



Course Number Course Name	PHYS 1240, Algebra-based Physics II
Credit Value (Breakdown of theory and lab credits)	3 Theory
Catalog Course Description	The second half of a two semester algebra-based introduction to Physics. This course covers electricity, magnetism and optics. Prerequisite: PHYS 1230.
Student Learning Outcomes/Objectives /Competencies of the Course	<p>Student Learning Outcomes: At the end of this course the student will be able to:</p> <ol style="list-style-type: none"> 1. State Coulomb's Law and Gauss's laws and apply them. 2. Apply the concepts of electric charge, electric field and electric potential to solve problems. 3. Analyze simple DC and AC circuits. 4. Apply the Lorentz force to solve problems. 5. Apply Faraday's law of induction (and Lenz's law) to solve problems. 6. Apply ray optics to practical lens systems such as microscopes and corrective lenses. 7. Apply the wave nature of light to the phenomena of reflection, refraction, and diffraction. <p>Optional Topics (some schools include these in Physics I, others in Physics II):</p> <ol style="list-style-type: none"> 1. sound 2. waves 3. heat 4. thermodynamics 5. oscillatory motion 6. modern physics <p>Optional Student Learning Outcomes</p> <ol style="list-style-type: none"> 1. Describe the fundamental properties of periodic motion. 2. Explain and apply the basic concepts of sound and wave motion. 3. Explain the basic concepts of heat and thermodynamics. 4. Explain the basic concepts of quantum theory and special relativity.
College-Wide Student Learning Outcomes	<p>PHYS 1240 learning objectives align with the following NNMC College Wide Goal:</p> <p><i>Critical thought: Students are required to analyze and synthesize information and draw reasoned conclusions.</i></p>