

## Physics      PHYS

Division of Science and Allied Health  
 James Collins, Dean  
 South Gym, room 220  
 916-558-2271

NOTE: The University of California has a credit restriction on certain combinations of physics courses. See your counselor for detailed information on the current UC Articulation Agreement.

### Physics (PHYS)

#### PHYS 310      **Conceptual Physics**      **3 Units**

*Prerequisite: None.*

*Advisory: MATH 34 with a grade of "C" or better, or placement through the assessment process.*

*General Education: AA/AS Area IV; CSU Area B1; IGETC Area 5A*

*Course Transferable to UC/CSU*

*Hours: 54 hours LEC*

This course presents the physical laws that tie together the diverse phenomena of nature. This course uses a descriptive approach, with limited use of basic algebra, to increase the students' understanding of the everyday physical world.

#### PHYS 350      **General Physics**      **4 Units**

*Prerequisite: High School Trigonometry or a course with equivalent Trigonometry content or MATH 335 with a grade of "C" or better.*

*General Education: AA/AS Area IV; CSU Area B1; CSU Area B3; IGETC Area 5A*

*Course Transferable to UC/CSU*

*Hours: 54 hours LEC; 54 hours LAB*

This course is a non-calculus based survey of general physics. It is designed for biological science students, including those in pre-medical, pre-dental, optometry, agricultural, and forestry programs. Topics include kinematics, Newton's Laws, dynamics of rigid bodies, work and energy, momentum, rotational motion, fluids, thermodynamics, and oscillatory motion (including mechanical waves and sound). (C-ID PHYS 105)

#### PHYS 360      **General Physics**      **4 Units**

*Prerequisite: PHYS 350 with a grade of "C" or better*

*General Education: AA/AS Area IV; CSU Area B1; CSU Area B3; IGETC Area 5A*

*Course Transferable to UC/CSU*

*Hours: 54 hours LEC; 54 hours LAB*

This course is a non-calculus based survey of general physics. It is designed for biological science students, including those in pre-medical, pre-dental, optometry, agricultural, and forestry programs. Topics include electric charge, electric fields, AC and DC circuit theory, electromagnetism, optics, wave theory, and quantum physics. (C-ID PHYS 110)

#### PHYS 410      **Mechanics of Solids and Fluids**      **5 Units**

*Prerequisite: MATH 400 with a grade of "C" or better*

*Corequisite: MATH 401*

*General Education: AA/AS Area IV; CSU Area B1; CSU Area B3; IGETC Area 5A*

*Course Transferable to UC/CSU*

*Hours: 54 hours LEC; 54 hours LAB; 18 hours DIS*

Topics covered include linear and rotational motion, Newton's laws, dynamics of rigid bodies, harmonic motion, and liquids. This course is for physics, mathematics, chemistry, architecture, and engineering majors. (C-ID PHYS 205)

#### PHYS 420      **Electricity and Magnetism**      **5 Units**

*Prerequisite: MATH 401 and PHYS 410 with grades of "C" or better*

*General Education: AA/AS Area IV; CSU Area B1; CSU Area B3; IGETC Area 5A*

*Course Transferable to UC/CSU*

*Hours: 54 hours LEC; 54 hours LAB; 18 hours DIS*

This course presents an in-depth treatment of electricity and magnetism and stresses problem-solving. Topics covered include charge and electric force, electric fields, electrical potential, magnetism, electromagnetic induction, and DC and AC circuit theory. This course is for physics, mathematics, chemistry, architecture, engineering, and computer science majors. (C-ID PHYS 210)

#### PHYS 430      **Heat, Waves, Light and Modern Physics**      **5 Units**

*Prerequisite: PHYS 410 with a grade of "C" or better*

*Corequisite: MATH 402*

*General Education: AA/AS Area IV; CSU Area B1; CSU Area B3; IGETC Area 5A*

*Course Transferable to UC/CSU*

*Hours: 54 hours LEC; 54 hours LAB; 18 hours DIS*

This course examines thermodynamics, wave theory, light and sound, geometrical and physical optics (including lenses and mirrors), quantum physics, and high-energy physics. The treatment of topics would be most appropriate for physics, mathematics, chemistry, architecture, and engineering majors. (C-ID PHYS 215)

#### PHYS 494      **Topics in Physics**      **.5-4 Units**

*Prerequisite: None.*

*Course Transferable to UC/CSU*

*Hours: 72 hours LEC*

This course is designed to enable both science and non-science students to learn about recent developments in physics. Selected topics would not include those that are part of current course offerings. UC transfer credit will be awarded only after the course has been evaluated by the enrolling UC campus. The units completed for this course cannot be counted towards the minimum 60 units required for admissions.

**PHYS 495 Independent Studies in Physics 1-3 Units**

*Prerequisite: None.*

*Course Transferable to CSU*

*Hours: 162 hours LAB*

This course is designed to allow a student or group of students to study selected topics or areas of physics that go beyond the other courses offered by the Physics department. Topics or areas of study are chosen by mutual agreement between the students and the professor overseeing the course. UC transfer credit will be awarded only after the course has been evaluated by the enrolling UC campus. The units completed for this course cannot be counted towards the minimum 60 units required for admission to UC.

**PHYS 499 Experimental Offering in Physics .5-4 Units**

*Prerequisite: None*

*Course Transferable to UC/CSU*

*Hours: 54 hours LEC; 36 hours LAB*

See Experimental Offering. UC transfer credit will be awarded only after the course has been evaluated by the enrolling UC campus. The units completed for this course cannot be counted towards the minimum 60 units required for admissions.