PHYSICS B.A.

Bachelor of Arts - Physics

College of Humanities & Sciences

Degree Specific Credits: 68

Required Cumulative GPA: 2.0

Catalog Year: 2018-2019

General Education Requirements

Information regarding these requirements can be found in the General Education Section (http://catalog.umt.edu/academics/general-education-requirements) of the catalog.

Summary

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Lower-Division Physics

Complete one of the following Physics sequences:

Algebra- and Trigonometry-based Physics:

- PHSX 205N & PHSX 206N
- PHSX 207N & PHSX 208N

Calculus-based Physics (strongly recommended):

- PHSX 215N & PHSX 216N
- PHSX 217N & PHSX 218N

Total Hours: 10

Minimum Required Grade: C-

Upper-Division Physics

Complete all of the following courses:

- PHSX 301
- PHSX 311
- PHSX 320
- PHSX 322
- PHSX 343
- PHSX 423

Total Hours: 30

Minimum Required Grade: C-

Math Requirements

Complete all of the following courses:

- M 171
- M 172
- M 221
- M 273

Total Hours: 16

Minimum Required Grade: C-

Physics Electives

Complete two of the following courses:

- PHSX 444 Advanced Physics Lab
- PHSX 461 Quantum Mechanics I
- PHSX 499 Senior Capstone Seminar

Complete two of the following courses:

- PHSX 425 Electricity & Magnetism II
- PHSX 446 Thermodynamics & Statistical Mechanics
- PHSX 462 Quantum Mechanics II

Total Hours: 6

Minimum Required Grade: C-

Computer Science Requirements

Complete one of the following courses:

- CSCI 100
- CSCI 135
- PHSX 333

Total Hours: 3

Minimum Required Grade: C-

Note: Other PHSX courses may be substituted with adviser approval.
Minimum Required Grade: C-

### Advanced College Writing Requirement

**Note:** May substitute another advanced writing course as approved by the department chair.

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<th>Code</th>
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<tr>
<td>PHSX 330</td>
<td>Communicating Physics</td>
<td>3</td>
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Total Hours 3

Minimum Required Grade: C-

### Teaching Physics Track

**Notes:**

- This teaching track contains different/additional course requirements designed to meet state standards. Those interested in teaching in K-12 schools must complete the teaching track of a major in a teaching content area plus the Teacher Education Program through the Department of Teaching and Learning. Additional teaching areas can be added through completion of the teaching track of a major or minor in that content area.
  - Secondary Education Licensure Program (http://www.coehs.umt.edu/departments/currinst/undergradprograms/seced/default.php)
  - Licensure Degree Requirements (http://catalog.umt.edu/colleges-schools-programs/education-human-sciences/teaching-learning/lic-secondary-licensure)

- To complete this teaching track, you need to contact the Teaching and Learning Department. You do not fill out a major/minor form for graduation or the major/minor/concentration section of the major change form. Approvals for this track must come from the Teaching and Learning Department.

- Tracks will not appear on your UM transcript, diploma, university lists, student data system, or university publications. They are used for advising purposes only. You do not fill out a major change for a track.

### Teaching Physics Track Requirement

**Note:** The EDU 497 course number is used for multiple courses. Students should register for EDU 497 Methods: 5-12 Science.

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<th>Code</th>
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<tr>
<td>EDU 497</td>
<td>Teaching and Assessing</td>
<td>4</td>
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Total Hours 4

Minimum Required Grade: C-

### Secondary Teaching Licensure

**Note:** For endorsement to teach physics, a student also must gain admission to the Teacher Education Program and meet all the requirements for secondary teaching licensure (http://catalog.umt.edu/colleges-schools-programs/education-human-sciences/teaching-learning/lic-secondary-licensure). For more information, see the Teaching and Learning Department (http://catalog.umt.edu/colleges-schools-programs/education-human-sciences/teaching-learning).