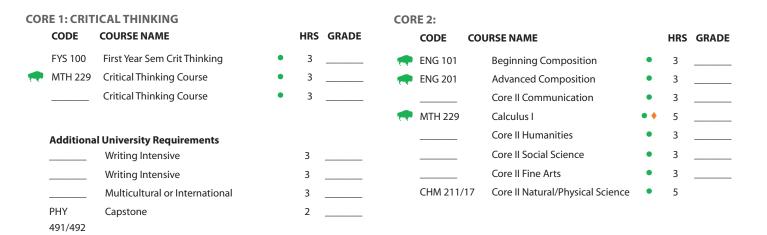
# CURRICULUM PLAN COLLEGE OF SCIENCE 2019-2020 PHYSICS APPLIED PHYSICS REQUIREMENTS

MY ADVISOR'S NAME IS:

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.



### MAJOR-SPECIFIC

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

CODE	E	COURSE NAME		HRS	GRADE		CODE	COURSE NAME		HRS	GRADE
CHM	211	Principles of Chemistry I	•	3		-	PHY 304	Optics	•	3	
CHM	217	Principles of Chemistry I Lab	•	2		-	PHY 405	Optics Lab	•	2	
CHM	212	Principles of Chemistry II	•	3		<b>.</b>	PHY 300	Electricity & Magnetism	•	3	
CHM 2	218	Principles of Chemistry II Lab	•	2		-	PHY 330	Mechanics	٠	4	
ENGR	R 111	Engineering Computations	•	3		-	PHY 320	Intro Modern Physics	•	3	
CIT 16	63	Programming Practicum	•	3		-	PHY 421	Modern Physics Lab	•	2	
CIT 23	36	Data Structures	•	3			PHY 425	Solid State Physics	•	3	
CIT 23	38	Algorithms	٠	2		-	PHY 442	Quantum Mechanics	•	3	
e MTH 2	230	Calculus/Analytical Geom II	•	4			PHY 444	Advanced Laboratory	•	2	
MTH 2	231	Calculus/Analytical Geom III	•	4			PHY 445	Math Methods of Physics	•	3	
MTH 3	335	Ordinary Diff Equations	•	3			PHY 446	Math Methods of Physics II	•	3	
🜪 РНҮ 2	211	University Physics	•	4			PHY	Capstone	• •	2	
er 🔶 white the second	202	General Physics I Lab	•	1			491/492				
PHY 2	213	University Physics II	•	4				PHY Elective (PHY 314/415 Rec.)	•	5	
PHY 2	204	General Physics II Lab	•	1				Free Elective		3	
PHY 3	308	Thermal Physics	•	3				Free Elective		3	

- 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 prerequisities.
- 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.

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• Let the Department Chair know if you have an interest in a particular elective course as soon as possible.

FOUR YEAR PLAN COLLEGE OF SCIENCE 2019-2020 PHYSICS **APPLIED 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. The Applied Physics major is designed for those who are interested in future study or work in an applied physics or engineering field.

			FALL SEMESTER						SPRING SEMESTER			
		CODE	COURSE NAME		HRS	GRADE		CODE	COURSE NAME		HRS	GRAD
1E	<b>•</b>	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	
ONE		FYS 100	First Year Sem Crit Thinking	•	3		-	ENG 201	Advanced Composition	•	3	
		ENG 101	Beginning Composition	•	3				Core I Critical Thinking (MC/I)	•	3	
YEAR		UNI 100	Freshman First Class		1							
X												
		TOTAL HO	DURS		17			TOTAL HO	OURS		15	
	Sum	mer Term (op	tional):									
			FALL SEMESTER						SPRING SEMESTER			
		CODE	COURSE NAME		HRS	GRADE		CODE	COURSE NAME		HRS	GRAD
		MTH 231	Calculus/Analytical Geom III	•	4			PHY 446	Math Methods of Physics II	•	3	
		PHY 320	Intro Modern Physics	•	3		-	PHY 304	Optics	•	3	
0	<b>e</b>	PHY 421	Modern Physics Lab	٠	2		-	PHY 405	Optics Lab	٠	2	
TWO		PHY 445	Math Methods of Physics	•	3			MTH 335	Ordinary Diff Equations	•	3	
			Core II Social Science (WI)	٠	3			CIT 163	Intro to Programming: C++		3	
YEAR												
Y												
		TOTAL HO	OURS		15			TOTAL HO	DURS		14	
	Summer Term (optional):											
		_	FALL SEMESTER		-	_		_	SPRING SEMESTER			
		CODE	COURSE NAME		HRS	GRADE		CODE	COURSE NAME		HRS	GRAD
		PHY 330	Mechanics	•	3				PHY Elective (PHY 314/415 Rec.)	٠	5	
THREE	-	PHY 300	Electricity & Magnetism	•	3		-	PHY 442	Quantum Mechanics	•	3	
		PHY 308	Thermal Physics	٠	3			ENGR 111	Engineering Computations	•	3	
HR		CIT 236	Data Structures	•	3			CIT 238	Algorithms	•	3	
E			Core II Communication	•	3							
EAR												
ΥE												
		TOTAL HO	OURS		15			TOTAL HO	OURS		14	
	Sum	mer Term (op	tional):									
		_	FALL SEMESTER		-	_		_	SPRING SEMESTER			
		CODE	COURSE NAME	_	HRS	GRADE		CODE	COURSE NAME	_	HRS	GRA
		PHY 491	Capstone	• •	1			PHY 492	Capstone	• •	1	
		PHY 425	Solid State Physics	•	3			CHM 212	Principles of Chemistry II	٠	3	
щ		PHY 444	Advanced Laboratory	٠	2			CHM 218	Principles of Chemistry II Lab	٠	2	
		CHM 211	Principles of Chemistry I	•	3				Core II Humanities (WI)	•	3	
OU		CHM 217	Principles of Chemistry I Lab	٠	2				Free Elective (CIT Rec.)		3	
R FOU			Free Elective (CIT Rec.)		3				Core II Fine Arts	•	3	
AR FOU			Thee Lieutive (Chinec.)									
YEAR FOUR			Writing Intensive	٠	3							
YEAR FOU		TOTAL HO	Writing Intensive	•	3 <b>17</b>			TOTAL HO	DURS		15	

