


# PHYSICS MEDICAL IMAGING




## 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](http://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	_____
<b>Additional University Requirements</b>			
MI 411	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 228	Human Physiology	4	_____

### MAJOR-SPECIFIC

All Physics majors with Medical Imaging emphasis are required to take the following courses:

CODE	COURSE NAME	HRS	GRADE	CODE	COURSE NAME	HRS	GRADE
 PHY 202	General Physics I Lab	1	_____	 MTH 230	Calculus II	4	_____
PHY 211	University Physics	4	_____	MTH 231	Calculus III	4	_____
PHY 204	General Physics II Lab	1	_____	BSC 227	Human Anatomy	4	_____
PHY 213	University Physics II	4	_____	BSC 228	Human Physiology	4	_____
 PHY 300	Electricity and Magnetism	3	_____	STA 345	Applied Prob. and Statistics	3	_____
PHY 302	Electricity & Magnetism II	3	_____	MI 201	Intro to Radiography	3	_____
 PHY 304	Optics	3	_____	 MI 202	Patient Care in Imaging Science	3	_____
 PHY 405	Optics Lab	2	_____	 MI 204	Radiographic Anatomy	3	_____
PHY 308	Thermal Physics	3	_____	 MI 205	Imaging Procedures I	4	_____
 PHY 320	Intro Modern Physics	3	_____	MI206	Clinical Practice I	4	_____
 PHY 330	Mechanics	3	_____	MI 207	Imaging Procedures II	4	_____
PHY 360	Medical Physics	3	_____	MI 208	Pharm. & Drug Admin for Imaging	2	_____
PHY 421	Modern Physics Lab	2	_____	MI 210	Clinical Practice II	4	_____
PHY 491/492	Capstone (C)	2	_____	MI 411	Transcultural Healthcare (WI)	3	_____
 PHY 442	Quantum Mechanics	3	_____				
PHY 445	Math Methods of Physics	3	_____				
PHY 446	Math Methods of Physics II	3	_____				

### 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 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.

 Major Requirement  
 Area of Emphasis  
 College Requirement  
 General Education Requirement

 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 MEDICAL IMAGING

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. Medical Physics is designed for those who are interested in future study or work in Medical Imaging or Medical Physics.

YEAR ONE	FALL SEMESTER					SPRING SEMESTER				
	CODE	COURSE NAME	HRS	GRADE		CODE	COURSE NAME	HRS	GRADE	
	PHY 202	General Physics I Lab	◆	1	_____	ENG 201	Advanced Composition	●	3	_____
	PHY 211	University Physics	◆	4	_____	PHY 204	General Physics II Lab	◆	1	_____
	MTH 229	Calculus I (CT)	●◆	5	_____	PHY 213	University Physics II	◆	4	_____
	ENG 101	Beginning Composition	●	3	_____	_____	Core II Social Science (MC/I)	●	3	_____
	FYS 100	First Year Sem Crit Thinking	●	3	_____	MTH 230	Calculus/Analytical Geom II	◆	4	_____
	UNI 100	Freshman First Class		1	_____					
	<b>TOTAL HOURS</b>			<b>17</b>		<b>TOTAL HOURS</b>			<b>15</b>	
	Summer Term (optional):									

YEAR TWO	FALL SEMESTER					SPRING SEMESTER				
	CODE	COURSE NAME	HRS	GRADE		CODE	COURSE NAME	HRS	GRADE	
	PHY 320	Intro Modern Physics	◆	3	_____	PHY 446	Math Methods of Physics II	◆	3	_____
	PHY 421	Modern Physics Lab	◆	2	_____	PHY 304	Optics	◆	3	_____
	PHY 445	Math Methods of Physics	◆	3	_____	PHY 405	Optics Lab	◆	2	_____
	MTH 231	Calculus/Analytical Geom III	◆	4	_____	BSC 228	Human Physiology	◆	4	_____
	BSC 227	Human Anatomy	◆	4	_____	_____	Core II Communication	●	3	_____
	<b>TOTAL HOURS</b>			<b>16</b>		<b>TOTAL HOURS</b>			<b>15</b>	
	Summer Term (optional):									

YEAR THREE	FALL SEMESTER					SPRING SEMESTER				
	CODE	COURSE NAME	HRS	GRADE		CODE	COURSE NAME	HRS	GRADE	
	PHY 300	Electricity & Magnetism	◆	3	_____	PHY 442	Quantum Mechanics	◆	3	_____
	PHY 330	Mechanics	◆	3	_____	PHY 302	Electricity & Magnetism II	◆	3	_____
	PHY 308	Thermal Physics	◆	3	_____	PHY 360	Medical Physics	◆	3	_____
	MI 201	Intro to Radiography	◆	3	_____	MI 411	Transcultural Healthcare (WI)	◆	3	_____
	STA 345	Applied Prob. and Statistics	◆	3	_____	_____	Core II Humanities (CT, WI)	●	3	_____
	<b>TOTAL HOURS</b>			<b>15</b>		<b>TOTAL HOURS</b>			<b>15</b>	
	Summer Term (optional):									

YEAR FOUR	FALL SEMESTER					SPRING SEMESTER				
	CODE	COURSE NAME	HRS	GRADE		CODE	COURSE NAME	HRS	GRADE	
	PHY 491	Capstone	●◆	1	_____	PHY 492	Capstone	●◆	1	_____
	MI 202	Patient Care in Imaging Science	◆	3	_____	_____	Core II Fine Arts	●	3	_____
	MI 204	Radiographic Anatomy	◆	3	_____	MI 207	Imaging Procedures II	◆	4	_____
	MI 205	Imaging Procedures I	◆	4	_____	MI 208	Pharm. & Drug Admin for Imaging	◆	2	_____
	MI206	Clinical Practice I	◆	4	_____	MI 210	Clinical Practice II	◆	4	_____
	<b>TOTAL HOURS</b>			<b>15</b>		<b>TOTAL HOURS</b>			<b>14</b>	
	Summer Term (optional):									

● 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.