

Engineering Physics and Physics Major and Astronomy Minor 2019-2022

DEPARTMENT CHAIR: Dr. Jonathan W. Keohane, Gilmer 009 (434) 223-6176
Please note that departmental contact is strongly recommended to further aid your academic planning. Irregularities in offerings do occur as a result of sabbaticals and medical leaves.

PHYSICS MAJOR (34 credit hours)	ENGINEERING PHYSICS
_____ PHYS 131 (3) and 151 (1) (F) ↑ Has a pre- or co-req of MATH 141	_____ PHYS 101 (3) (F)
_____ PHYS 132 (3) and 152 (1) (S) ↑ Has a pre- or co-req of MATH 142	_____ PHYS 106 (3) (S)
_____ PHYS 233 (3)	_____ PHYS 131 (3) and 151 (1) (F) ↑ Has a pre- or co-req of MATH 141
_____ PHYS 244 (3) (S)	_____ PHYS 132 (3) and 152 (1) (S) ↑ Has a pre- or co-req of MATH 142
_____ PHYS 331 (3) (F) ↑ Has a pre-req of MATH 242	_____ PHYS 215 (3) (F)
_____ PHYS 332 (3) (S)	_____ PHYS 243 (3) (F)
_____ PHYS 351 (2) (F) or 352 (2) (S)	_____ PHYS 244 (3) (S)
_____ PHYS 106 (3) (S) or 243(3) (F)	_____ PHYS 331 (3) (F) ↑ Has a pre-req of MATH 242
_____ PHYS _____ (3) (200 level or ↑)	_____ PHYS 451 (1) (F)
_____ PHYS _____ (3) (200 level or ↑)	_____ PHYS 452 (3) (S)
_____ PHYS _____ (3) (300 level or ↑)	_____ PHYS _____ (3) (200 level or ↑)
_____ MATH 141 (4)	_____ PHYS _____ (3) (200 level or ↑)
_____ MATH 142 (4)	_____ PHYS 220 (3) (F) or COMS 261 (4)
_____ MATH 242 (4) (F)	_____ MATH 141 (4)
Physics majors seeking Distinction must complete PHYS 461-462 and may not use these courses to fulfill the elective hours in the major.	_____ MATH 142 (4)
	_____ MATH 242 (4) (F)
	_____ MATH 231 (4) (S)
	_____ MATH 243 (3) (F)

Engineering Physics majors seeking Distinction in Engineering Physics must complete PHYS 461-462 as a replacement for PHYS 451-452 & meet all requirements as defined by the department.

ASTRONOMY MINOR: (18 credit hours)

_____ ASTR 110 (3) and ASTR 151 (1) (each semester)

_____ PHYS 131 (3) and 151 (1) (fall)

_____ PHYS 132 (3) and 152 (1) (spr.)

_____ ASTR 210 (3) (fall- even yrs)

_____ ASTR 310 (3) (spr.-odd yrs.)

Physics and Chemistry majors who take the PHYS courses and elect to complete the Astronomy minor may only count the PHYS 131/151 and 132/152 in both the major and the minor.

Important information for Physics and Pre-Engineering students:

- Inform Physics and Astronomy Department chair of intended major interest.
- Students are NOT allowed to double major in Physics and Engineering Physics.
- For freshmen not placed into MATH 141, enroll in PHYS 101 and an appropriate level of MATH (likely MATH 105) for those students with an expressed interest in pursuing Pre-Engineering.
- Students should gain experience in computational work while at H-SC.
- Students are encouraged to become involved in research early through advanced lab, Hons. Advanced lab and summer research opportunities.
- After completing PHYS 131 and 132, students should enroll in both PHY 233 and PHYS 220 (fall) to prepare for PHYS 244 and PHYS 234 (spr.). Note: PHYS 220 and 234 are not required for the major, but serve to prepare the major for upper-level coursework.
- Majoring in PHYS is a great beginning to many careers including law, medicine, engineering and business.
- Students are encouraged to become involved with Society for PHYS Students (SPS) and/or in AXE, the professional chemistry fraternity.
- Students interested in taking advantage of either our Dual-Degree program with Old Dominion University or our Cooperative Program with the University of Virginia should contact the chair of the Physics and Astronomy Department as soon as possible to discuss requirements.
- Students are encouraged to take advantage of the tutoring services offered through the department for the introductory level courses.
- Students are encouraged to become tutors in the department at any time after the completing the introductory sequence of calculus-based physics—Students interested in employment as a tutor should see Dr. Thurman.

UNOFFICIAL FORM- OFFICE OF ACADEMIC SUCCESS.

Successful completion of the above items does not alone guarantee that graduation requirements have been met. Please see advisor.

Last updated 08/21

Typical Course Pattern for an ENG. PHYS. Major:

Courses in bold are provided to give students guidance toward applying for graduate school in engineering by completing the year-long sequence of Chemistry and for obtaining the Math minor by taking any upper-level course in Mathematics at the 300-level or above.

Year	FALL		SPRING	
Fr.	PHYS 101	Intro. to Engineering Physics	PHYS 106	Electronics I
	RHET 100		RHET 101	
	WCUL 101		WCUL 102	
	MATH 105		Language	
	Language		Elective	
	Elective			
So.	PHYS 131	Fundamentals of Physics I	PHYS 132	Fundamentals of Physics II
	PHYS 151	General Physics Lab I	PHYS 152	General Physics Lab II
	MATH 141	Calculus I	MATH 142	Calculus II
	RHET 102		Language	
	GCUL 10x		Elective	
	Language		Elective	
Jr.	PHYS 215	Statics	PHYS 244	Experimental Physics
	PHYS 243	Electronics II	MATH 231	Linear Algebra
	MATH 242	Calculus III	PHYS 2xx↑	
	CHEM 110	Chemical Concepts	CHEM 221	Descr. Inorganic Chemistry
	Elective		Elective	
Sr.	PHYS 331	Mechanics	PHYS 2xx↑	
	PHYS 451	Advanced Project I	PHYS 452	Advanced Project II
	MATH 243	Differential Equations	MATH 3xx↑	
	Computational	Either PHYS 220 or COMS 261	Elective	
	Elective		Elective	