# INVOLVEMENT OPPORTUNITIES

- SGA
- Campus Activity Board
- JMELI
- Commuter Student Advisory Board
- Community Engagement Ambassadors
- Club Sports
- Religious Organizations
- Political Organizations
- Residence Hall Association
- Cultural Organizations
- National Society of Leadership and Success
- Greek Life

### **RELATED MAJORS**

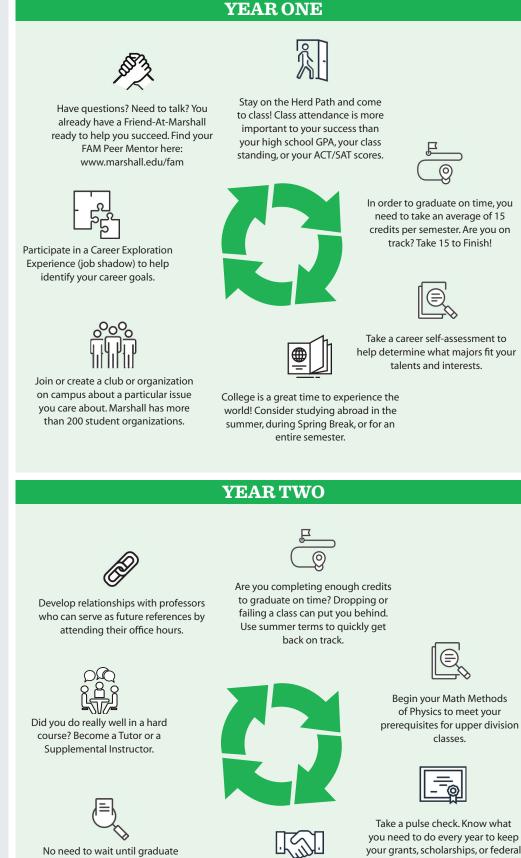
- Mechanical Engineering
- Civil Engineering
- Safety Technology
- Computer Science
- Chemistry
- Biology

## **GRADUATION REOUIREMENTS**

- Have a minimum of 120 credit hours (some colleges or majors require more); · Have an overall and Marshall Grade Point
- Average of 2.00 or higher;
- Have an overall Grade Point Average of 2.00 or higher in the major area of study;
- Have earned a grade of C or better in English 201 or 201 H;
- Have met all major(s) and college requirements;
- Have met the requirements of the Core Curriculum
- Have met the residence requirements of Marshall University, including 12 hours of 300/400 level coursework in the student's college (see section entitled "Residence Requirements" in the undergraduate cataloque);
- Be enrolled at Marshall at least one semester of the senior year;
- Have transferred no more than 72 credit hours from an accredited West Virginia twoyear institution of higher education.

Colleges and specific programs may have unique requirements that are more stringent than those noted above. Students are responsible for staying informed about and ensuring that they meet the requirements for graduation.

This academic map is to be used as a guide in planning your coursework toward a degree. Due to the complexities of degree programs, it is unfortunate but inevitable that an error may occur in the creation of this document. The official source of degree requirements at Marshall University is DegreeWorks available in your myMU portal. Always consult regularly with your advisor.



school. Discuss undergraduate research opportunities with faculty in your major right now.

help determine what majors fit your

APPLIED PHYSICS – 2019-2020

you need to do every year to keep your grants, scholarships, or federal financial aid.

Think about who can help you grow as a student and a professionalprofessors, advisors, alumni, etc. and ask at least one to be your mentor.





Be at the top of your professional game! Prepare a final resume and practice your interview skills with a career coach in Career Education.



Are you on track to graduate? Meet with your advisor for your Junior Eval to make sure you know what requirements you have left.



Take an elective course that links diversity to your field of study.

# TRANSFERABLE SKILLS ASSOCIATED WITH THIS MAJOR

- Mathematical Ability
- Scientific Ability
- Attention to Detail
- Strong Oral and Written Communication Skills
- Organizational Skills

### ASSOCIATED CAREERS

- Accoustical Physics
- Astronomy
- Astrophysics
- Biophysics Chemical Physics
- Research and Development
- Nuclear Physics
- High Energy Physics
- Science Education

Prepare to present at Physics

Department Research and

Convocation Day and CoS Research

EXPO in April.



Networking is key! Attend a Career Expo to seek employment opportunities and network with employers in your field.



Participate in Department of Physics outreach events with local high school students. Stay engaged and make a difference.



Marshall University College of Science One John Marshall Drive Huntington, WV 25755 1-304-696-2371 cos@marshall.edu marshall.edu/cos