

## 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	3
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** 22 - 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

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

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.

**ECON 295 Directed Study in Economics (1, 2, 3)**

1, 2, or 3 hours lecture

**Transfer acceptability:** CSU; UC – Credit determined by UC upon review of course syllabus.

Independent study for students who have demonstrated a proficiency in economics subjects and have the initiative to work independently on projects or research that does not fit into the context of regularly scheduled classes. Students will work under the personal supervision of an instructor.

## Emergency Medical Education (EME)

Contact the Emergency Medical Education Department for further information.  
(760) 744-1150, ext. 8150  
Office: ESC-808

## Associate in Science Degrees -

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

- Paramedic Training

## Certificates of Achievement -

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

- Paramedic Training

**Certificates of Proficiency -**

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

- EMT Basic

The Paramedic Training program is accredited by the Committee on Accreditation of Educational Programs for Emergency Medical Services Professionals.

**College Credit for Certified Paramedics**

This policy is for granting college credit for certified paramedics toward an Associate in Arts degree in Emergency Medical Technician Paramedic. In order for an already certified Paramedic to be granted college units for his/her certification, the following requirements must be met:

1. The EMT P must be currently certified in California as an EMT P.
2. The EMT P must be currently registered at Palomar College.

**EMT P Credit**

1. The student may receive a maximum of 40.5 units for EMT P training, which is equal to the number of units given at Palomar College for the EMT P courses.
2. The student may receive a maximum of 7 units for former EMT B training, which is equal to the number of units given at Palomar College for the EMT B courses.
3. The student may not receive duplicate credit for any other EMT B or EMT P courses.

**Degree Requirements**

The Associate in Science degree in Emergency Medical Technician Paramedic requires 60 units. The following criteria must be met:

1. 30 units must be issued by an accredited college on a letter grade basis, of which 12 units must be completed at Palomar College.
2. All other general education and competency requirements for the Associate in Science degree as provided in the college catalog must be met.
3. When the student has completed the general education and competency requirements for the Associate in Science degree and the 12 units required to be completed at Palomar College, the student will be awarded unit credit for education/training received in becoming an EMT P.

Paramedics interested in taking advantage of this policy should contact the Emergency Medical Education Department at (760) 744 1150, ext. 8150. Paramedics will be required to provide a copy of his or her paramedic license and course completion certificate for verification of paramedic licensure. Paramedics must also send prior college transcripts to the College and make an appointment with the Counseling Department at (760) 744-1150, ext. 2179 for evaluation of general education requirements.

**PROGRAMS OF STUDY**

**EMT Basic**

This program prepares the student with the knowledge and skills necessary to take the National Registry EMT examination and enter the workforce in the State of California.

**CERTIFICATE OF PROFICIENCY**

Program Requirements	Units
EME 100/HE 104 Emergency Medical Responder	3
EME 106 Emergency Medical Technician (Lecture)	6
EME 106L Emergency Medical Technician Skills (Laboratory)	1.5
<b>TOTAL UNITS</b>	<b>10.5</b>

**Paramedic Training**

The Paramedic Program prepares the student in all elements of prehospital advanced life support. Upon successful completion of the program, the student is eligible to take the State of California EMT-P certification exam, which is the National Registry Emergency Medical Technician-Paramedic Exam.

**Admission to the program is by special application.**

To be eligible for consideration, the applicant must:

1. Have 6 months full-time pre-hospital experience or equivalent as an EMT Basic.
2. Be eligible for admission to Palomar College.
3. Meet academic requirements outlined in the Paramedic Program brochure produced by the EME Program.

**AND**

4. Have completed ZOO 145 with a grade of 'C' or better and EME 175 and EME 175L with a "B" or better.

**Prerequisite Courses**

Course	Description	Units
EME 106	Emergency Medical Technician (Lecture)	6
EME 106L	Emergency Medical Technician Skills (Laboratory)	1.5
EME 175	Paramedic Preparation (Lecture)	2
EME 175L	Paramedic Preparation Skills (Laboratory)	1
ZOO 145	Introduction to Anatomy and Physiology	3

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

Students must achieve a minimum score of 80% in each of the required courses in order to continue in the program.

