. For example, a writing intensive literature course could satisfy the Core II Humanities requirement as well as the University writing intensive requirement.
- Course offerings and course attributes are subject to change. Please consult each semester's schedule of courses for availability and attributes.
- MTH 140 Applied Calculus requires ACT Mathematics score of 24 or higher. Students with an ACT Mathematics score less than 24 will be placed in the appropriate mathematics courses.

## 2 Microbiology, Emphasis

- All Biological Science majors are required to complete a minimum of 40 hours of credits in the Department of Biological Sciences.