141-142-143 Courses

The honors introductory physics sequence is composed of PHYS 141, 142, and 143. Students with a strong interest in physics and strong calculus preparation are encouraged to enroll in this sequence. The material covered in each course in the honors sequence is the same as in the regular sequence, PHYS 121, 122, and 123, but each topic is discussed in more depth and may include active research and cross-disciplinary applications, and additional topics may be discussed. If you are enrolled in the UW Honors Program, the courses in this sequence satisfy Interdisciplinary Honors credits. The course consists of three major components: lecture, tutorial, and laboratories.

<table>
<thead>
<tr>
<th>Course/Section</th>
<th>Instructor</th>
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<tbody>
<tr>
<td>Physics 141 A</td>
<td>Paula Heron</td>
</tr>
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</table>

PHYS 141: Honors Mechanics

- **Prerequisites:**
  - Either MATH 124 with a minimum grade of 2.5 or MATH 134 which can be taken concurrently
  - If you have AP Calculus credit and would like to take PHYS 141, you should contact the instructor for an add code.

- **Recommendations:**
  - A previous high-school-level physics course is strongly recommended, but it is not required.
  - To evaluate if you have enough math and physics preparation to succeed in the honors sequence, you are encouraged to take the placement exam [here](#). It is expected that the students enrolled in PHYS 141 should know how to solve all of the problems in the placement exam. If you scored less than 8 out of 10, contact the instructor of Phys 141 to help evaluate if you have necessary preparations to succeed in Phys 141.

- **Contents:**
  - One dimensional motion
  - Momentum
  - Energy
  - Forces
  - Motion in two or more dimensions
  - Rotational motion
  - Gravity

PHYS 142: Honors Electromagnetism

- **Prerequisites:**
  - PHYS 141 with a minimum grade of 2.5
  - MATH 125 or MATH 134, either or which may be taken concurrently

- **Contents:**
  - Electric and magnetic interactions
  - Electric circuits
Electromagnetic waves

PHYS 143: Honors Waves, Light, and Heat

- **Prerequisites:**
  - PHYS 142 with a minimum grade of 2.5
  - MATH 126 or MATH 135, either or which may be taken concurrently

- **Contents:**
  - Simple harmonic rotation
  - Wave propagation
  - Wave interference and diffraction
  - Optics
  - Heat transfer
  - Converting heat to work

If you have completed either PHYS 121 or PHYS 122 or have transfer credit (including AP credit) for those courses, and you think you are prepared and would like the challenge to take the next course in the sequence in the honors sequence, you should contact the instructor. Based on a discussion with the instructor of your preparedness, the instructor will help you determine what is required to ensure that you succeed in the honors sequence and will determine if the prerequisite should be waived.

Grading Standard

Grades are calculated such that your grade should not depend on if you choose to take the course in the regular sequence (PHYS 121-122-123) or the honors sequence (PHYS 141-142-143).

Course Material

You need to purchase the following items:

- **The Tutorial Coursepack**
  - Only available from the University Bookstore.
  - This will be used to fill in your tutorial work and tutorial homework, so you cannot use a used one.

- **Access code for MyLab and Mastering**
  - See purchasing options below

- **Textbook:** *Principles & Practice of Physics, 1st edition by Mazur*
  - See purchasing options below

Purchasing Options

- **UNIVERSITY BOOKSTORE OPTIONS**

  If you purchase the textbook from the University Bookstore, the access code is included.

  *Note that the UW Bookstore is providing free domestic shipping.*

  You have the following four purchasing options that include both textbook and the access code from the **University Bookstore**.

  Choose the one that best fits your need and budget. The 2-year access can be used for all the courses in the series, so you will not need to purchase access again.
<table>
<thead>
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<th>Option</th>
<th>Access Duration</th>
<th>eText</th>
<th>Hardcopy Test</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A (Bookstore)</strong></td>
<td>1 quarter</td>
<td>√</td>
<td>Loose leaf</td>
</tr>
<tr>
<td><strong>B (Bookstore)</strong></td>
<td>2 years</td>
<td>√</td>
<td>Loose leaf</td>
</tr>
<tr>
<td><strong>C (Bookstore)</strong></td>
<td>2 years</td>
<td>√</td>
<td>Hardcover</td>
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<tr>
<td><strong>D (Bookstore)</strong></td>
<td>2 years</td>
<td>√</td>
<td>No</td>
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The options labelled A through D above, correspond to the following descriptions at the University Bookstore.

A. 3 P/S Loose Leaf Principles & Practice Of Physics W/ Modified Masteringphysics
B. 3 P/S Principles & Practice Of Physics W/ Modified Masteringphysics
C. Mastering Access w/eBook for Principles & Practices of Physics - Multi Term
D. 3 P/S Phys 121 Only Loose Leaf Principles & Practice Of Physics (Custom) W/ Modified Masteringphysics

Note that the order of the options shown above may be different from those shown at the University Bookstore.

**ALTERNATIVE OPTIONS**

If you do not purchase the textbook from the University Bookstore, you can purchase the access code online.

During the steps in the access to the online homework system instructions you will be given the following two choices to purchase directly from Pearson. Choose the one that fits your need and budget. Both choices can be used for all the courses in the series, so you will not need to purchase access again.

<table>
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<th>eText</th>
<th>Hardcopy Test</th>
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<tbody>
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<td><strong>E (Pearson)</strong></td>
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<td>√</td>
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</tr>
<tr>
<td><strong>F (Pearson)</strong></td>
<td>2 years</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

You need a textbook for this course, so if you choose option F you need to obtain a textbook elsewhere. Note that there is one hardcover textbook with a white cover titled "Principles and Practice of Physics" and another with a black cover titled "Principles and Practice of Physics". If you do not purchase the textbook from the University Bookstore or Pearson, you might be missing the black copy, which includes the end-of chapter problems. But you have access to many of these problems through MyLab and Mastering.

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