**Program Requirements**

Course	Description	Units
<b>Students must achieve a minimum score of 80% in each of the required courses in order to continue in the program.</b>		
EME 206	Introduction to Paramedic Training (Lecture)	5.5
EME 206L	Introduction to Paramedic Training (Laboratory)	1.5
EME 207	Paramedic Medical Training (Lecture)	10
EME 207L	Paramedic Medical Skills (Laboratory)	2
EME 208	Paramedic Trauma Training (Lecture)	4.5
EME 208L	Trauma Skills (Laboratory)	1
EME 209	Paramedic Obstetrical and Pediatric Training (Lecture)	2.5
EME 209L	Paramedic Obstetrical and Pediatric Skills (Laboratory)	1
EME 210	Hospital Clinical Experience	4
EME 211	Clinical Integration I	1.5
EME 212	Clinical Integration II	1.5
EME 215	Field Internship	9
<b>TOTAL UNITS</b>		<b>44</b>

Note: EME 220, 223, and/or 224 are to be taken by students who have not satisfactorily met program requirements. The EME Department will determine which course or courses should be taken and the number of hours required to make up the deficiencies.

**COURSE OFFERINGS**

Courses numbered under 100 are not intended for transfer credit. EME courses may not be taken as an audit.

<b>EME 55</b>	<b>CPR for Health Care Providers</b>	<b>(.5)</b>
	½ hour lecture	
<b>Note: Pass/No Pass grading only</b>		
Cardio-pulmonary resuscitation (CPR) course for one person CPR, two person CPR, child CPR, infant CPR, AED, obstructed airway, BVM, and mouth-to-mask ventilation based on current American Heart Association standards.		

- EME 100 Emergency Medical Responder (3)**  
3 hours lecture  
**Note:** Cross listed as HE 104  
**Transfer acceptability:** CSU; UC  
C-ID KINE 101  
Covers national curriculum for Emergency Medical Responder (EMR) training. Includes the study and application of emergency medical skills and procedures, including basic anatomy and physiology, terminology, and prevention of disease transmission. CPR certification from the American Heart Association.
- EME 106 Emergency Medical Technician (Lecture) (6)**  
6 hours lecture  
**Prerequisite:** Current American Heart Association CPR for Health Care Providers and Emergency Medical Response cards or equivalent, and must be age 18 by the first day of class  
**Corequisite:** EME 106L  
**Note:** May not be taken for Pass/No Pass grading  
**Transfer acceptability:** CSU  
The study of EMT theory and knowledge required for identification and treatment of pre-hospital emergencies. The course prepares the student for National Registry, California, and San Diego County EMT certification.
- EME 106L Emergency Medical Technician Skills (Laboratory) (1.5)**  
4½ hours laboratory  
**Prerequisite:** Current American Heart Association CPR for Health Care Providers CPR and Emergency Medical Response cards or equivalent, and must be age 18 on the first day of EME 106  
**Corequisite:** EME 106  
**Note:** Pass/No Pass grading only  
**Transfer acceptability:** CSU  
Application of skills required for treatment of pre-hospital emergencies. This course prepares the student for National Registry, California and San Diego County EMT certification. Student is required to complete 24 hours supervised ambulance and emergency department observation.
- EME 116 Emergency Medical Technician Refresher Course (1.5)**  
1½ hour lecture  
**Prerequisite:** Possess a valid current EMT-B, EMT-II or EMT-P certificate, or have possessed one within the last two years  
**Note:** Pass/No Pass grading only  
**Transfer acceptability:** CSU  
Review of basic EMT material and update of new material and techniques. Meets State of California requirements for EMT-B recertification continuing education units. An Optional NREMT-B Recertification Exam available the day after the class ends.
