PHYS 2120
Physics For Life Sciences II
001 TR 2:30PM-4:20PM (Sharon, Y)
002 MWF 9:55AM-11:10AM (Pal, S)
003 MWF 8:30AM-9:45AM (Liu, F)
004 TR 12:30PM-2:20PM (Jevtic, N)
Q2
Spring 2006

COURSE CONTENT: This course will continue with topics in introductory physics following Physics for Life Science I. The basic syllabus is the following: waves, sound, light, optics, electricity and ions, magnetism (motors, etc.), A.C. power, and Applications of some these topics will be drawn from the study of the ear, the eye, microscopes, etc.

The mathematical level of difficulty will be the same as in Physics for Life Science I. As veterans of this course now, you must speak fluent algebra and know a sine from a cosine. We also assume knowledge of vectors, Newton's Laws, energy and momentum.

PREREQUISITES: PHYS 2110 or equivalent, Corequisite: PHYS 2125

LECTURE/DEMONSTRATIONS: This is the central activity of this course; here we introduce new concepts, demonstrate the principles and discuss homework problems. Since there are numerous applications and methods discussed in the text, it is important to attend lectures to understand the more crucial points and emphasis of each topic. Also, homework discussed in lecture. Students should be responsible to find out what was discussed, handed out and collected in lecture.

READING: Textbook

EVALUATION: Weekly homework problem sets, 3 exams and a cumulative final exam
Phys 2125
Physics for Life Science Lab II
001 M 2:10PM-4:55PM(Sharobeam, M)
002 R 2:25PM-5:10PM(Staff)
003 M 6:00PM-8:45PM(Jevtic, N)
004 T 6:00PM-8:45PM(Staff)
005 W 6:00PM-8:45PM(Staff)
006 W 2:10PM-4:55PM(Sharobeam, M)
007 T 11:25AM-2:10PM(Pal, S)
008 R 6:00PM-8:45PM(Staff)
Spring 2006

OBJECTIVE: Mandatory laboratory to accompany Physics for Life Scientists II, PHYS 1220.

COREQUISITE: PHYS 2120

PREREQUISITES: PHYS 2110 or equivalent.
PHYS 2230
PHYSICS II
001 MWF 9:55AM-11:10AM(Lessie,D)
T 10:30AM-12:20PM(Lessie,D)
002 MWF 11:20AM-12:35PM(Lessie,D)
T 12:30PM -2:20PM(Lessie,D)

PREREQUISITES: PHYS 2220. Concurrent registration in PHYS 2235 required.

COURSE CONTENT: Electricity and magnetism, light and optical systems, waves, sound, and electromagnetic waves. Numerous applications on each topic are included to insure a working knowledge of Physics.

CLASS FORMAT: Lectures with demonstrations. Students will be given regular reading and problem assignments that will form a vital component in understanding the concepts in depth. There will be in class tests during the semester and a cumulative final exam.

LABORATORY/FIELD EXPERIENCE: Lab experiments are required in Physics 2235 (co requisite). The experiments allow the student to experience physical phenomena, to develop understanding of the physical ideas and to learn skills. The experiments are integrated with microcomputers, which facilitates the analysis of the results.

EVALUATION: Grades in 3 Exams, Final and homework assignments will decide semester grade.
PHYS 2235
Physics II LAB
001 M 2:10PM-4:55PM (Liu, F)
002 T 2:25PM-5:10PM (Dechiaro, L)
003 T 6:00PM-8:45PM (Dechiaro, L)
004 W 2:10PM-4:55PM (Liu, F)

PREREQUISITES: Students must register concurrently for PHYS 2230, the accompanying physics lecture.

OBJECTIVES: To develop an understanding of experimentation in physics.

COURSE CONTENT: Waves, Electrostatics, the Oscilloscope, D.C. Circuits, Ohms Law, Magnetic Phenomena, AC Circuits, Optics.

ATTENDANCE: Required.

CLASS FORMAT: Laboratory

PAPERS/PROJECTS: Five written reports of the ten laboratory experiments are required.

LABORATORY/FIELDEXPERIENCE: Mandatory laboratory to accompany Physics with Calculus II.

EVALUATION: Grade is based on write-ups of the experiments carried out in this lab.
OBJECTIVE: To learn about the activities in Physics and Engineering at Stockton, and elsewhere.

COURSE CONTENT: Bi-weekly talks by Stockton, Physics Faculty, Physics senior students and invited guests from Stockton, other Universities, or Industry Interest in Physics and Engineering.

ATTENDANCE: Expected

EVALUATION: Grade based purely on attendance
Objectives: To expose students to the interdisciplinary biomedical applications of physics. To teach the fundamentals of radiation physics. Radiation protection, the effects of radiation on biological materials, and the application of these effects in the treatment of cancer. To expose students to the basic understanding of medical imaging modalities including MRI, ultrasound, SPECT and PET.

Prerequisites: Physics 2110 (or PHYS 2220) and MATH 1100.

Attendance: Class attendance is mandatory.

Class Format: The class format will include lecture, and demonstration. Field trips may be organized when appropriate.

LABORATORY/FIELD EXPERIENCE: None

TEXTBOOK: A combination of texts from the biological and the physical sciences will be used. Students may be required to purchase a text. The text has yet to be determined.

PAPERS/PROJECTS: Outside readings may be assigned when appropriate.

EVALUATIONS: Evaluation will be based on test, quiz, and homework.
PHYS 3220-001
Computation Mechanics
Dechiaro, L
MW 3:35PM-5:25PM

COURSE CONTENT: Dynamics and kinematics at an intermediate level aimed at enabling the student to think about physical problems in mathematical terms and to solve such problems. Includes the damped harmonic oscillator, motion under a central force, theory of small vibrations, rotating reference frames, Lagrange's and Hamilton's Equations, and Chartic System.

PREREQUISITES: PHYS 2310. 1 year Calculus or equivalent. MATH 3328 (may be taken concurrently).