


PHYSICS BIO PHYSICS




REQUIREMENTS

CORE CURRICULUM 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 marshall.edu/gened.

CORE 1: CRITICAL THINKING











CODE	COURSE NAME	HRS	GRADE
FYS 100	First Year Seminar	3	_____
 MTH 229	Critical Thinking Course	5	_____
_____	Critical Thinking Course	3	_____
Additional University Requirements			
PHY 350	Writing Intensive	3	_____
_____	Writing Intensive	3	_____
_____	Multicultural or International	3	_____
PHY 491/492	Capstone	2	_____

CORE 2:

CODE	COURSE NAME	HRS	GRADE
 ENG 101	Beginning Composition	3	_____
 ENG 201	Advanced Composition	3	_____
_____	Core II Communication	3	_____
 MTH 229	Calculus I	5	_____
_____	Core II Humanities	3	_____
_____	Core II Social Science	3	_____
_____	Core II Fine Arts	3	_____
BSC 120	Principles of Biology	4	_____

MAJOR-SPECIFIC

All Bio Physics majors are required to take the following courses:

CODE	COURSE NAME	HRS	GRADE	CODE	COURSE NAME	HRS	GRADE
BSC 120	Principles of Biology I	4	_____	 PHY 320	Intro Modern Physics	3	_____
BSC 121	Principles of Biology II	4	_____	PHY 350	Bio-Physics (WI)	3	_____
BSC 322	Principles Cell Biology	4	_____	 PHY 421	Modern Physics Lab	2	_____
CHM 211	Principles of Chemistry I	3	_____	 PHY 442	Quantum Mechanics	3	_____
CHM 212	Principles of Chemistry II	3	_____	PHY 445	Math Methods of Physics	3	_____
CHM 217	Principles of Chemistry I Lab	2	_____	PHY 446	Math Methods of Physics II	3	_____
CHM 218	Principles of Chemistry II Lab	2	_____	PHY 491	Capstone	1	_____
 PHY 211	University Physics	4	_____	PHY 492	Capstone	1	_____
 PHY 202	General Physics I Lab	1	_____	_____	Physics Elective	3	_____
PHY 213	University Physics II	4	_____	_____	Physics Elective	3	_____
PHY 204	General Physics II Lab	1	_____	MTH 230	Calculus/Analytical Geom II	4	_____
 PHY 304	Optics	3	_____	 MTH 231	Calculus/Analytical Geom III	4	_____
 PHY 405	Optics Lab	2	_____	BSC 417	Biostatistics	3	_____
 PHY 300	Electricity & Magnetism	3	_____	_____	Free Elective (BSC Rec. for Minor)	4	_____
PHY 308	Thermal Physics	3	_____	_____	Free Elective	3	_____
 PHY 330	Mechanics	3	_____	_____	Free Elective	3	_____
				_____	Free Elective	1	_____

MAJOR INFORMATION

- Students are required to know and track their degree requirements for graduation or for entrance to a professional school.
- In addition to the Core General Education requirements, the College of Science requires 3 hours of Calculus, and 40 hours of upper level credit.
- 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 each semester. Please consult each semester's schedule of courses for availability and attributes.
- Math is based on an ACT Mathematics score of 27 or higher. Students with

- an ACT Mathematics score less than 27 will be placed in the appropriate prerequisite mathematics and science courses.
- In order to graduate, students must maintain a 2.00 Overall GPA and receive a grade of C or better in each course required for the major.
- Advanced physics courses are offered every two to three semesters; check with the Physics Department for availability.
- Let the Department Chair know if you have an interest in a particular elective course as soon as possible.

 General Education Requirement
 College Requirement
 Major Requirement
 Area of Emphasis

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

PHYSICS BIO PHYSICS

A course of study in physics, resulting in a B.S. degree in physics, prepares students for a wide variety of opportunities, such as engineering careers in the private sector, careers in the health professions, employment in industry and government laboratories, advanced technology jobs in science and technology related fields, and careers as science teachers. The B.S. degree program is also excellent preparation for advanced degrees in physics, astronomy, engineering, medicine, or law. Bio Physics is designed for those who are interested in future study or work in a biophysics or biotechnological field.

