

# Engineering Physics and Physics Major; Astronomy and Physics Minor 2023-2024

**DEPARTMENT CHAIR:** Dr. Jonathan W. Keohane, Pauley 401 (434) 223-6200  
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. A student may not major in both *Physics and Engineering Physics*.

<b>PHYSICS MAJOR</b> (34 credit hours)	<b>ENGINEERING PHYSICS</b> (36 credit hours)
_____ 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) <b>or</b> 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 115 (4) (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.

**PHYSICS MINOR:** (19 credit hours)

\_\_\_\_\_ PHYS 131/151

\_\_\_\_\_ PHYS 132/152

\_\_\_\_\_ PHYS 233

\_\_\_\_\_ PHYS 351 or 352

\_\_\_\_\_ PHYS (3) 300 level or ↑

\_\_\_\_\_ PHYS (3) 200 level or ↑

\_\_\_\_\_ MATH 141

\_\_\_\_\_ MATH 142

\_\_\_\_\_ MATH 242 (*highly recommended* but not required)

\*NO student may both minor in Physics and complete a major in the Department of Physics & Astronomy\*

- 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.

### **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.

#### **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 07/23