

**Course Outline for:** PHYS 1111 College Physics 2**A. Course Description:**

1. Number of credits: 4
2. Lecture hours per week: 3  
Lab hours per week: 2
3. Prerequisites: PHYS 1110
4. Corequisites: None
5. MnTC Goals: Goal #3 – Natural Sciences

Modern life is heavily impacted by electricity, magnetism, and light. Further explore physics in a lecture course with lab component that is a continuation of Physics 1110. Students will gain an understanding of core topics that impact our day to day lives like electricity, magnetism, electromagnetic waves, and optics. The material will help you understand the physical world around you. This course uses algebra and trigonometry.

**B. Date last reviewed/updated:** February 2025**C. Outline of Major Content Areas:**

1. Oscillations
2. Waves
3. Electricity
4. Magnetism
5. Electromagnetic Waves
6. Optics

**D. Course Learning Outcomes:**

Upon successful completion of the course, the student will be able to:

1. Analyze problems related to course topics through the application of the fundamental principles of physics. (Goal 3a, 2c)
2. Identify which physical laws are useful for the solution of physics problems. (Goal 3a)
3. Solve algebra-based physics problems using the appropriate physical laws. (Goal 3a, 2a)
4. Explain the importance of electricity and magnetism to the modern world using appropriate terminology. (Goal 3a)
5. Test formulated hypotheses for experiments based on analyzed data and uncertainties. (Goal 3b, 2a)
6. Communicate results with reasoned arguments, supported by experimental evidence, both orally and in writing. (Goal 3c)

**E. Methods for Assessing Student Learning:**

Methods for assessment may include, but are not limited to, the following:

1. Written and/or oral reports

2. Homework
3. Projects
4. Quizzes
5. Exams
6. Final Exam

**F. Special Information:**  
None