FALL SEMESTER					SPRING SEMESTER					
CODE	COURSE NAME	HRS	GRADE		CODE	COURSE NAME	HRS	GRADE		
PHY 211	University Physics	4	◆	_____	MTH 230	Calculus/Analytical Geom II	4	◆	_____	
PHY 202	General Physics I Lab	1	◆	_____	PHY 204	General Physics II Lab	1	◆	_____	
MTH 229	Calculus I (CT)	5	◆ ●	_____	PHY 213	University Physics II	4	◆	_____	
FYS 100	First Year Sem Crit Thinking	3	●	_____	ENG 201	Advanced Composition	3	●	_____	
ENG 101	Beginning Composition	3	●	_____	_____	Core II Social Science (MC/I)	3	●	_____	
UNI 100	Freshman First Class	1		_____						
TOTAL HOURS				17	TOTAL HOURS				15	
Summer Term (optional):										
FALL SEMESTER					SPRING SEMESTER					
CODE	COURSE NAME	HRS	GRADE		CODE	COURSE NAME	HRS	GRADE		
MTH 231	Calculus/Analytical Geom III	4	◆	_____	PHY 446	Math Methods of Physics II	3	◆	_____	
PHY 320	Intro Modern Physics	3	◆	_____	CHM 212	Principles of Chemistry II	3	◆	_____	
PHY 421	Modern Physics Lab	2	◆	_____	CHM 218	Principles of Chemistry II Lab	2	◆	_____	
PHY 445	Math Methods of Physics	3	◆	_____	PHY 304	Optics	3	◆	_____	
CHM 211	Principles of Chemistry I	3	◆	_____	PHY 405	Optics Lab	2	◆	_____	
CHM 217	Principles of Chemistry I Lab	2	◆	_____						
TOTAL HOURS				17	TOTAL HOURS				13	
Summer Term (optional):										
FALL SEMESTER					SPRING SEMESTER					
CODE	COURSE NAME	HRS	GRADE		CODE	COURSE NAME	HRS	GRADE		
BSC 120	Principles of Biology	4	◆ ●	_____	BSC 121	Principles Cell Biology	4	◆	_____	
PHY 300	Electricity & Magnetism	3	◆	_____	PHY 350	Bio-Physics (WI)	3	◆	_____	
_____	Core II Humanities (WI, CT)	3	●	_____	PHY 442	Quantum Mechanics	3	◆	_____	
PHY 308	Thermal Physics	3	◆	_____	_____	Core II Communication	3	●	_____	
PHY 330	Mechanics	3	◆	_____	_____	Free Elective	1		_____	
TOTAL HOURS				16	TOTAL HOURS				14	
Summer Term (optional):										
FALL SEMESTER					SPRING SEMESTER					
CODE	COURSE NAME	HRS	GRADE		CODE	COURSE NAME	HRS	GRADE		
PHY 491	Capstone	1	◆ ●	_____	PHY 492	Capstone	1	◆ ●	_____	
_____	Physics Elective	3	◆	_____	_____	PHY Elective	3	◆	_____	
BSC 322	Principles Cell Biology	4	◆	_____	BSC 417	Biostatistics	3	◆	_____	
_____	Core II Fine Arts	3	●	_____	_____	Free Elective (BSC Rec. for Minor)	4		_____	
_____	Free Elective	3		_____	_____	Free Elective	3		_____	
TOTAL HOURS				14	TOTAL HOURS				14	
Summer Term (optional):										

◆ Area of Emphasis

◆ Major Requirement

■ College Requirement

● General Education Requirement

YEAR ONE

YEAR TWO

YEAR THREE

YEAR FOUR

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