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** (15 courses; 50-51 credits)

**Departmental Core (9 courses; 28 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 450 Senior Research Project (3)

**Major Elective Courses (1 courses; 3-4 credits)**
Choose one additional courses from PHYS at the 300-level or higher. CHEM or MATH may also be used with permission.
- PHYS 380

**Cognate Courses (5 courses; 19 credits)**
- MATH 170 Calculus I (4)
- MATH 171 Calculus II (4)
- MATH 240 Differential Equations (3)
- CHEM 121/122 General Chemistry I & Lab (4)
- CHEM 131/132 General Chemistry II & Lab (4)

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**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)
- __________
- __________

* Some major requirements may also fulfill components of the REACH curriculum
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.

<table>
<thead>
<tr>
<th>Year</th>
<th>Major Requirements</th>
<th>REACH Curriculum</th>
<th>Elective Courses</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshman Fall</td>
<td>• MATH 170 Calculus I (4)</td>
<td>• iMU 101 Introduction to Mercyhurst (1)</td>
<td>• Elective choice (3)</td>
<td>16+</td>
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<tr>
<td></td>
<td>• PHYS 200 Freshman Physics Seminar (1)</td>
<td>• COMP 120 Research and Writing (3)</td>
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<td></td>
<td>• PHYS 201/203 General Physics I &amp; Lab (4)</td>
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<tr>
<td>Freshman Spring</td>
<td>• MATH 171 Calculus II (4)</td>
<td>• iMU 102 Involvement at Mercyhurst (1)</td>
<td>• Elective choice (3)</td>
<td>15+</td>
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<tr>
<td></td>
<td>• PHYS 202/206 General Physics II and Lab (4)</td>
<td>• REACH course of your choice (3)</td>
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<td>Sophomore Fall</td>
<td>• MATH 240 Differential Equations (3)</td>
<td>• REACH course of your choice (3)</td>
<td>• Elective choice (3)</td>
<td>16+</td>
</tr>
<tr>
<td></td>
<td>• CHEM 121/122 General Chemistry I &amp; Lab (4)</td>
<td>• BTG 300 Beyond the Gates (1) works well this semester</td>
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<td>• Study Abroad works well this semester</td>
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<tr>
<td>Sophomore Spring</td>
<td>• PHYS 310/311 Modern Physics &amp; Lab (4)</td>
<td>• REACH course of your choice (3)</td>
<td>• Elective choice (3)</td>
<td>14+</td>
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<td></td>
<td>• CHEM 131/132 General Chemistry II &amp; Lab (4)</td>
<td>• BTG 300 Beyond the Gates (1) works well this semester</td>
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<td>• Study Abroad works well this semester</td>
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<tr>
<td>Junior Fall</td>
<td>• PHYS 330 Thermal Physics (3) or CHEM 341 Physical Chemistry</td>
<td>• REACH course of your choice (3)</td>
<td>• Elective choice (3)</td>
<td>15+</td>
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<td>• PHYS 335 Optics (3) or PHYS 350 Mechanics I (3)</td>
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<tr>
<td>Junior Spring</td>
<td>• PHYS 360 Electromagnetism</td>
<td>• REACH course of your choice (3)</td>
<td>• Elective choice (3)</td>
<td>15+</td>
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<td></td>
<td>• Major Elective Course (3)</td>
<td>• REACH course of your choice (3)</td>
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<tr>
<td>Senior Fall</td>
<td>• PHYS 350 Mechanics I (3) or PHYS 335 Optics (3)</td>
<td>• ETH400 Capstone Ethics (3) must be taken during Senior year</td>
<td>• Elective choice (3)</td>
<td>15+</td>
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<td></td>
<td>• Major Elective Course (3)</td>
<td>• REACH course of your choice (3)</td>
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<tr>
<td>Senior Spring</td>
<td>• PHYS 450 Senior Research Project (3)</td>
<td>• ETH400 Capstone Ethics (3) must be taken during Senior year</td>
<td>• Elective choice (3)</td>
<td>15+</td>
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<tr>
<td>TOTAL CREDITS</td>
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<td>121+</td>
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