

**Hagerstown Community College  
MASTER SYLLABUS DOCUMENT**

**COURSE: PHY-112 Applied Physics, 3 credits Semester offered: Spring**

**COURSE DESCRIPTION: \*PHY-112, Applied Physics, this course does not include a laboratory component.**

This is an introductory level non-laboratory algebra based Physics course with emphasis on the study of energy. It is NOT a substitute for the traditional two semester sequence of Physics that includes laboratory. This course is designed to fit the needs of the Alternative Energy Technology A.A.S. Degree program but is also appropriate for other Technology students and students desiring a three credit non-laboratory general studies science course. Students planning to transfer to a four-year college or university should check with their intended transfer institution for transferability of this course to that institution. Topics include mechanical, thermal, electrical, and light energy.

\*Prerequisite: MAT-101 or MAT-114.

**TEXT: College Physics 12th edition by Eugene Hecht, Schaum's Outlines, McGraw Hill,  
ISBN 978-1-259-58739-9**

*Optional: Applied Physics by Arthur Beiser, Schaum's Easy Outlines, McGraw Hill, ISBN 978-0-07-177977-7*

**STUDENT LEARNING OUTCOMES:**

1. Use mathematical models as a medium for quantitative reasoning and describing physical reality.
2. Apply the classical conservation laws as a basis of deriving and understanding Physics principles.
3. Describe physics concepts verbally, graphically, and mathematically
4. Solve problems individually and collaboratively
5. Use software to analyze physics experiments
6. 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.

**Minimum Clock Hours Required for this Course**

<b>Component of Course</b>	<b>hours in class</b>	<b>hours outside of class</b>	<b>Total Hours per Semester Outside of Class</b>
<i>Lecture (includes testing)</i>	<b>37.5 hours</b>	<b>5 hours per week</b>	<b>75 hours per semester</b>
Exams	5 hours	8 hours per exam	32 hours per semester
<b>Total for Course</b>	<b>37.5</b>	<b>70</b>	<b>112.5 hours</b>

**SERVICE 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](mailto:dss@hagerstowncc.edu) or at 240-500-2530.