



All students must complete all REACH and program requirements and earn a minimum of 121 credits to qualify for Commencement exercises. All prerequisites must be completed with a grade of C or better. Students must earn a 2.5 GPA or higher in required major and cognate courses and labs.

## PHYSICS | MAJOR REQUIREMENTS (19 courses; 63-65 credits)

### Departmental Core (10 courses; 31 credits)

- PHYS 200 Freshman Physics Seminar (1)
- PHYS 201/203 General Physics I & Lab (4)
- PHYS 202/206 General Physics II & Lab (4)
- PHYS 310/311 Modern Physics & Lab (4)
- PHYS 330 Thermal Physics (3)  
or CHEM 341 Physical Chemistry I (3)
- PHYS 335 Optics (3)
- PHYS 350 Mechanics I (3)
- PHYS 360 Electromagnetism (3)
- PHYS 420 Quantum Mechanics (3)
- PHYS 450 Senior Research Project (3)

### Major Elective Courses (2 courses; 6-8 credits)

Choose two additional courses from PHYS. CHEM or MATH may also be used with permission. One course must be 300-level or higher

- \_\_\_\_\_
- \_\_\_\_\_

### Cognate Courses (7 courses; 26 credits)

- MATH 170 Calculus I (4)
- MATH 171 Calculus II (4)
- MATH 233 Calculus III (4)
- MATH 150 Linear Algebra (3)
- MATH 240 Differential Equations (3)
- CHEM 121/122 General Chemistry I & Lab (4)
- CHEM 131/132 General Chemistry II & Lab (4)

## REACH CURRICULUM (15 courses; 40-41 credits)

### The Freshman Experience

- iMU101 Introduction to Mercyhurst (1)
- iMU102 Involvement at Mercyhurst (1)
- COMP120 Research and Writing (3)

### outREACH

- BTG 300 Beyond the Gates (1)

### The Senior Experience

- ETH 400 REACH Capstone Ethics (3)

### Free Electives

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

### R: Reason and Faith (CST, PHIL, RLST)

- \_\_\_\_\_
- \_\_\_\_\_

### E: Expression and Creativity (ENG and ART, DANC, MUS, THEA)

- \_\_\_\_\_
- \_\_\_\_\_

### A: Analytic Thought (MATH, STAT and BIO, CHEM, GEOL, PHYS, SCI)

- \_\_\_\_\_
- \_\_\_\_\_

### C: Contexts and Systems (ECON, HIS, POLI)

- \_\_\_\_\_
- \_\_\_\_\_

### H: Humans in Connection (ANTH, PSYC, SOC, WL)

- \_\_\_\_\_
- \_\_\_\_\_



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Year	Major Requirements	REACH Curriculum	Elective Courses	Credits
Freshman Fall	<ul style="list-style-type: none"> <li>MATH 170 Calculus I (4)</li> <li>PHYS 200 Freshman Physics Seminar (1)</li> <li>PHYS 201/203 General Physics I &amp; Lab (4)</li> </ul>	<ul style="list-style-type: none"> <li>iMU 101 Introduction to Mercyhurst (1) (Mini 1)</li> <li>COMP 120 Research and Writing (3)</li> </ul>	<ul style="list-style-type: none"> <li>Elective choice (3)</li> </ul>	16+
Freshman Spring	<ul style="list-style-type: none"> <li>MATH 171 Calculus II (4)</li> <li>PHYS 202/206 General Physics II and Lab (4)</li> </ul>	<ul style="list-style-type: none"> <li>iMU 102 Involvement at Mercyhurst (1) (Mini 3)</li> <li>REACH course of your choice (3)</li> </ul>	<ul style="list-style-type: none"> <li>Elective choice (3)</li> </ul>	15+
Sophomore Fall	<ul style="list-style-type: none"> <li>MATH 150 Linear Algebra (3) or MATH 240 Differential Equations (3)</li> <li>CHEM 121/122 General Chemistry I &amp; Lab (4)</li> </ul>	<ul style="list-style-type: none"> <li>REACH course of your choice (3)</li> <li>REACH course of your choice (3)</li> <li>– BTG 300 <i>Beyond the Gates</i> (1) works well this semester</li> <li>– Study Abroad works well this semester</li> </ul>	<ul style="list-style-type: none"> <li>Elective choice (3)</li> </ul>	16+
Sophomore Spring	<ul style="list-style-type: none"> <li>MATH 233 Calculus III (3)</li> <li>PHYS 310/311 Modern Physics &amp; Lab (4)</li> <li>CHEM 131/132 General Chemistry II &amp; Lab (4)</li> </ul>	<ul style="list-style-type: none"> <li>REACH course of your choice (3)</li> <li>– BTG 300 <i>Beyond the Gates</i> (1) works well this semester</li> <li>– Study Abroad works well this semester</li> </ul>		14+
Junior Fall	<ul style="list-style-type: none"> <li>MATH 240 Differential Equations (3) or MATH 150 Linear Algebra (3)</li> <li>PHYS 330 Thermal Physics (3) or CHEM 341 Physical Chemistry</li> <li>PHYS 335 Optics (3) or PHYS 350 Mechanics I (3)</li> </ul>	<ul style="list-style-type: none"> <li>REACH course of your choice (3)</li> </ul>	<ul style="list-style-type: none"> <li>Elective choice (3)</li> </ul>	15+
Junior Spring	<ul style="list-style-type: none"> <li>PHYS 360 Electromagnetism or PHYS 450 Quantum Mechanics (3)</li> <li>Major Elective Course (3)</li> </ul>	<ul style="list-style-type: none"> <li>REACH course of your choice (3)</li> <li>REACH course of your choice (3)</li> </ul>	<ul style="list-style-type: none"> <li>Elective choice (3)</li> </ul>	15+
Senior Fall	<ul style="list-style-type: none"> <li>PHYS 350 Mechanics I (3) or PHYS 335 Optics (3)</li> <li>Major Elective Course (3)</li> </ul>	<ul style="list-style-type: none"> <li>ETH400 Capstone Ethics (3) <i>must be taken during Senior year</i></li> <li>REACH course of your choice (3)</li> </ul>	<ul style="list-style-type: none"> <li>Elective choice (3)</li> </ul>	15+
Senior Spring	<ul style="list-style-type: none"> <li>PHYS 450 Quantum Mechanics (3) or PHYS 360 Electromagnetism (3)</li> <li>PHYS 450 Senior Research Project (3)</li> </ul>	<ul style="list-style-type: none"> <li>ETH400 Capstone Ethics (3) <i>must be taken during Senior year</i></li> </ul>	<ul style="list-style-type: none"> <li>Elective choice (3)</li> <li>Elective choice (3)</li> </ul>	15+

**TOTAL CREDITS 121+**

**Please Note:** This plan represents a suggested plan of completion. Offerings may vary by year; therefore, adjustments made need to be made depending on University resources. Please see your faculty advisor to discuss any issues or questions about actual or anticipated course offerings. All students and advisors are encouraged to use Student Planning to continually monitor their Official Degree Progress.