

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
Transfer acceptability: CSU
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 revolutions. 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 Real Time 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
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 (.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 positions 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.

ES 115 Natural Disasters and Environmental Hazards (3)

3 hours lecture

Note: Cross listed as GEOG 115**Transfer acceptability:** CSU; UC

Examination and analysis of natural disasters and environmental hazards including earthquakes, tsunamis, volcanic activity, hurricanes, flooding, air and water pollution, and global climate change.

Economics (ECON)

Contact the Economics, History and Political Science Department for further information.

(760) 744-1150, ext. 2412

Office: MD-375

For transfer information, consult a Palomar College Counselor.

Associate in Arts Degrees -

AA Degree requirements are listed in Section 6 (green pages).

- Economics

Certificates of Achievement -

Certificate of Achievement requirements are listed in Section 6 (green pages).

- Economics

PROGRAM OF STUDY**Economics**

Provides lower division preparation for pursuing advanced studies in economics or prepares a complementary base for many professions and areas of interest including business administration, law, engineering, journalism, public administration, and environmental studies. Transfer students should consult the four year college or university catalog for specific requirements or see a Palomar College counselor.

**A.A. DEGREE MAJOR OR
CERTIFICATE OF ACHIEVEMENT**

| Program Requirements | | Units |
|------------------------------------|---------------------------------------|-----------|
| ECON 101 | Principles of Economics (Macro) | 3 |
| ECON 102 | Principles of Economics (Micro) | 3 |
| Group I (Select 6 units) | | |
| ECON 110 | Comparative Economic Systems | 3 |
| ECON 115 | Economic History of the United States | 3 |
| ECON 120 | Environmental Economics | 3 |
| ECON 125 | Introduction to Labor Studies | 3 |
| ECON 295 | Directed Study in Economics | 3 |
| IBUS 100 | Intro to Int'l Business Management | 3 |
| Group II (Select 7-8 units) | | |
| MATH 110 | College Algebra | 4 |
| MATH 120 | Elementary Statistics | 4 |
| MATH 130 | Calculus for the Social Sciences | 4 |
| Group III (Select 3 units) | | |
| CSIT 105 | Computer Concepts and Applications | 3 |
| PHIL 200 | Critical Thinking | 3 |
| TOTAL UNITS | | 23 |

COURSE OFFERINGS**ECON 100 Basic Economics (3)**

3 hours lecture

Note: Not intended for programs which require Principles of Economics ECON 101 and/or 102**Transfer acceptability:** CSU; UC – no credit if taken after ECON 101 or 102

A study of the American economic system as it affects the decision making of the individual as income earner, taxpayer, and voter. Emphasis is on application of the analyses of supply and demand, productivity, wages and the labor force, the money and banking system, the role of government, and domestic and international economic issues.

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 the 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.