COURSE: *PHY 203, Principles of Physics 1, 5 credits Semester offered: Fall.

COURSE DESCRIPTION:* Principles of Physics 1, this course includes a laboratory component. This course is the first course of a rigorous two-semester sequence of calculus-based Physics for physics, engineering, chemistry, and computer science majors. It includes mechanics, thermodynamics, oscillatory motion, waves, and sound. A laboratory fee is required. *Prerequisites: MAT 101 and MAT 102 or MAT 161. *Corequisite: MAT 203 may be taken concurrently.


LAB MANUAL: Physics Laboratory Investigations for PHY-203 by Paul Jozik, HCC college store

STUDENT LEARNING OUTCOMES:
1. Use mathematical models as a medium for quantitative reasoning and describing physical reality.
2. Use graphical models to analyze laboratory data.
3. Apply the classical conservation laws as a basis of deriving and understanding physics principles.
4. Describe physics concepts verbally, graphically, and mathematically.
5. Solve problems individually and collaboratively.
6. Use software to analyze physics experiments.
7. Access, process, analyze and synthesize scientific information.

TOTAL HOURS OF COURSEWORK:
For most classes, students should expect to do at least 2 hours of coursework outside of class for each hour of in-class coursework. College students are expected to spend as much time as needed in productive work to produce success, that amount of time varies greatly from student to student.

<table>
<thead>
<tr>
<th>Component of Course</th>
<th>Hours In Class</th>
<th>Hours Outside of Class</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lecture (includes testing)</td>
<td>50 hours</td>
<td>2.5 hours per lecture</td>
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<tr>
<td>Exams</td>
<td>8 hours</td>
<td>12.5 hours per exam</td>
</tr>
<tr>
<td>Laboratory (includes testing)</td>
<td>37.5 hours</td>
<td>2.5 hour per lab</td>
</tr>
<tr>
<td>Laboratory Exams</td>
<td>5 hours</td>
<td>10 hours per lab exam</td>
</tr>
<tr>
<td>Total</td>
<td>87.5 hours</td>
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</tbody>
</table>

Total Hours per Semester

Services for Students with Disabilities: Students may receive reasonable accommodations if they have a diagnosed disability and present appropriate documentation. Students seeking accommodations are required to contact the Disability Support Services (DSS) office as early as possible. Students may contact a DSS staff member for an appointment at dss@hagerstowncc.edu or at 240-500-2530.

revised May 2018