Bachelor of Science in Physics

Degree Requirements

Candidates for the Bachelor of Science must meet the following requirements.

1. Hours Required for the Degree: Completion of a minimum of 134 total semester hours; 42 must be advanced.

2. General University Requirements: See "General Degree Requirements" in the Academics section of this catalog.

3. College of Arts and Sciences Core Curriculum: Minimum 61 hours (includes requirements of University Core Curriculum). See "Arts and Sciences Core Curriculum" in the College of Arts and Sciences section of this catalog for specific core requirements and list of approved courses. See specific degree plan for exact hours.

4. Major Requirements: A major of at least 44 semester hours.

Option I Required courses: PHYS 1710/1730, 2220/2240, 3010/3030, 3210, 3310, 3420, 4110, 4150, 4160, 4210, 4310 and 4500, plus
7 advanced hours chosen from PHYS 3220, 4350, 4360, 4420, 4600, 4900 or 4910.

Option II Required Courses: PHYS 1710/1730, 2220/2240, 3010/3030, 3210, 3220, 3310, 4110, 4150, 4210, 4220, 4310, 4350 and 4360, plus 2 advanced hours chosen from PHYS 4160, 4550, 4600, 4710, 4900 or 4910.

5. Minor Requirements: A minor of at least 18 hours, of which a minimum of 6 hours must be advanced, in a second department of the sciences.

6. Electives: See degree plan.

7. Other Course Requirements: MATH 1710, 1720, 2700, 2730 and 3410, plus 3 advanced hours numbered above 3200 (may not include 4960 and 4970); CHEM 1410-1420 and 1430-1440; and CSCI 1100 and 1110.

8. Other Requirements: It is recommended that the required foreign language be German, French or Russian. Students who wish to take some other language should consult the department.

DRED (Traffic Safety) courses may not be used to satisfy any portion of a degree in the College of Arts and Sciences.

BS in Physics

*Following is **one** suggested four-year degree plan. Students are encouraged to see their adviser each semester for help with program decisions and enrollment.*

BS in Physics

FRESHMAN YEAR

FALL	HOURS
CHEM 1410, General Chemistry[10]	3
CHEM 1430, Laboratory for General Chemistry	1
ENGL 1310, College Writing I	3
MATH 1710, Calculus I[4, 58]	4
PHYS 1710, Mechanics	3
PHYS 1730, Laboratory in Mechanics	1
Total	15

FRESHMAN YEAR

SPRING	HOURS
CHEM 1420, General Chemistry[10]	3
CHEM 1440, Laboratory for General Chemistry	1
ENGL 1320, College Writing II[6]	3
MATH 1720, Calculus II[58]	3
PHYS 2220, Electricity and Magnetism	3
PHYS 2240, Laboratory in Wave Motion, Electricity, Magnetism and Optics	1
Wellness[11]	2-3
Total	16-17

SOPHOMORE YEAR

FALL	HOURS
ENGL 2210, World Literature I	3
LANG 2040, Foreign Language (intermediate)[3]	3
MATH 2730, Multivariable Calculus[58]	3
PHYS 3010, Modern Physics[20]	3
PHYS 3030, Laboratory in Modern Physics[20]	1
PHYS 3210, Classical Mechanics	3
Oral Communication[2]	3
Total	19

SOPHOMORE YEAR

SPRING	HOURS
CSCI 1110, Program Development	4
ENGL 2220, World Literature II	3
LANG 2050, Foreign Language (intermediate)[3]	3
MATH 3410, Differential Equations I[58]	3
PHYS 4160, Experimental Physics II	3
PHYS Option (advanced)	3
Total	19

JUNIOR YEAR

FALL	HOURS
HIST 2610, United States History to 1865[12]	3
MATH 2700, Linear Algebra and Vector Geometry[58]	3
PHYS 3310, Mathematical Methods	3
PHYS 4110, Statistical and Thermal Physics	3
Elective[16]	3
Understanding of Ideas and Values[8]	3
Total	18

JUNIOR YEAR

SPRING	HOURS
HIST 2620, United States History Since 1865[12]	3
PHYS 4150, Experimental Physics I	3
MATH Option (above 3150)	3
PHYS Option (advanced)	3
Elective[16]	3
Understanding of Ideas and Values[8]	3
Total	18

SENIOR YEAR

FALL	HOURS
PHYS 4210, Electricity and Magnetism	3
PSCI 1040, American Government	3
PHYS Option (advanced)[13]	3
PHYS Option (advanced)[13]	3
Visual and Performing Arts[7]	3
Total	15

SENIOR YEAR

SPRING	HOURS
ECON 1110, Principles of Macroeconomics	3
PHYS 4310, Quantum Mechanics	3
PSCI 1050, American Government	3
MATH Option (above 3150)	3
PHYS Option (advanced)	1
Elective[16]	3
Total	16

Actual degree plans may vary depending on availability of courses in a given semester.
Some courses may require prerequisites not listed.
See Arts and Sciences folding key (#2) for footnotes.

Supplemental Information for BS in Physics

1. Physics Options: PHYS 3220, 3420(4), 4050, 4150 or 4160, 4220, 4500, 4550, 4600, 4710

2. Advanced-level courses in physics are offered on a two-year cycle. Planning for physics courses must be done by using the frequency of offering schedule below:

- Spring (even years): PHYS 3220, 4110, 4150
- Fall (even years): PHYS 3010/3030, 3210, 3310, 3420, 4210, 4600
- Spring (odd years): PHYS 4160, 4420, 4310
- Fall (odd years): PHYS 3010/3030, 3210, 3310, 3420

3. Mathematics Requirements: Students who must schedule Physics courses with mathematics prerequisites must plan their mathematics programs carefully. Freshmen should note mathematics placement procedures described in the Department of Mathematics section of this catalog. Physics majors who are advised to take MATH 1650 prior to PHYS 1710 may count this courses as elective credit.

4. Minimum total of hours required for degree: 134