DT 104   SolidWorks Advanced 3D Design and Presentation  (3)
1½ hours lecture - 4½ hours laboratory
Prerequisite: A minimum grade of 'C' in DT/ENGR 103
Note: Cross listed as ENGR 104
Transfer acceptability: CSU
Advanced theory and hands-on operation of solid and parametric three-dimensional models. Emphasis is placed on creating molds, advanced sheet metal design and developing dynamic assemblies.

DT 110   Technical Drafting I with AutoCAD  (3)
1½ hours lecture - 4½ hours laboratory
Prerequisite: A minimum grade of 'C' in DT/ENGR 101, or concurrent enrollment in DT/ENGR 101
Note: Cross listed as ENGR 110.
Fundamentals of drafting including lettering, sketching, geometric constructions, orthographic projections, basic dimensioning, sectional views and auxiliary views. Drafting will be performed on the computer using AutoCAD, SolidWORKS, and Creo software.

DT 111   Technical Drafting II with AutoCAD  (3)
1½ hours lecture - 4½ hours laboratory
Prerequisite: A minimum grade of 'C' in DT/ENGR 110
Note: Cross listed as ENGR 111.
Transfer acceptability: CSU
Advanced drafting practices using customized AutoCAD software. Basic studies will include pictorial drafting, descriptive geometry, and revolitional. Working/ shop drawings in topography, developments, cabinet/millwork, structural steel, and welding will be performed. Emphasis is placed on increased productivity by customizing AutoCAD to the student's requirements.

DT 117   Geometric Dimensioning and Tolerancing  (2)
1 hour lecture - 3 hours laboratory
Note: Cross listed as ENGR/WELD 117
Transfer acceptability: CSU
An introduction to geometric dimensioning and tolerancing ASME Y14.5-2009. Students will learn to identify, use appropriate geometric symbols and techniques of geometric dimension, and produce industrial quality drawings. Students will also learn to measure and verify geometric dimensions and tolerances of manufactured items.

DT 151   CAD/CAM Machining  (3)
1½ hours lecture - 4½ hours laboratory
Note: Cross listed as ENGR/WELD 151
Transfer acceptability: CSU
Hands-on operation of importing three-dimensional solid and parametric three-dimensional models into CAD/CAM operations.

DT 180   3D Studio Max – Introduction to 3D Modeling and Animation  (3)
1½ hours lecture - 4½ hours laboratory
Transfer acceptability: CSU
An overview of 3D Studio Max. Hands-on operation of the software to produce basic three-dimensional models and basic technical animations.

DT 182   3D Studio Max – Advanced 3D Modeling and Animation  (3)
1½ hours lecture - 4½ hours laboratory
Prerequisite: A minimum grade of 'C' in DT 180
Transfer acceptability: CSU
Advanced 3D Studio Max applications to create special visual effects for high-end image production. Advanced keyframing, time-based editing, controllers, and video post will be employed to master state-of-the-art rendering and animation. The class is structured to help students start using 3D Studio Max in a production environment.

DT 184   RealTime 3D Technical/Game Animation  (2)
1 hour lecture - 3 hours laboratory
Transfer acceptability: CSU
Students will create interactive 3D applications using a direct X base real time engine for the game industry, computer based training and product visualization.

DT 196   Special Problems in Computer Aided Drafting  (1, 2, 3)
3, 6, or 9 hours laboratory
Prerequisite: Completion of, or concurrent enrollment in ES 100
Transfer acceptability: CSU
An advanced course designed to aid the student in the enrichment of an area of concentration in AutoCAD and third party drafting software and is of a research nature. Content to be determined by the need of the student under signed contract with the instructor.

DT 197   Drafting Technology Topics  (0.5 - 4)
Units awarded in topics courses are dependent upon the number of hours required of the student. Any combination of lecture and/or laboratory may be scheduled by the department. Refer to Class Schedule.
Transfer acceptability: CSU
Topics in Drafting. See class schedule for specific topic covered. Course title will designate subject covered.

DT 226   Printed Circuit Board Design  (3)
1½ hours lecture - 4½ hours laboratory
Note: Cross listed as ENGR 226
Transfer acceptability: CSU
Instruction in printed circuit board design generally required for entry level position in the electronic industry. Includes artwork and complete documentation for analog and digital multi-layer, flexible and high-speed boards using current IPC standards. Drafting will be performed on the computer using high-end printed circuit board software.

