PHYSICS (PHYS)

Courses

PHYS-108 GENERAL PHYSICS WITH RADIATION 4 Credits
Classical mechanics, electricity and magnetism, circuits, atomic structure, radiation health physics, and X-ray production. This course introduces topics in physics essential to the field of radiation science and technology. There are three hours of lecture and one 2-hour laboratory per week. Emphasis will be placed on problem-solving. Pre-requisites: MATH-137, MATH-143 and MATH-144, or MATH-147.

PHYS-111 GENERAL PHYSICS I 4 Credits
Mechanics, heat and thermodynamics. General Physics I is a study of the fundamental principles of classical physics. An emphasis is placed upon analytic problem solving using algebra and elementary trigonometry, and laboratory skills. There are three hours of lecture and one 3-hour laboratory per week. Pre-requisite: A grade of 'C' or better in MATH-144 or MATH-147 or satisfactory math placement.

PHYS-112 GENERAL PHYSICS II 4 Credits
Electricity and magnetism, optics, modern physics. General Physics II is the sequel to General Physics I. Course covers the fundamental principles of electricity, magnetism, and light. There are three hours of lecture and one 3-hour laboratory per week. Pre-requisite: A grade of 'C' or better in PHYS-111.

PHYS-171 PHYS SCIENCES FOR ELEMENTARY EDUCATORS 4 Credits
This course is an introduction to chemistry and physics for future elementary educators. To this end, we will cover the physical science topics specified by Idaho State Standards for grades K through 8. These include measurement, forces, energy, electricity and mixtures and solutions, and science methodology. Throughout the semester, we will also explore ways of teaching that foster deep learning, conceptual understanding, curiosity and confidence-building. Pre-requisite: Level C or higher: Core math ready (excluding 153P and 123P) or core math complete. See Course Placement Chart for equivalent courses and test scores.

PHYS-190 DIRECTED STUDY IN PHYSICS 1-12 Credits

PHYS-192 SPECIAL TOPICS IN PHYSICS 1-12 Credits

PHYS-205 DESCRIPTIVE ASTRONOMY 4 Credits
A survey of descriptive astronomy. Topics: historical development of theories of the universe, physical organization of the solar system/universe; the formation and evolution of stars, galaxies, recently discovered astronomical objects such as quasistellar objects and black holes; evolution of the universe. Three hours of lecture and one 3-hour laboratory per week. Pre-requisite: Level C or higher: Core math ready (excluding 153P and 123P) or core math complete. See Course Placement Chart for equivalent courses and test scores.

PHYS-211 PHYSICS FOR SCIENTISTS AND ENGINEERS I 5 Credits
Mechanics, heat and thermodynamics. Engineering Physics I is the standard, calculus based university physics course. Fundamental principles of physics are examined using analytic problem-solving and laboratory exploration. There are four hours of lecture and one 3-hour laboratory per week. Requisite: MATH-170 must be taken either as a prerequisite or concurrently.

PHYS-212 PHYSICS FOR SCIENTISTS AND ENGINEERS II 5 Credits
Electricity and magnetism, optics, modern physics. Engineering Physics II is the sequel to Engineering Physics I. Principles of electrodynamics theory, elements of optics, and modern physics are examined using analytic problem solving and laboratory exploration. There are four hours of lecture and one, three-hour laboratory per week. Pre-requisite PHYS-211 with a grade of C or better.

PHYS-290 DIRECTED STUDY IN PHYSICS 1-4 Credits

PHYS-291 WORKSHOP IN PHYSICS 1-4 Credits

PHYS-292 SPECIAL TOPICS IN PHYSICS 1-12 Credits

PHYS-293 SERVICE LEARNING 1-12 Credits

PHYS-295 PRACTICUM IN PHYSICS 1-12 Credits

PHYS-299 RESEARCH ASSISTANTSHIP 1-12 Credits

PHYS-305 AN INTRODUCTION TO MODERN PHYSICS 3 Credits
An introduction to the non-classical physics of the 20th century. Selected topics include the historical development that lead to modern physics, the transitional Bohr model, descriptive elements of quantum mechanics, special relativity, nuclear physics, and elementary particles. Three hours of lecture per week. Pre-requisite: A grade of 'C' or better in PHYS-111 or PHYS-211.

PHYS-390 DIRECTED STUDY IN PHYSICS 1-4 Credits

PHYS-395 PRACTICUM IN PHYSICS 1-12 Credits

PHYS-399 RESEARCH ASSISTANTSHIP 1-12 Credits

PHYS-490 DIRECTED STUDY IN PHYSICS 1-4 Credits

PHYS-491 WORKSHOP IN PHYSICS 1-4 Credits

PHYS-492 SPECIAL TOPICS IN PHYSICS 1-12 Credits

PHYS-495 PRACTICUM IN PHYSICS 1-12 Credits