
























APPLIED PHYSICS, 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
Core Curriculum		
<i>Core 1: Critical Thinking</i>		
FYS 100	First Yr Sem Critical Thinking	3
MTH 229  	Calculus/Analytic Geom I (CT)	5
	Critical Thinking Course	3
<i>Core 2</i>		
ENG 101  	Beginning Composition	3
ENG 201  	Advanced Composition	3
	Core II Communication	3
MTH 229  	Calculus/Analytic Geom I (CT)	5
	Core II Humanities	3
	Core II Social Science	3
	Core II Fine Arts	3
CHM 211  & CHM 217 	Principles of Chemistry I and Principles of Chem Lab I (Core II Natural/Physical Science)	5
<i>Additional University Requirements</i>		
	Writing Intensive	3
	Writing Intensive	3
	Multicultural or International	3
PHY 491  & PHY 492 	Capstone and Capstone	2
Major-Specific		
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
ENGR 111	Engineering Computations	3
CIT 163	Intro to Programming: C++	3
CIT 236	Data Structures	3
CIT 238	Algorithms	3
MTH 230 	Calculus/Analytic Geom II	4
MTH 231	Calculus/Analytic Geom III	4
MTH 335 	Ordinary Diff Equations	3
PHY 211  	University Physics I	4
PHY 202  	General Physics I Laboratory	1

PHY 213 	University Physics II	4
PHY 204 	General Physics 2 Laboratory	1
PHY 308	Thermal Physics	3
PHY 304 	Optics	3
PHY 405 	Optics Lab	2
PHY 300 	Electricity & Magnetism	3
PHY 330 	Mechanics	3
PHY 320 	Intro Modern Physics	3
PHY 421 	Modern Physics Lab	2
PHY 425	Solid State Physics	3
PHY 442 	Quantum Mechanics	3
PHY 444	Advanced Laboratory	2
PHY 445	Math Methods of Physics	3
PHY 446	Math Methods of Physics II	3
PHY 491  & PHY 492 	Capstone and Capstone	2
PHY Elective		5
PHY 314 & PHY 415	Electronic Physics and Electronics Lab (Recommended)	
Free Elective		3
Free Elective		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 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.