## Major in Physics, BSE

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHYS 231</td>
<td>Physics 1 with Calculus (C- or better)</td>
<td>5</td>
</tr>
<tr>
<td>PHYS 232</td>
<td>Physics 2 with Calculus (C- or better)</td>
<td>5</td>
</tr>
<tr>
<td>PHYS 233</td>
<td>Wave-Particle Theory</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 266</td>
<td>Electronics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 311</td>
<td>Mechanics 1</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 321</td>
<td>Electromagnetic Fields 1</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 334</td>
<td>Macroscopic Physics</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 335</td>
<td>Quantum Systems</td>
<td>3</td>
</tr>
<tr>
<td>PHYS 351</td>
<td>Intermediate Physics Lab 1</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 352</td>
<td>Intermediate Physics Lab 2</td>
<td>1</td>
</tr>
<tr>
<td>PHYS 492</td>
<td>Physics Research and Seminar</td>
<td>2</td>
</tr>
<tr>
<td>PHYS 498</td>
<td>Independent Study/Research</td>
<td>4</td>
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### PHYSICS REQUIRED ELECTIVE
- Meteorology or Intro to Astronomy - Choose 1 of the following: 3-4
  - ESCI 241 Meteorology
  - PHYS 317 Introduction to Astronomy

**Total Hours:** 39-40

## Professional Education

### EDUCATIONAL FOUNDATIONS
- EDFN 211 Foundations Modern Education 3
- EDFN 241 Psychological Foundations of Teaching 3

### REQUIRED EDUCATION COURSES
- EDSE 321 Issues in Secondary Education 3
- EDFN 330 Instructional Technology, Design & Assessment 3
- EDSE 435 Teaching of Science in Secondary Schools 3

### ACCOMMODATIONS AND ADAPTATIONS
- EDSE 340 Content Area Literacy for Diverse Classrooms 3
- SPED 346 Secondary Students w/Disabilities in Inclusive Settings 3

### STUDENT TEACHING
- EDSE 471 Student Teaching Seminar 3
- EDSC 461 Student Teaching in Science 9

**Total Hours:** 33

## Req Related for Physics, BSE

### CHEMISTRY
- CHEM 111 Introductory Chemistry 1 4
- CHEM 112 Introductory Chemistry 2 4

### MATHEMATICS
- Calculus I(C- minimum) or Calculus Honors - Choose 1 of the following: 4-5
  - MATH 161 Calculus 1
  - MATH 163H Honors Calculus 1
  - MATH 211 Calculus 2 (C- minimum) 4

### Advanced Professional Studies, BSE

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 311</td>
<td>Calculus 3</td>
<td>4</td>
</tr>
<tr>
<td>MATH 365</td>
<td>Ordinary Differential Equation</td>
<td>3</td>
</tr>
</tbody>
</table>

**Total Hours:** 23-24

### APS REQUIREMENTS

#### English Composition
- ENGL 110 English Composition 3
- ENGL 110H Hnrs:English Composition

#### English Literature
- ENGL 230 Introduction to Literature 3
- ENGL 231 World Literature 1
- ENGL 232 World Literature 2
- ENGL 233 Early British Literature
- ENGL 234 Later British Literature
- ENGL 235 American Literary Tradition I
- ENGL 236 American Literary Tradition II
- ENGL 241H H:Explorations in World Lit
- ENGL 242 Reading Our World:
- ENGL 292 Science Fiction
- ENGL 333 African-American Literature 1
- ENGL 333H Hnrs:African American Lit 1
- ENGL 334 African American Literature 2
- ENGL 334H Hnrs:African American Lit 2
- ENGL 336 New Dimensions to World Lit
- ENGL 338 Folklore and Literature
- ENGL 401 Old Eng Lang and Literature
- ENGL 402 Middle Eng Lang and Literature
- ENGL 418

### Mathematics

Two Mathematics courses are required for BSE students. You have taken 0 course(s). It is preferable to take two courses designated as G2. Click here to search for MATH courses on the current web schedule. BIOL 375 will fulfill one Mathematics course for BSE BIOL students.

- EDFN 211 & EDFN 241 Foundations Modern Education and Psychological Foundations of Teaching 6

**48 earned (transcript) credit hours are required**

### Pre-Service Testing Required

- You ARE NOT eligible to register for courses requiring APS status.
- ACT 126 - Educator Ethics Training
- You must submit your Educator Ethics Training.
**Physics, B.S.Ed.**

Pre-Service Testing Status is indicated by one of the following: 1.) PSTA - Pre-Service Testing Accomplished: Verified passing pre-service test scores meet the requirement. 2.) PSTI - Pre-Service Testing Incomplete: Non-passing pre-service test scores were submitted prior to the August 1, 2015 policy change. Passing scores must still be achieved in order to meet the PA certification requirements. 3.) PSTU - Pre-Service Testing Unverified: Unofficial copies of pre-service test scores were submitted. Official scores must be sent from the testing company in order to meet PA certification requirements. 4.) PSTX - Pre-Service Testing Waived: Per PDE - ACT 136, the Pre-Service Testing Requirement has been waived.

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**Your GPA is below 3.0 - please see an advisor**

If you are given the 2.8 GPA Exception for graduation and you graduate with a GPA lower than 3.0, you must have higher certification test scores in order to meet PA state certification requirements.

**REQUIRED CLEARANCES**

<table>
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<tr>
<th>Requirement</th>
<th>Description</th>
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<tbody>
<tr>
<td>ACT 114</td>
<td>FBI Fingerprint Needed</td>
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<tr>
<td></td>
<td>You must submit your FBI Fingerprint Clearance</td>
</tr>
<tr>
<td>ACT 34</td>
<td>Criminal Record Check Needed</td>
</tr>
<tr>
<td></td>
<td>You must submit your Criminal Record Check</td>
</tr>
<tr>
<td>ACT 151</td>
<td>Child Abuse Clearance Needed</td>
</tr>
<tr>
<td></td>
<td>You must submit your Child Abuse Clearance</td>
</tr>
<tr>
<td></td>
<td>Negative TB Test or Chest X-ray Needed</td>
</tr>
<tr>
<td></td>
<td>You must submit your Negative TB Test or Chest X-ray</td>
</tr>
</tbody>
</table>

**No dispositions-related holds**

If the requirement above is checked as complete, then there are currently no dispositions-related holds on your APS Status. Registration for APS courses is permitted when all APS requirements have been met. If it is incomplete, you have a hold and APS registration will not be allowed.

**Full Admission to APS**

When all requirements are met, you must submit application for admission to APS status. Click here for the application.

**Total Hours**

<table>
<thead>
<tr>
<th>Hours</th>
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<tr>
<td>12</td>
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