ways to reason, and that good reasoning is a skill that can be developed and improved. This course may be offered via distance learning. Pass/No Pass Option. C-ID # PHIL 110. CSUGE: A3.

PHI 003  INTRODUCTION TO ETHICS  3.0 UNITS
Total Lecture: 54 hours
Prerequisite: ENG 001A
Acceptable for credit: University of California, California State University
This course critically examines questions of value and obligation. Students explore prominent ethical theories, including Kantianism, the Utilitarians and virtue ethics. The student then applies these ethical theories to case studies, such as bioethics and environmental ethics. Much of the course is devoted to critical thinking and writing skills. This course is approved for credit by exam. Pass/No Pass Option. C-ID # PHIL 120. CSUGE: A3, C2; IGETC: 1B.

PHI 005  INTRODUCTION TO SOCIAL AND POLITICAL PHILOSOPHY  3.0 UNITS
Total Lecture: 54 hours
Acceptable for credit: University of California, California State University
This course introduces students to a critical study of some major social and political problems. What is society? What is a state? What is freedom? What is authority? What is the nature of political obligation? What constitutes justice? What constitutes a right? What are the relationships, if any, between the individual and society? This course is cross-listed as POL 003. This course may be offered via distance learning. Pass/No Pass Option. CSUGE: C2, D2; IGETC: 3B, 4G.

PHYSICS (PHY)

PHY 002B  GENERAL PHYSICS - ELECTRICITY, MAGNETISM AND OPTICS  5.0 UNITS
Total Lecture: 72 hours, Total Lab: 54 hours
Prerequisite: PHY 002A
Acceptable for credit: University of California, California State University
This course is an introduction to quantum physics with an emphasis on the theoretical problems are emphasized at the calculus level. The course content includes thermodynamics, geometrical and wave optics, atomic and modern physics. The dual nature of light is investigated in a series. The course content includes thermodynamics, geometrical and wave motion. Analytical solutions of numerical problems at the trigonometric and algebraic level are emphasized. NOTE: UC credit may be limited. See a counselor. Materials Fee. Grade only. C-ID # PHYS 100S. CSUGE: B1; IGETC: 5A.

PHY 004A  ENGINEERING PHYSICS-MECHANICS  5.0 UNITS
Total Lecture: 72 hours, Total Lab: 54 hours
Prerequisite: MAT 003A
Acceptable for credit: University of California, California State University
This course in mechanics, the first in a series of engineering physics courses, is a calculus-based study of forces, energy and momentum. Kinematic problems are solved using position, velocity and acceleration. Conservation of momentum and energy is applied to moving and interacting systems, rotational mechanics, simple harmonic motion, gravity, mechanical properties of matter, fluid statics and dynamics. Materials Fee. Grade only. C-ID # PHYS 205. CSUGE: B1; IGETC: 5A.

PHY 004B  ENGINEERING PHYSICS-ELECTRICITY AND MAGNETISM  4.0 UNITS
Total Lecture: 54 hours Total Lab: 54 hours
Prerequisite: PHY 004A and MAT 003B
Acceptable for credit: California State University, University of California
This lecture/laboratory course is the second in the calculus-based engineering physics series. The course continues the concept of field theory and develops the concepts of Maxwell's equations. Topics include: Coulomb's Law, Gauss' Law, Electric Potential, Biot-Savart Law, Ampere's Law, and Faraday's Law. Kirchhoff's Laws and AC circuits are introduced. Solutions to numerical and theoretical problems are emphasized at the calculus level. Grade only. C-ID # PHYS 210. CSUGE: B1; IGETC: 5A.

PHY 004C  ENGINEERING PHYSICS-LIGHT AND HEAT  4.0 UNITS
Total Lecture: 54 hours Total Lab: 54 hours
Prerequisite: MAT 003B PHY 004A
Acceptable for credit: California State University, University of California
This lecture/laboratory course is the third semester in the engineering physics series. The course content includes thermodynamics, geometrical and wave optics, atomic and modern physics. The dual nature of light is investigated in lecture and laboratory by the use of interference and diffraction effects. The laws of heat transfer, thermodynamics, and the Carnot cycle are covered. Numerical and theoretical solutions to problems are emphasized. Materials Fee. Grade only. C-ID # PHYS 215. CSUGE: B1; IGETC: 4C.

PHY 004D  ENGINEERING PHYSICS-ATOMIC  2.0 UNITS
Total Lecture: 36 hours
Prerequisite: PHY 004B
Acceptable for credit: University of California, California State University
This course is an introduction to quantum physics with an emphasis on the electronic structure of atoms and solids, waves and particle duality, statistics, band theory, radiation and relativity. This course is approved for credit by exam. Grade only. CSUGE: B1.

PHY 010  INTRODUCTION TO PHYSICS  4.0 UNITS
Total Lecture: 54 hours, Total Lab: 54 hours
Prerequisite: MAT 903, MAT 903M, high school algebra 1 with a C or better, or equivalent
Advisory: MAT 903
Acceptable for credit: University of California, California State University
This is a conceptual course in physics, including the development of fundamental concepts as applied to everyday phenomena, from a limited mathematical perspective, emphasizing verbal logic, critical analysis, and rational thought. The topics included in this course are mechanics, thermodynamics, electricity and magnetism, optics, and modern physics. Grade only. CSUGE: B1; IGETC: 5A.