- EME 125 EMT Interface (5)**  
2 hours lecture - 9 hours laboratory  
**Prerequisite:** A minimum grade of 'C' in EME 106 or EMT Basic, or concurrent enrollment in EME 106  
**Note:** Pass/No Pass grading only  
**Transfer acceptability:** CSU  
Necessary skills to take the EMT Basic from the classroom to the work environment. Covers county EMS legalities, and provides more in-depth knowledge and skills for EMS personnel to improve success and advancement in the EMS workforce.
- EME 175 Paramedic Preparation (2)**  
2 hours lecture  
**Prerequisite:** Current EMT with a minimum of 3 months full time pre-hospital experience  
**Corequisite:** EME 175L  
**Transfer acceptability:** CSU  
An overview of paramedic-level assessment skills combined with appropriate paramedic-level anatomy, physiology, and treatment relevant to the disease processes studied.
- EME 175L Paramedic Preparation Skills (Laboratory) (1)**  
3 hours laboratory  
**Prerequisite:** Current EMT with a minimum of 3 months full time pre-hospital experience  
**Corequisite:** EME 175  
**Note:** Pass/No Pass grading only  
**Transfer acceptability:** CSU  
Performance of EMT skills combined with appropriate paramedic-level anatomy, physiology and treatment relevant to the disease processes studied.
- EME 196 Special Problems in Field Internship (3, 3.5, 4, 4.5, 5)**  
9, 10½, 12, 13½, or 15 hours laboratory  
**Corequisite:** EME 210 or EME 215  
**Transfer acceptability:** CSU  
Application of skills and knowledge necessary for student to successfully complete either the Clinical or Field Internship of Paramedic Training. This is for a student who needs to be extended up to 10 shifts to allow fulfillment of EME 210 or 215 course obligations and requires an individual student specific contract.
- EME 197A Emergency Medical Education Workshop: Emergency Medical Technician-Paramedic (.5-6)**  
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  
Workshops to provide upgrading of knowledge and skills relative to paramedics. Will provide paramedic continuing education hours for classroom time. See Class Schedule for specific topic covered. Course title will designate subject covered.
- EME 197B Emergency Medical Education Workshop: Emergency Medical Technician-Basic (.5-6)**  
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  
Workshops to provide upgrading of knowledge and skills relative to EMT's. Will provide EMT continuing education hours for classroom time as indicated by topic. See Class Schedule for specific topic covered. Course title will designate subject covered.
- EME 197E Emergency Medical Education Workshop: General (.5-6)**  
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  
Innovative and creative aspects updating Emergency Medical Education professions. See Class Schedule for specific topic covered. Course title will designate subject covered.
- EME 200 Advanced Cardiac Life Support (1)**  
1 hour lecture  
**Prerequisite:** Current CPR for Health Care Providers Certificate or "BLS" CPR card and must be an M.D., R.N. or EMT-P  
**Note:** Pass/No Pass grading only  
**Transfer acceptability:** CSU  
Advanced Cardiac Life Support knowledge and skills necessary to provide the appropriate early treatment for cardiopulmonary arrest. Based on current American Heart Association guidelines.
- EME 201 Pediatric Advanced Life Support (1)**  
1 hour lecture  
**Prerequisite:** Current CPR for Health Care Providers Certificate or "BLS" CPR card and must be an M.D., R.N., or EMT-P  
**Transfer acceptability:** CSU  
Pediatric Advanced Life Support knowledge and skills necessary to provide the appropriate early treatment for pediatric emergencies. Based on current American Heart Association guidelines.