DT 227   Advanced Printed Circuit Board Design  (3)
1½ hours lecture - 4½ hours laboratory
Prerequisite: A minimum grade of 'C' in DT/ENGR 226
Note: Cross listed as ENGR 227
Transfer acceptability: CSU
Advanced problems and instruction in printed circuit board design generally required for entry-level position in the electronic industry. Special emphasis will be placed on advanced applications including surface mount technology. Includes artwork and complete documentation for analog and digital multi-layer, flexible and high-speed boards using current IPC standards. Drafting will be performed on the computer using AutoCAD and PADS software.

Earth Sciences (ES)

Contact the Earth, Space, and Aviation Sciences Department for further information.
(760) 744-1150, ext. 2512
Office: NS-110G

COURSE OFFERINGS

ES 100   The Earth as a System: Case Studies of Change in Space and Time  (3)
3 hours lecture
Transfer acceptability: CSU; UC
C-ID GEOL 120
An overview of the fields of geology, geography, oceanography, and astronomy that approach Earth as a system. Areas of study include those related to plate tectonics, earthquakes, volcanoes, geologic time, landscape evolution, weather systems, ocean circulation, climate change, and exploration of the solar system.

ES 100L   Earth Systems Laboratory  (1)
3 hours laboratory
Prerequisite: Completion of, or concurrent enrollment in ES 100
Transfer acceptability: CSU; UC
C-ID GEOL 120L
Laboratory and field investigations of the Earth as a system including the geosphere, atmosphere, hydrosphere, and exosphere (solar system) as well as an assessment of society's role in Earth's processes. Focuses on the physical and chemical systems of the Earth such as the tectonic cycle, rock cycle, hydrologic cycle, weather, and climate.
ECON 101 Principles of Economics (Macro) (3) 3 hours lecture
Prerequisite: A minimum grade of ‘C’ in MATH 56, or MATH 60, or eligibility determined through the math placement process.
Transfer acceptability: CSU; UC
C-ID ECON 202
Descriptive analysis of the structure and functioning of the economy of the United States. Emphasizes national income, problems of inflation and unemployment, the role of government, specifically fiscal and monetary policies, money and banking, economic growth, and analysis of global issues.

ECON 102 Principles of Economics (Micro) (3) 3 hours lecture
Prerequisite: A minimum grade of ‘C’ in MATH 56, or MATH 60, or eligibility determined through the math placement process.
Transfer acceptability: CSU; UC
C-ID ECON 201
Analyzes decision-making of individuals and groups as it relates to economic behavior. Examines market structures and resource markets under varying degrees of competition. Investigates causes of market failures such as public goods and externalities. Includes international trade and finance.

ECON 110 Comparative Economic Systems (3) 3 hours lecture
Transfer acceptability: CSU; UC
A study of various types of economic institutions and decision-making systems. Emphasis is given to the theories of capitalism, Marxian economics, and various types of social market economies. The theories will be applied to the study of several countries, including the former Soviet Union, Japan, China, Mexico, and a Western European country, as they compare to the United States.

ECON 115 Economic History of the United States (3) 3 hours lecture
Transfer acceptability: CSU; UC
Development of the United States economy from the colonial period to the present. Emphasis will be on the evolution of such institutions as labor unions, business, banking, and government. Economic theory will be used to analyze historical problems.

ECON 120 Environmental Economics (3) 3 hours lecture
Transfer acceptability: CSU; UC
A study of major environmental issues from an economics perspective. Models will be developed and used to explore case studies on issues and policies. A strong emphasis will be placed on resource management problems. Course will provide a rationale for government involvement in the market-based economy.

ECON 125 Introduction to Labor Studies (3) 3 hours lecture
Transfer acceptability: CSU; UC
An introduction to Labor Studies. The focus is on how fundamental work is to human relations and the creation of communities. Moreover, the course examines how work, workers, and organizations and institutions shape and define the employment relationship. Surveys how class, race, ethnicity, and gender impact work; the role of corporations; the role of unions; the global economy, and the future of work.

ECON 197 Economics Topics (.5 - 4) Units awarded in topics courses are dependent upon the number of hours required of the student. Any combination of lecture and/or laboratory may be scheduled by the department. Refer to Class Schedule.
Transfer acceptability: CSU; UC – Credit determined by UC upon review of course syllabus.
Topics in Economics. See Class Schedule for specific topic offered. Course title will designate subject covered.