



Course Number Course Name	PHYS 1320, Calculus-based Physics II
Credit Value (Breakdown of theory and lab credits)	3 Theory
Catalog Course Description	A calculus level treatment of classical electricity and magnetism. It is strongly recommended that this course is taken at the same time as Calculus-based Physics II laboratory. Prerequisite: PHYS 1310. Co-requisite: PHYS 1320L (3, 3T+0L)
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. Apply the concepts of electric charge, electric field and electric potential to solve problems. 2. Sketch the electric field in the vicinity of point, line, sheet, and spherical distributions of static electric charge. 3. Sketch the magnetic field in the vicinity of line, ring, sheet, and solenoid distributions of steady current. 4. Describe the relationship between electric field and electric potential. 5. Calculate the Lorentz force on a moving charge for simple geometries of the fields and use it to analyze the motion of charged particles. 6. Apply the integral forms of Maxwell's equations. 7. Calculate the energy of electromagnetic fields. 8. Analyze DC circuits.
College-Wide Student Learning Outcomes	<p>PHYS 1320 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>