- EME 202 Prehospital Trauma Life Support (1)**  
1 hour lecture  
**Prerequisite:** Current CPR for Health Care Providers Certificate or "BLS" CPR card and must be an M.D., R.N. or EMT-P  
**Note:** Pass/No Pass grading only  
**Transfer acceptability:** CSU  
Knowledge and skills taught to provide prehospital trauma life support appropriate for the care of the trauma patient. National Association of Emergency Medical Technicians based course.
- EME 203 Paramedic Challenge (Lecture) (2)**  
2 hours lecture  
**Prerequisite:** RN, MD, PA or former Paramedic who meets State of California challenge requirements  
**Corequisite:** EME 203L  
**Note:** Pass/No Pass grading only  
**Transfer acceptability:** CSU  
Didactic challenge course for individuals who qualify for Paramedic Challenge per State of California Code of Regulations, Title 22. Allows the individual to attend the didactic portion of Paramedic training as needed to meet paramedic course content per individual student contract.
- EME 203L Paramedic Challenge Skills (Laboratory) (.5)**  
1½ hours laboratory  
**Prerequisite:** RN, MD, PA or former Paramedic who meets State of California challenge requirements  
**Corequisite:** EME 203  
**Note:** Pass/No Pass grading only  
**Transfer acceptability:** CSU  
Application of skills necessary for challenge course for individuals who qualify for Paramedic Challenge per State of California Code of Regulations, Title 22. Allows the individual to attend the skills portion of Paramedic Training as needed to meet paramedic course content per individual student contract.
- EME 206 Introduction to Paramedic Training (Lecture) (5.5)**  
5½ hours lecture  
**Prerequisite:** Admission into Paramedic program  
**Corequisite:** EME 206L  
**Transfer acceptability:** CSU  
Introduction to paramedic training which meets the requirements of the National Educational Standards for Paramedic Training.
- EME 206L Introduction to Paramedic Training (Laboratory) (1.5)**  
4½ hours laboratory  
**Prerequisite:** Admission into Paramedic program  
**Corequisite:** EME 206  
**Note:** Pass/No Pass grading only  
**Transfer acceptability:** CSU  
Application of skills necessary for the Introduction to Paramedic Training which meets the requirements of the National Educational Standards for Paramedic Training.
- EME 207 Paramedic Medical Training (Lecture) (10)**  
10 hours lecture  
**Prerequisite:** Admission into Paramedic program  
**Corequisite:** EME 207L and EME 211  
**Transfer acceptability:** CSU  
The study of medical and cardiac diseases for paramedic training which meets the requirements of the National Educational Standards for Paramedic Training. Includes Advanced Cardiac Life Support training and certification.
- EME 207L Paramedic Medical Skills (Laboratory) (2)**  
6 hours laboratory  
**Prerequisite:** Admission into Paramedic program  
**Corequisite:** EME 207  
**Note:** Pass/No Pass grading only  
**Transfer acceptability:** CSU  
Application of skills necessary for the medical portion of paramedic training which meets the requirements of the National Educational Standards for Paramedic Training. Includes Advanced Cardiac Life Support training and certification.
- EME 208 Paramedic Trauma Training (Lecture) (4.5)**  
4½ hours lecture  
**Prerequisite:** Admission into Paramedic program  
**Corequisite:** EME 208L and EME 212  
**Transfer acceptability:** CSU  
The study of traumatic emergencies for paramedic training which meets the requirements of the National Educational Standards for Paramedic Training. Includes Pre-hospital Trauma Life Support training and certification.
- EME 208L Trauma Skills (Laboratory) (1)**  
3 hours laboratory  
**Prerequisite:** Admission into Paramedic program  
**Corequisite:** EME 208  
**Note:** Pass/No Pass grading only  
**Transfer acceptability:** CSU  
Application of skills necessary for trauma portion of paramedic training which meets the requirements of the National Educational Standards for Paramedic Training. Includes Pre-hospital Trauma Life Support training and certification.
- EME 209 Paramedic Obstetrical and Pediatric Training (Lecture) (2.5)**  
2½ hours lecture  
**Prerequisite:** Admission into Paramedic program  
**Corequisite:** EME 209L and EME 212  
**Transfer acceptability:** CSU  
The study of Obstetrical and Pediatric emergencies for paramedic training which meets the requirements of the National Educational Standards for Paramedic Training. Includes Pediatric Education for Pre-hospital Professionals training and certification.
- EME 209L Paramedic Obstetrical and Pediatric Skills (Laboratory) (1)**  
3 hours laboratory  
**Prerequisite:** Admission into Paramedic program  
**Corequisite:** EME 209 and EME 212  
**Note:** Pass/No Pass grading only  
**Transfer acceptability:** CSU  
Application of skills necessary for the Obstetrical and Pediatric portion for paramedic training which meets the requirements of the National Educational Standards for Paramedic Training. Includes Pediatric Education for Pre-hospital Professionals training and certification.
- EME 210 Hospital Clinical Experience (4)**  
12 hours laboratory  
**Prerequisite:** Admission into Paramedic Program  
**Transfer acceptability:** CSU  
Supervised clinical experience in acute care areas of hospitals where knowledge of advanced life support techniques is necessary.
- EME 211 Clinical Integration I (1.5)**  
4½ hours laboratory  
**Corequisite:** EME 207 and EME 207L or EME 208 and EME 208L  
**Note:** Pass/No Pass grading only  
**Transfer acceptability:** CSU  
Application of assessment and BLS skills necessary to be successful in paramedic training.
- EME 212 Clinical Integration II (1.5)**  
4½ hours laboratory  
**Corequisite:** EME 209 and EME 209L or EME 210  
**Note:** Pass/No Pass grading only  
**Transfer acceptability:** CSU  
Application of assessment and BLS skills necessary to be successful in paramedic training.

