PHYSICS (PHY)

PHY 100 Physics for Elementary Teachers (4 Credits)
60 lecture, 30 lab, 4 total contact hours
In this course, students will examine the basic laws that govern the physical universe. Students will explain everyday physical phenomena in elementary terms - an essential skill for prospective educators. Students will develop and execute lessons plans (instruction, materials, and hands-on activities) to help students construct a picture of the physical universe. Level I Prerequisite: Academic Reading and Writing Levels of 6

PHY 105 Conceptual Physics (4 Credits)
45 lecture, 45 lab, 4 total contact hours
In this course, students survey the major topics of Newtonian mechanics, heat, vibration and waves, electromagnetism and light using a conceptual approach with a minimum of mathematics. Laboratory exercises are included to assist students in understanding and applying the above topics. This course was designed for non-physics majors with no previous physics experience. Level I Prerequisite: Academic Reading and Writing Levels of 6; Academic Math Level 3

PHY 111 General Physics I (4 Credits)
45 lecture, 45 lab, 4 total contact hours
This is the first of a two-course sequence in algebra-trigonometry based Newtonian physics for pre-professional and liberal art students. Physics 111 introduces and develops the concepts of kinematics, forces, work-energy, impulse-momentum (translational and angular), fluids, vibration and waves and thermodynamics. Laboratory exercises are included to assist students in understanding and applying the above topics. Level I Prerequisite: Academic Reading and Writing Levels of 6; Academic Math Level 7; or Academic Math Level 5 and MTH 178 or MTH 180, minimum grade "C" in math courses, may enroll concurrently in either course

PHY 122 General Physics II (4 Credits)
45 lecture, 45 lab, 4 total contact hours
This course is the second part of a two-course sequence in algebra-trigonometry based physics for pre-professional and liberal arts students. It covers the concepts of electricity, magnetism, and light extending the students' knowledge of physics learned in the prerequisite course. Laboratory exercises are included to assist students in understanding the above topics. Level I Prerequisite: Academic Reading and Writing Levels of 6; PHY 111 minimum grade "C"

PHY 211 Analytical Physics I (5 Credits)
75 lecture, 30 lab, 5 total contact hours
In this course, students will develop their understanding of the concepts of mechanics (kinematics, forces, work-energy, impulse, translational and angular momentum, fluids), vibration (and waves) and fundamental thermodynamics. Laboratory exercises are included to assist students in understanding the above topics and to develop skills in data analysis methods. This is the first of a two-course sequence in calculus-based Newtonian physics for students intending to major in science or engineering. Level I Prerequisite: Academic Reading and Writing Levels of 6; PHY 111 and MTH 191, minimum grade "C"

PHY 222 Analytical Physics II (5 Credits)
75 lecture, 30 lab, 5 total contact hours
This course is the second part of a two-course sequence in calculus-based physics for students majoring in science and engineering. In this course, students will cover the concepts of electricity, magnetism and light. Laboratory exercises are included to assist students in understanding these topics and to develop skills in data analysis methods. Level I Prerequisite: Academic Reading and Writing Levels of 6; Academic Math Level 7; PHY 211 minimum grade "C"