

PE 229 Lifeguarding (1.5)
1 1/2 hours lecture
Prerequisite: Ability to swim 500 yards continuously
Transfer acceptability: CSU; UC
 Follows American Red Cross curriculum lifeguard training and professional rescuer CPR. National certifications can be earned upon successful completion of two topic areas. An individual will have basic preparation for aquatic lifeguard job opportunities in California.

PE 230 Lifeguarding and Emergency Response (3)
3 hours lecture
Prerequisite: Ability to swim 500 yards continuously
Transfer acceptability: CSU; UC
 Follows American Red Cross curriculum lifeguard training, professional rescuer CPR, and emergency response. National certifications can be earned upon successful completion of all three topic areas. Prepares an individual for aquatic lifeguard job opportunities in California.

PE 231 Water Safety Instruction (3)
3 hours lecture
Transfer acceptability: CSU; UC
 American Red Cross Instructor candidate training and water safety instruction. Follows the National Red Cross instructor course, learning levels of basic swim instruction, aquatic activities, and emergency rescue. National certifications can be earned by students 17 years of age or older upon successful completion of topics. Prepares an individual for teaching job opportunities at an aquatic facility.

PE 232 Teaching Swimming (1,1.5)
2 or 3 hours lecture/laboratory
Transfer acceptability: CSU; UC
 Techniques for teaching swimming. Practical experience teaching beginning and intermediate swimming classes under supervision of college instructor.

PE 295 Directed Study in Physical Education (1,2,3)
3, 6, or 9 hours laboratory
Prerequisite: Approval of project or research by department chairperson/director
Note: May be taken 4 times
Transfer acceptability: CSU
 Independent study for students who have demonstrated skills and/or proficiencies in Physical Education subjects and have the initiative to work independently on projects or research outside the context of regularly scheduled classes. Students will work under the personal supervision of an instructor.

Physical Science (PHSC)

Contact the Physics and Engineering Department for further information, (760) 744-1150, ext. 2505

COURSE OFFERINGS

PHSC 100 Introduction to Physical Science (3)
3 hours lecture
Transfer acceptability: CSU; UC – No credit for students with prior lecture credit in ASTR, CHEM, GEOL or PHYS
 The study of selected topics from the fields of astronomy, geology, physics, chemistry, and their related sciences through lectures, films, and demonstrations. A general education course designed particularly for non science majors. For teacher training see PHSC 101.

PHSC 100L Introduction to Physical Science Laboratory (1)
3 hours laboratory
Prerequisite: Completion of, or concurrent enrollment in, PHSC 100
Transfer acceptability: CSU; UC – No credit for students with prior lab credit in ASTR, CHEM, GEOL or PHYS
 The study of selected topics from the fields of astronomy, geology, physics, chemistry, and their related sciences through lab exercises. A general education course designed particularly for non-science majors. For teacher training see PHSC 101L.

PHSC 101 Principles of Physical Science (3)
3 hours lecture
Transfer acceptability: CSU
 The study of selected topics from the fields of physics and chemistry and their related sciences through lectures, films, and demonstrations. A general education course designed particularly for non science majors. Especially recommended for teacher training.

PHSC 101L Principles of Physical Science Laboratory (1)
3 hours laboratory
Prerequisite: Completion of, or concurrent enrollment in, PHSC 101
Transfer acceptability: CSU
 The study of selected topics from the fields of physics and chemistry and their related sciences through lab exercises. A general education course designed particularly for non-science majors; not open to majors in physics, chemistry, or engineering. Especially recommended for teacher training.

Physics (PHYS)

Contact the Physics and Engineering Department for further information, (760) 744-1150, ext. 2505

COURSE OFFERINGS

*UC credit limitations:

- No credit for PHYS 101 or 102 if taken after 120, 200, or 230
- PHYS 120 and 121 combined with 200, 201, 230, 231, 232: maximum credit, one series
- PHYS 200 and 230 combined: maximum credit, one course
- PHYS 201 and 231 combined: maximum credit, one course

PHYS 101 Introduction to Physics (4)
3 hours lecture-3 hours laboratory
Prerequisite: MATH 50 or one year of high school Algebra
Note: Not open to students with prior credit in PHYS 100, 110, 115, 120, 125, 230, 231, and 232
Transfer acceptability: CSU; UC*
 An introductory survey course in classical and modern physics. Not intended for science majors.

PHYS 102 Introduction to Physics (Lecture) (3)
3 hours lecture
Prerequisite: MATH 50 or one year of high school Algebra
Note: Not open to students with prior credit in PHYS 101, 110, 115, 120, 125, 230, 231, and 232
Transfer acceptability: CSU; UC*
 An introductory survey course in classical and modern physics. Not intended for science majors.

PHYS 120 General Physics (4)
3 hours lecture-3 hours laboratory
Prerequisite: MATH 110
Recommended preparation: MATH 115
Transfer acceptability: CSU; UC*; CAN PHYS 2; PHYS 120+121= CAN PHYS SEQ A
 The fundamental principles of classical mechanics, wave motion, sound, thermodynamics, and fluids.

PHYS 121 General Physics (4)
3 hours lecture-3 hours laboratory
Prerequisite: PHYS 120
Transfer acceptability: CSU; UC*; CAN PHYS 4; PHYS 120+121= CAN PHYS SEQ A
 A second semester continuation of PHYS 120. The fundamental principles of optics, electricity, magnetism, and modern physics.

