

CURRICULUM GUIDE
Physics, B.S. (Engineering Physics Concentration)
2021-2022

Website: www.physics.eku.edu
 Email Contact: alice.jones@eku.edu

Department of Physics, Geosciences, & Astronomy
 521 Lancaster Ave.
 3140 New Science Bldg.
 Richmond, KY 40475
 859-622-1521

The schedule below is an **EXAMPLE** of how you can arrange your class schedule.
 Please consult your advisor for specific changes that may need to be made.

	Fall Semester		Spring Semester	
Freshman Year	SCO 100P	1	CHE 112	3
	⁶ CHE 111 (fulfills Gen. Ed. 4)	3	CHE 112L	1
	CHE 111L	1	MAT 244	4
	^{§ 6} MAT 234 (fulfills Gen. Ed. 2)	4	PHY 201	5
	Gen. Ed. 1A (ENG 101)	3	Gen. Ed. 1B (ENG 102)	3
	Gen. Ed. 4 (Nat. Sci.) (AST 335 recommended)	3		
	TOTAL	15	TOTAL	16
Sophomore Year	MAT 254	4	CSC 174	3
	MAT 353	3	PHY 211	4
	PHY 202	5	PHY 221	3
	Gen. Ed. 1C (Oral Comm.)	3	Gen. Ed. 3B (Humanities)	3
			Free Elective	2-3
	TOTAL	15	TOTAL	15-16
Junior Year	EET 252	3	PHY 460	4
	PHY 302	4	PHY 315	4
	PHY 310	3	PHY 406 or 406W (ACCT)	3
	PHY 375	3	Gen. Ed. 5B (Soc. & Behav. Sci.)	3
	Gen. Ed. 5A (History)	3		
	TOTAL	16	TOTAL	14
Senior Year	† Restricted Elective	3-4	Gen. Ed. 6 (Diversity)	3
	Gen. Ed. 6 (Diversity)	3	Gen. Ed. 3A (Arts)	3
	Free Elective (upper division)	3	Free Elective (upper division)	4
	Free Elective (upper division)	3	Free Elective (upper division)	3
	Free Elective (upper division)	3		
	TOTAL	15-16	TOTAL	13
TOTAL HOURS TO DEGREE COMPLETION				120

Course Number	Course Name
GENERAL EDUCATION & UNIVERSITY REQUIREMENTS (37)	
SCO 100P	Student Success Seminar for Physics (1)
CORE COURSE REQUIREMENTS (21)	
PHY 201	University Physics I (5)
PHY 202	University Physics II (5)
PHY 211	Intermediate Physics (4)
PHY 302 <i>or</i> PHY 302W	Modern Physics (4)
PHY 406 <i>or</i> PHY 406W	Modern Physics (writing intensive) (4)
	Advanced Physics Laboratory (3)
	Advanced Physics Laboratory (writing intensive) (3)
ENGINEERING PHYSICS REQUIREMENTS (20-21)	
PHY 221	Statics (3)
PHY 310	Theoretical Methods in Physics (3)
PHY 315	Electrical Circuits (4)
PHY 375	Engineering Thermodynamics (3)
PHY 460	Classical Mechanics (4)
† PLUS THREE (3) HOURS selected from (restricted elective):	
CSC 185	Discrete Structures I (3)
* EET 253	Microprocessor Control Systems (3)
* EET 257	Circuits and Electronic Devices (3)
* EET 351	Programmable Logic Controllers (3)
PHY 303	Introduction to Laser Physics (3)
PHY 402	Physical Optics (3)
PHY 410	Independent Study in Physics (1-6)
PHY 411	Special Topics in Physics: _____ (1-6)
PHY 412	Directed Research in Physics: _____ (1-6)
STA 270	Applied Statistics I (4)
SUPPORTING COURSE REQUIREMENTS (23)	
[* ⁶ CHE 111	General Chemistry I (3)
[* CHE 111L	General Chemistry Lab I (1)
[* CHE 112	General Chemistry II (3)
[* CHE 112L	General Chemistry Lab II (1)
CSC 174	Introduction to FORTRAN (3)
EET 252	Digital Electronics (3)
⁶ MAT 234	Calculus I (4)
MAT 244	Calculus II (4)
MAT 254	Calculus III (4)
MAT 353	Differential Equations (3)
Bracketed items must be taken concurrently	
FREE ELECTIVES (18-19)	

* **PREREQUISITES:** Consult with your advisor and/or the University catalog regarding prerequisites for upper division PHY courses. MAT 122, 234, and/or 244; CHE 111/111L; EET 251, 252 and/or 257. See University catalog for details.
 § A preparatory course in mathematics may be required before admission to MAT 234.

Upper division courses: All students are required to have a minimum of 42 hrs. upper division (300 level or above) courses distributed throughout major/Supporting/Gen Ed/Free Electives categories. If 300 level classes are taken for Gen. Ed., they can be used to fulfill the 42 hours instead of upper division free electives.

Refer to the University Catalog at <http://www.catalogs.eku.edu/> regarding University and General Education Requirements. All baccalaureate degree seeking students who enter the University are required to successfully complete one writing intensive course following completion of the ENG 102, ENG 105, or HON 102/103. Writing intensive courses are designated with the suffix "W" following the course prefix and number (e.g. HUM 300W).

Applied Critical & Creative Thinking (ACCT) Requirement: Physics majors will select one of the following: PHY 349, 349 A-N, 406, 410, 470, HON 420, a program-approved Leadership Experience, or a program-approved Study Abroad experience. (Credit hours are incorporated into program requirements.)

⁶ Denotes that 3 credit hours from this course are/can be applied to fulfill a Gen. Ed. requirement. Courses used to fulfill Gen. Ed. 4 must have different prefixes.