Physics

**Major**

**Minor**

**Tracks in:**
- TRADITIONAL PHYSICS
- ENGINEERING PHYSICS

**Professors:**
- Deng-Luzader, J. Hoffman, Latta, Plitnik, O. Soysal, Wang

**Associate Professors:**
- Doyle, Eltayeb, E. Moore (Chair), Tidrow

**Assistant Professors:**
- Norouzi, Speights, Wondmagegn

- You may not use courses listed under the heading Physical Science to satisfy the requirements of a major or minor in Physics.
- For engineering programs offered by the Dept. of Physics and Engineering, see the Engineering section of this catalog.
- The Traditional Physics track is recommended if you plan to attend graduate school.

**Summary of Requirements for Major/Minor in Physics**

<table>
<thead>
<tr>
<th></th>
<th>MAJOR</th>
<th>MINOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hours Required in Physics:</td>
<td>39</td>
<td>21</td>
</tr>
<tr>
<td>Hours Required in Other Departments:</td>
<td>22</td>
<td>8</td>
</tr>
<tr>
<td>Total Hours Required:</td>
<td>61</td>
<td>29</td>
</tr>
</tbody>
</table>

**Summary of Requirements for Traditional Physics Track**

1. **Courses required for all majors:** (51-52 hours)
   Listed above.

2. **Advanced Courses in the Department:** (9 hours)
   - PHYS 417 Quantum Physics
   - PHYS 420 Introduction to Computational Physics
   One additional physics elective at the 300 level or above or CHEM 304.

**Summary of Requirements for Engineering Physics Track**

1. **Courses required for all majors:** (51-52 hours)
   Listed above.

2. **Elective Hours in the Department:** (9 hours)
   With permission of the Department Chair, as many as 6 credits of mechanical engineering or electrical engineering at the 200 level or above may be applied.

**1. Introductory Level Courses:** (8 hours)

<table>
<thead>
<tr>
<th>COURSE</th>
<th>HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 261 Principles of Physics I: Mechanics (GEP Group C)</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 262 Principles of Physics II: Electricity &amp; Magnetism</td>
<td>4</td>
</tr>
</tbody>
</table>

**2. Advanced Courses:** (22 hours)

<table>
<thead>
<tr>
<th>COURSE</th>
<th>HOURS</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 263 Principles of Phys. III: Sound/Light</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 264 Principles of Physics IV: Thermodynamics &amp; Modern Physics</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 310 Classical Mechanics</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 312 Electricity &amp; Magnetism</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 320 Experimental Physics</td>
<td>4</td>
</tr>
<tr>
<td>PHYS 491 Seminar</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 492 Senior Research &amp; Seminar (Capstone)</td>
<td>3</td>
</tr>
</tbody>
</table>

3. **Required Courses in Other Departments:** (22 hours)

**For all majors:**
- One of the following:
  - COSC 240 Computer Science I
  - ENEE 114 Programming Concepts for Engineers

All of the following:
- ENES 100 Intro. to Engineering Design
- MATH 236 Calculus I (Core Skill 3)
- MATH 237 Calculus II
- MATH 238 Calculus III
- MATH 432 Differential Equations

4. **Choice of Track:** (9 hours)
   Majors must choose a track in:
   - Traditional Physics or Engineering Physics
     (requirements listed below)
**Summary of Requirements for Double Major in Secondary Teacher Education**

If you wish to complete a Maryland State-approved program in teaching secondary physics, you must:

- Complete the BA/BS in Physics in any concentration.
- Declare a second major in Secondary Teacher Education. See the Secondary Teacher Education Program Coordinator for details.
- In addition to the regular major requirements, you must take coursework in biology, chemistry, and earth science in order to qualify for Maryland State certification in science and to meet NCATE accreditation standards. See the Secondary Teacher Education Program Coordinator for details.

---

**Political Science**

### Major

- **Professors:**
  - Andorfer, Bowman, Hartlaub, S. Johnson, D. Lewis, O’Rorke, Simpson, Twing (Chair)
- **Lecturer:**
  - Magrath

#### Only courses in which you earn a grade of C or better will count towards satisfaction of major or minor requirements.

#### The Department strongly encourages majors to consider the internship option.

#### POSC 492 counts as elective credit toward POSC major; POSC 495 counts as general elective credit.

#### The Department considers it essential that majors take POSC 250 Research Methods before enrolling in 300 and 400 level POSC courses.

#### Upon the completion of 75 credit hours, all majors must enroll in POSC 490 Capstone Seminar.

*Seminar courses may be applicable to the distribution requirements with the prior approval of the department chair.*

---

### Minor

#### MAJOR | MINOR
---|---
Hours Required in Political Science: | 37 | 21
Hours Required in Other Departments: | 0 | 0
Total Hours Required: | 37 | 21

---

**Summary of Requirements for Major/Minor in Political Science**

### Major

1. **Introductory Level Courses:** (6 hours)
   - POSC 110/112: Introduction to American Politics (GEP Group D) and one of the following:
   - POSC 113/114: Introduction to World Politics (GEP Group D) or POSC 131: Introduction to Comparative Politics (GEP Group D or F)

2. **Research Methods:** (3 hours)
   - POSC 250: Research Methods

3. **Capstone Seminar** (1 hour)
   - POSC 490: Capstone Seminar in Political Science

4. **Distribution within Department:** (15 hours)
   - Select one course in each of the following five groups.*

   **GROUP I American Politics**
   - POSC 321: American State & Local Politics
   - POSC 322: Public Administration
   - POSC 324: Criminal Justice Systems in Action
   - POSC 352: Interest Groups
   - POSC 361: Public Opinion and Political Behavior
   - POSC 362: Political Parties and Elections
   - POSC 363: Media and Politics
   - POSC 365: Women and Politics
   - POSC 421: American Legislative Politics
   - POSC 422: American Constitutional Law I
   - POSC 423: American Constitutional Law II
   - POSC 427: The American Presidency
   - POSC 462: Personality and Politics

   **GROUP II Comparative Politics**
   - POSC 330: Politics of Africa
   - POSC 331: Politics of Latin America
   - POSC 332: Politics of Middle East
   - POSC 333: Politics of Europe
   - POSC 336: Politics of Food
   - POSC 431: Russian Politics
   - POSC 435: Model Organization of American States

### Minor

1. **Introductory Level Courses:** (6 hours)
   - POSC 110/112: Introduction to American Politics (GEP Group D) and one of the following:
   - POSC 113/114: Introduction to World Politics (GEP Group D) or POSC 131: Introduction to Comparative Politics (GEP Group D or F)

2. **Free Elective Hours in Department:** (15 hours)
   - Any courses from the above subfields not already taken and/or:
   - POSC 492 Internship Seminar (3 or 6 credits)
   - and/or POSC 488 Comparative Legal Systems
   - POSC 498 Readings in Political Science