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


 - 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	
<i>Core 2</i>		
ENG 101 	Beginning Composition	3
ENG 201  	Advanced Composition	3
CMM 103  	Fund Speech-Communication	3
BSC 120  	Principles of Biology <sup>1</sup>	4
MTH 140 	Applied Calculus	3
	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 322	Principles Cell Biology	4
CHM 365	Introductory Biochemistry	3
BSC 310 	Comp Vertebrate Anatomy	4
BSC 450 	Molecular Biology	3
BSC 420	Plant Physiology	4
	or BSC 422 Animal Physiology	
<i>AoE Elective</i>		
Select three of the following:		9
BSC 301	Vertebrate Embryology	
BSC 304	Microbiology Lab	
BSC 413	Prin of Organic Evolution	
BSC 417	Biostatistics	
BSC 424	Animal Parasitology	
BSC 426	Medical Entomology	
BSC 428	Neuroscience	
BSC 438	Emerging Infect Diseases	
BSC 448	Introductory Immunology	
BSC 454	Princ Adv Techn Mol Biol	
BSC 456	Genes and Development	
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.
- Calculus I requires ACT Mathematics score of 27 or higher. Students with an ACT Mathematics score less than 27 will be placed in the appropriate mathematics courses.
- All Biological Science majors are required to complete a minimum of 40 hours of credits in the Department of Biological Sciences.

 - 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.

## Four Year Plan

The Department of Biological Sciences is committed to teaching students about the science of life from molecular to global scales. A degree in Biological Sciences prepares students for careers and graduate study in diverse fields such as human and veterinary medicine, dentistry, biomedical and pharmaceutical research, environmental consulting, wildlife ecology, and K12 or higher education. Students completing the Area of Emphasis in Cell, Molecular and Medical Biology will be prepared for a wide range of careers in fields including biotechnology, cell biology, medicine and/or medical research.






Course	Title	Credit Hours
<b>First Year</b>		
<b>First Semester</b>		
BSC 120  	Principles of Biology	4
CHM 211  	Principles of Chemistry I	3
CHM 217 	Principles of Chem Lab I	2
ENG 101 	Beginning Composition	3
MTH 140 	Applied Calculus	3
UNI 100	Freshman First Class	1
<b>Credit Hours</b>		<b>16</b>
<b>Second Semester</b>		
BSC 121  	Principles of Biology	4
CHM 212  	Principles Chemistry II	3
CHM 218 	Principles of Chem Lab II	2
FYS 100	First Yr Sem Critical Thinking	3
Core II Fine Arts		3
<b>Credit Hours</b>		<b>15</b>
<b>Second Year</b>		
<b>First Semester</b>		
BSC 324 	Principles of Genetics	4
CHM 355	Organic Chemistry I	3
ENG 201  	Advanced Composition	3
PSY 201 	Introductory Psychology (CT) (Core II	3
or SOC 200 	Social Science)	
	or Introductory Sociology (CT)	
Free Elective		3
<b>Credit Hours</b>		<b>16</b>

### Second Semester





BSC 302 	Principles of Microbiology	3
CHM 356	Organic Chemistry II	3
CHM 361	Intro Organic Chm Lab	3
Free Elective (MTH 122 rec for PHY PR)		3
Core I Critical Thinking		3
<b>Credit Hours</b>		<b>15</b>

### Third Year

#### First Semester


BSC 322	Principles Cell Biology	4
CHM 365	Introductory Biochemistry	3
PHY 201 	College Physics I	3
PHY 202  	General Physics I Laboratory	1
CMM 103  	Fund Speech-Communication	3
<b>Credit Hours</b>		<b>14</b>

#### Second Semester


BSC 310 	Comp Vertebrate Anatomy	4
PHY 203 	College Physics II	3
PHY 204  	General Physics 2 Laboratory	1
Core II Humanities		3
AoE Elective		3
<b>Credit Hours</b>		<b>14</b>

### Fourth Year

#### First Semester

BSC 450 	Molecular Biology	3
Free Elective		3
Multicultural or International		3
Writing Intensive		3
BSC 420	Plant Physiology	4
or BSC 422	or Animal Physiology	
<b>Credit Hours</b>		<b>16</b>

#### Second Semester

BSC 491 	Capstone Experience (C)	2
Writing Intensive		3
AoE Elective		3
AoE Elective		3
Free Elective		3
<b>Credit Hours</b>		<b>14</b>
<b>Total Credit Hours</b>		<b>120</b>

<sup>1</sup> PSY 201 Introductory Psychology (CT) or SOC 200 Introductory Sociology (CT)