PHYS 2212: Principles of Physics II

3 Credit Hours

Prerequisite: MATH 2202 and PHYS 2211

This course is an introductory calculus-based course on electromagnetism, physical optics, and quantum physics. The student will be able to apply the concepts of electric field and electric potential to problems in electrostatics and with electric currents, describe the motion of charged particles in magnetic fields and induction, explain the origin of electromagnetic waves and properties of light, determine the behavior of light waves passing through single or multiple slits, and understand elementary principles of quantum physics.

PHYS 2212K: Principles of Physics and Lab II

4 Credit Hours

Prerequisite: Grades of "C" or higher in MATH 2202 and (PHYS 2211 or PHYS 2211K)

An introductory course which will include electrostatics, electric current and circuits, and electromagnetism, and may also include optics and modern physics. Elementary calculus will be used.

This course is managed through the cooperative academic agreement known as eCore.

PHYS 2212L: Principles of Physics Laboratory II

1 Credit Hours

Corequisite: PHYS 2212

This is an introductory laboratory for the calculus-based course on electromagnetism, optics, and modern physics. The student will be able to apply the concepts of electric field and electric currents to problems in the laboratory, and perform measurements on magnetic fields and induction, optics, and elementary quantum physics phenomena. The analysis of sources of error and formal propagation of uncertainties will also be developed, along with graphical techniques and least-squares fits.