PHYS 200 Fundamentals of Physics (5)

4 hours lecture-3 hours laboratory

Prerequisite: Completion of, or concurrent enrollment in, MATH 140**Note:** PHYS 200-201 series not recommended for majors in engineering, computer science or physics; PHYS 230 series recommended for majors in engineering, computer science, or physics.**Transfer acceptability:** CSU; UC*

A calculus-based course in classical mechanics, waves, sound, fluids and thermodynamics, with an emphasis on life science, pre-professional, and architectural fields.

PHYS 201 Fundamentals of Physics (5)

4 hours lecture-3 hours laboratory

Prerequisite: PHYS 200**Recommended preparation:** Completion of, or concurrent enrollment in, MATH 141**Note:** PHYS 200-201 series not recommended for majors in engineering, computer science or physics; PHYS 230 series recommended for majors in engineering, computer science, or physics.**Transfer acceptability:** CSU; UC*

A calculus-based course in classical electromagnetism, optics and atomic physics, with an emphasis on life science, pre-professional, and architectural fields.

PHYS 230 Principles of Physics (5)

4 hours lecture-3 hours laboratory

Prerequisite: Completion of, or concurrent enrollment in, MATH 141**Recommended preparation:** PHYS 120**Transfer acceptability:** CSU; UC*; CAN PHYS 8; PHYS 230+231+ 232=CAN PHYS SEQ B

Classical mechanics, thermodynamics and fluid dynamics. Required for students whose major field is physics, chemistry, or engineering.

PHYS 231 Principles of Physics (5)

4 hours lecture-3 hours laboratory

Prerequisite: PHYS 230 and completion of, or concurrent enrollment in, MATH 205**Recommended preparation:** PHYS 121**Transfer acceptability:** CSU; UC*; CAN PHYS 12; PHYS 230+231+ 232=CAN PHYS SEQ B

Classical electromagnetism, electromagnetic waves, and optics. Required for students whose major field is physics, chemistry, or engineering.

PHYS 232 Principles of Physics (4)

3 hours lecture-3 hours laboratory

Prerequisite: PHYS 231 and MATH 205**Transfer acceptability:** CSU; UC*; PHYS 230+231+232=CAN PHYS SEQ B

Modern Physics. Required for students whose major field is physics, chemistry, or engineering.

PHYS 295 Directed Study in Physics (1,2,3)

3, 6, or 9 hours laboratory

Prerequisite: Approval of project or research by department chairperson**Note:** May be taken 4 times**Transfer acceptability:** CSU

Designed for the student who has demonstrated a proficiency in physics subjects and the initiative to work independently on a particular sustained project which does not fit into the context of regularly scheduled classes.

COURSE OFFERINGS**POSC 100 Introduction to Political Science (3)**

3 hours lecture

Transfer acceptability: CSU; UC

Introduction to the scope and methods of political science; basic political concepts and policies; comparative government institutions, stressing the United States; an overview of political theories, international politics, and political economy.

POSC 101 Introduction to Politics and American Political Institutions (3)

3 hours lecture

Note: This course plus POSC 102 meets the State requirement in American History and Institutions.**Transfer acceptability:** CSU; UC

A study of the development of American political institutions, the basic features of the Constitution, and major court interpretations that affect our lives today. Special attention will be given to evolution of political rights and individual liberties, the electoral process and fundamental concepts of democracy, liberty, diversity, and equality.

POSC 102 Introduction to United States and California Governments (3)

3 hours lecture

Note: This course plus POSC 101 meets the State requirement in American History and Institutions.**Transfer acceptability:** CSU; UC

An examination of the US Constitution as it relates to the major institutions of government: the Congress, the Presidency, and the Supreme Court. It also emphasizes social, economic, and foreign policy so that students will have an understanding of the issues they face in the contemporary era. California history and government, another course component, will be compared and contrasted to the national political system.

POSC 110 Introduction to World Politics (3)

3 hours lecture

Transfer acceptability: CSU; UC

Sources and uses of power in the arena of international politics. Causes and consequences of 20th century wars. The balance of power, history, geography, military and economic potential will be examined to show their impact on foreign policies of the United States, Europe, Russia, Japan, China and less-developed states. Uses of military force, economic leverage, diplomacy, law, etc., discussed as approaches to limit war.

POSC 120 California Government (1)

1 hour lecture

Transfer acceptability: CSU

Intended for students who have completed the American History and Institutions requirements for the A.A. Degree or CSU General Education, but have not met the California Constitution requirement. Organization and operation of California state and local government. Stress upon citizen participation in the decision making process.

POSC 125 Contemporary World Problems (3)

3 hours lecture

Transfer acceptability: CSU; UC

Focus is on three issue-areas: war and group conflict; population growth and movement; and change and cultural values. Other current issues may also be examined.

POSC 130 Introduction to Public Administration (3)

3 hours lecture

Transfer acceptability: CSU; UC

A survey of the key issues in public administration, urban planning, public personnel administration, and public safety with an emphasis on governmental structure and the public decision making process as it pertains to the effectiveness of criminal justice policies, zoning, and land use considerations.

Physiology

See Zoology

Political Science (POSC)

Contact the Economics, History and Political Science Department for further information, (760) 744-1150, ext. 2412