**EME 215 Field Internship (9)**  
 27 hours laboratory  
**Prerequisite:** A minimum grade of 'B' in EME 210; or concurrent enrollment in EME 210  
**Transfer acceptability:** CSU  
 Assignment to a response vehicle with a field preceptor. Includes direct patient care responsibilities in providing advanced life support.

**EME 220 Paramedic Refresher (2, 2.5, 3, 3.5, 4, 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8)**  
 2, 2½, 3, 3½, 4, 4½, 5, 5½, 6, 6½, 7, 7½, 8 hours lecture  
**Prerequisite:** Provide proof of receiving a failing grade in one or more of the following courses: EME 207, 207L, 208, 208L, 210, 215 within the previous 24 months.  
**Transfer acceptability:** CSU  
 Provides students who were unsuccessful in one or more of the following courses, EME 207, 207L, 208, 208L, 210 or 215, an opportunity to refresh, strengthen, and maintain their clinical abilities and knowledge base.

**EME 223 OB/Peds Block Refresher (1, 2)**  
 1, 2 hours lecture  
**Prerequisite:** Provide proof of receiving a failing grade in one or more of the following courses: EME 210, 215 within the previous 24 months  
**Corequisite:** EME 224  
**Transfer acceptability:** CSU  
 Provides students who were unsuccessful in one or more of the following courses, EME 210 or 215, an opportunity to refresh, strengthen, and maintain their academic knowledge base in obstetrical and pediatric medicine.

**EME 224 Clinical Refresher (1.5)**  
 ½ hour lecture - 3 hours laboratory  
**Prerequisite:** Failure in EME 215  
**Corequisite:** EME 223  
**Transfer acceptability:** CSU  
 Provides students who were unsuccessful in EME 215 an opportunity to refresh, strengthen, and maintain their clinical abilities and knowledge base.

**EME 295 Directed Study in Emergency Medical Education (1, 2, 3)**  
 3, 6, or 9 hours laboratory  
**Prerequisite:** Approval of project or research by department chairperson/ director  
**Transfer acceptability:** CSU  
 Independent study for students who have demonstrated skills and/or proficiencies in Emergency Medical 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.

Engineering students are urged to give priority to the completion of major field requirements over the completion of general education requirements. Engineering lower division requirements are not the same for different universities. These institutions recommend that their particular lower division requirements be completed before transfer. Students should seek early assistance in planning their specific program from the Counseling Department, the Transfer Center, or the Physics/Engineering Department.

**A.S. DEGREE MAJOR**

Program Requirements (Select a minimum of 11 units)	Units
DT/ENGR 101 AutoCAD Introduction to Computer Aided Drafting or	
DT/ENGR 103 SolidWorks Introduction to 3D Design and Presentation	3
ENGR 126 Intro Electric/Computer Engineering or	4
ENGR 245 Properties of Materials	4
ENGR 210 Electrical Network Analysis	3
ENGR 210L Electrical Network Analysis Laboratory	1
ENGR 235 Engineering Mechanics Statics	3
ENGR 236 Engineering Mechanics Dynamics	3

**Electives (Select a minimum of 30 units)**  
**Note that mathematics courses are often prerequisite to engineering and physics courses.**

MATH 140 Calculus/Analytic Geometry, First Course	5
MATH 141 Calculus/Analytic Geometry, Second Course	4
MATH 205 Calculus/Analytic Geometry, Third Course	4
MATH 206 Calculus with Differential Equations	4
PHYS 230 Principles of Physics	5
PHYS 231 Principles of Physics	5
PHYS 232 Principles of Physics	4
CHEM 110 General Chemistry	3
CHEM 110L General Chemistry Laboratory	2
CHEM 115 General Chemistry	3
CHEM 115L General Chemistry Laboratory	2

**MINIMUM TOTAL UNITS 41**

Recommended Elective: ENGR 100

ENG 100, ENG 202, and BIOL 100 are highly recommended as electives to fulfill General Education requirements.

**COURSE OFFERINGS**

**ENGR 100 Introduction to Engineering (1)**  
 1 hour lecture

**Transfer acceptability:** CSU; UC  
 An overview of the engineering profession including not only the different engineering fields but also the specialized demands and rewards of each. It will afford the opportunity for community building among the students, who usually are otherwise isolated in the community college milieu. Group projects in the course will encourage socialization and human relations training in what is often perceived as a dry and dull profession. Academic success strategies will be explained and practiced; ethical concepts will be examined through case histories and practical applications.

**ENGR 101 AutoCAD Introduction to Computer Aided Drafting (3)**

1½ hours lecture - 4½ hours laboratory  
**Note:** Cross listed as DT 101.  
**Transfer acceptability:** CSU; UC – DT/ENGR 101 and 102 combined: maximum credit, one course  
 An introduction to computer aided drafting using AutoCAD software and IBM compatible computers. Hands on experience with AutoCAD to include the following operations: preparing and editing drawings, storage and retrieval of drawings, and production of commercial quality drawings on a plotter. Introductory computer terminology and techniques in Windows.

**Engineering (ENGR)**

Contact the Physics and Engineering Department for further information.  
 (760) 744-1150, ext. 2505  
 Office: NS-355B

**Associate in Science Degrees -**

AS Degree requirements are listed in Section 6 (green pages).  
 • Engineering

**PROGRAMS OF STUDY**

**Engineering**

Provides the background to begin upper division coursework and will prepare the student for entry level jobs that require a knowledge of engineering and engineering related topics. The highly sequential nature of the engineering curriculum necessitates completion of lower division requirements before being admitted into upper division courses.