

B.S. IN PHYSICS

College of the Sciences and Mathematics

Curriculum

| Code | Title | Credits |
|--|--|------------|
| General Education Requirements (http://catalog.wcupa.edu/undergraduate/general-education-requirements/) | | |
| First Year Experience | | 4 |
| Academic Foundations | | |
| English Composition requirement | | 6 |
| Mathematics requirement | | 3 |
| Interdisciplinary requirement | | 3 |
| Diverse Communities requirement | | 3 |
| Distributive Requirements | | |
| Science requirement | | 6 |
| Behavioral & Social Science requirement | | 6 |
| Humanities requirement | | 6 |
| Arts requirement | | 3 |
| Additional Baccalaureate Requirements | | |
| Writing Emphasis requirement | | 9 |
| Speaking Emphasis requirement | | 9 |
| Ethics requirement | | 3 |
| Major Requirements ^{1,2} | | |
| PHY 170 | Physics I | 4 |
| PHY 175 | Computational Physics | 3 |
| PHY 180 | Physics II | 4 |
| PHY 240 | Introduction to Modern Physics | 3 |
| PHY 300 | Mechanics ¹ | 3 |
| PHY 310 | Intermediate Physics Lab: Experimental Methods & Scientific Communication ¹ | 3 |
| PHY 350 | Heat and Thermodynamics ¹ | 3 |
| PHY 370 | Mathematical Physics ¹ | 3 |
| PHY 420 | Quantum Mechanics I ¹ | 3 |
| PHY 430 | Electricity and Magnetism I ¹ | 3 |
| MAT 161 | Calculus I | 4 |
| MAT 162 | Calculus II | 4 |
| MAT 261 | Calculus III | 4 |
| MAT 311 | Linear Algebra | 3 |
| MAT 343 | Differential Equations | 3 |
| CHE 103 | General Chemistry I | 3 |
| CHE 104 | General Chemistry II | 3 |
| CRL 103 | General Chemistry I Lab | 1 |
| CRL 104 | General Chemistry II Lab | 1 |
| Select an additional 9 credits in physics from available electives at the 300 level or above ^{3,4} | | 9 |
| Capstone Requirement | | |
| PHY 320 | Intermediate Physics Lab II ^{1,5} | 3 |
| Free Electives | | 14 |
| Select 17 credits of free electives | | 17 |
| Total Minimum Credits Required | | 120 |

¹ Physics courses at the 300-level or higher must be completed with a grade of C or better.

² Some of these courses may also fulfill general education requirements.

³ We recommend strongly that students on the applied track take PHY 330 and PHY 410 as electives.

⁴ We recommend strongly that students on the graduate school track take PHY 425 and PHY 435.

⁵ This course fulfills the general education Capstone requirement.

Students must maintain a GPA of 2.0 or greater in their physics courses. Transfer students must take 15 or more physics credits at West Chester at the 300 level and above for graduation.

Sample Course Plan

To track their individual degree progress, students are advised to access their Degree Progress Report (DPR) via myWCU regularly. For more information, visit wcupa.edu/DegreeProgressReport (<http://wcupa.edu/degreeprogressreport/>).

The following is a sample suggested course sequence for this program; course offerings and availability are not guaranteed. Students should consult their academic advisor with any questions.

| Course | Title | Credits |
|-----------------------------------|--|--------------|
| Year One | | |
| Semester One | | |
| MAT 161 | Calculus I | 4 |
| WRT 120 | Effective Writing I | 3-4 |
| or | or Effective Writing with Supplemental | |
| WRT 123 | Writing Workshop | |
| FYE 100X | First Year Experience | 4 |
| General Education / Free Elective | | 3 |
| General Education / Free Elective | | 3 |
| Credits | | 17-18 |
| Semester Two | | |
| PHY 170 | Physics I | 4 |
| MAT 162 | Calculus II | 4 |
| WRT 2XX | 200-Level WRT Course | 3 |
| General Education / Free Elective | | 3 |
| Credits | | 14 |
| Year Two | | |
| Semester Three | | |
| PHY 180 | Physics II | 4 |
| MAT 261 | Calculus III | 4 |
| MAT 321 | Combinatorics and Graph Theory | 3 |
| General Education / Free Elective | | 3 |
| Credits | | 14 |
| Semester Four | | |
| PHY 175 | Computational Physics | 3 |
| PHY 240 | Introduction to Modern Physics | 3 |
| MAT 343 | Differential Equations | 3 |
| General Education / Free Elective | | 3 |
| General Education / Free Elective | | 3 |
| Credits | | 15 |
| Year Three | | |
| Semester Five | | |
| PHY 300 | Mechanics | 3 |
| PHY 370 | Mathematical Physics | 3 |
| PHY 420 | Quantum Mechanics I | 3 |
| CHE 103 | General Chemistry I | 3 |
| CRL 103 | General Chemistry I Lab | 1 |
| General Education / Free Elective | | 3 |
| Credits | | 16 |
| Semester Six | | |
| PHY 350 | Heat and Thermodynamics | 3 |
| PHY XXX | Physics Elective ¹ | 3 |

| | | |
|-----------------------------------|--|----------------|
| CHE 104 | General Chemistry II | 3 |
| CRL 104 | General Chemistry II Lab | 1 |
| General Education / Free Elective | | 3 |
| General Education / Free Elective | | 3 |
| Credits | | 16 |
| Year Four | | |
| Semester Seven | | |
| PHY 310 | Intermediate Physics Lab: Experimental Methods & Scientific Communication | 3 |
| PHY 430 | Electricity and Magnetism I | 3 |
| PHY XXX | Physics Elective ¹ | 3 |
| General Education / Free Elective | | 3 |
| General Education / Free Elective | | 3 |
| Credits | | 15 |
| Semester Eight | | |
| PHY 320 | Intermediate Physics Lab II | 3 |
| PHY XXX | Physics Elective ¹ | 3 |
| General Education / Free Elective | | 3 |
| General Education / Free Elective | | 3 |
| General Education / Free Elective | | 3 |
| Credits | | 15 |
| Total Credits | | 122-123 |

¹ Recommended PHY electives for students in the graduate school track are PHY 425 and PHY 435. Recommended PHY electives for students in the applied track are PHY 330 and PHY 410.

1. Majors shall not be permitted more than one repeat of a Physics course.
2. Upper level courses (numbered 300 or above) must be completed with a grade of C or higher.
3. All Physics electives must be at the 300 level or above