

Note: May be taken 4 times

Study of blueprints and specifications. Application of the National Electric Code to cover current protection, panelboards, and lighting systems.

ELTR 107 Grounding Systems, Advanced Blueprints and Specifications, Motor Design and Installation, and National Electric Code (3.5)

3 hours lecture- 1 ½ hours laboratory

Recommended preparation: ELTR 106

Note: May be taken 4 times

Advanced concepts for blueprints and specifications. Study of motor design and application and National Electric Code concepts.

ELTR 108 Motor Control Principles, Generators and Power Supplies, and National Electric Code (3.5)

3 hours lecture- 1 ½ hours laboratory

Recommended preparation: ELTR 107

Note: May be taken 4 times

Addresses techniques for controlling AC and DC motors. Students examine conventional and breaking technologies for power generation.

ELTR 109 Transformer Theory, Leadership and Management, and Test Equipment (3.5)

3 hours lecture- 1 ½ hours laboratory

Recommended preparation: ELTR 108

Note: May be taken 4 times

Explores the theory and field application of transformers. Electrical test equipment operation and use will be addressed. Includes management and leadership principles for supervisors. Special equipment for security systems is discussed.

ELTR 110 Specialty Systems (3.5)

3 hours lecture- 1 ½ hours laboratory

Recommended preparation: ELTR 109

Note: May be taken 4 times

Examines specialty electrical systems commonly found in building construction. Includes fire alarm systems, closed-circuit television (CCTV) systems, telephone systems, cable television (CATV & MATV) systems, local area networks (LANs), fiber optic data systems, heating and air conditioning control systems, and lighting protection systems.

Electro-Mechanical Equipment Technician (EMET)

Contact Occupational & Noncredit Programs for further information.

(760) 744-1150, ext. 2284

Office: AA-138

Certificates of Achievement -

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

- Mail Processing Equipment Mechanic

Certificates of Proficiency -

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

- Maintenance Mechanic

PROGRAMS OF STUDY

Mail Processing Equipment Mechanic

This certificate will provide the student with the necessary knowledge, skills and abilities to perform at the level of Mail Processing Equipment Mechanic level 8. Students will learn to maintain the electrical and mechanical components for various mail processing equipment.

CERTIFICATE OF ACHIEVEMENT

Program Requirements		Units
CI 105	Electrical Codes I	3
CI 106	Electrical Codes II	3
DMT 81	Basic Hydraulics	4

EMET 50	Basic Mechanics for Servicing Electro-Mechanical Equip.	3
EMET 51	Mail Processing Equipment Mechanic Exam Preparation	3
IT/WELD 108	Technical Mathematics	3

TOTAL UNITS 19

Maintenance Mechanic

Specifically for individual employed or seeking employment in a medium to large distribution center and to prepare candidates to pass the mail processing equipment (EMET) technician's examination.

CERTIFICATE OF PROFICIENCY

Program Requirements		Units
EMET 50	Basic Mechanics for Servicing Electro-Mechanical Equip.	3
EMET 51	Mail Processing Equipment Mechanic Exam Preparation	3

TOTAL UNITS 6

COURSE OFFERINGS

Courses numbered under 100 are not intended for transfer credit.

EMET 50 Basic Mechanics for Servicing Electro-Mechanical Equipment (3)

3 hours lecture

Recommended preparation: Knowledge of simple algebraic equations; different number systems; different types of gears; mechanical advantage; and fluid dynamics

Provides students with a basic overview of the maintenance process for postal service electro-mechanical equipment. Topics of study include levers and lever assemblies, gears and gear trains, sprockets and pulleys, basic hydraulics.

EMET 51 Mail Processing Equipment Mechanic Exam Preparation (3)

3 hours lecture

Recommended preparation: Technical Mathematics-Ability to perform simple algebraic equations; Electricity-Understand DC and AC fundamentals; Electronics-Understand basic electronic principles; Mechanics-Understand basic mechanic fundamentals; Digital Electronics-Understand basic digital electronic principles.

Designed to prepare students for the U.S. Postal Service Maintenance Mechanic, MPE-8 Entrance Examination. Highly recommended for students interested in a U.S. Postal Service Career focusing on equipment maintenance. Topics will cover all the aspects of mail processing equipment (MPE) maintenance, such as mechanics, electrical, and basic electronic systems.

Emergency Medical Education (EME)

Contact the Emergency Medical Education Department for further information.

(760) 744-1150, ext. 8150

Office: ESC-610

Associate in Arts Degrees -

AA 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

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 Arts 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 Arts 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 Arts 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**Emergency Medical Technician Basic**

The Emergency Medical Technician Program prepares the student in all elements of pre-hospital Basic Life Support. Upon successful completion of the program, the student is eligible to take the San Diego County EMT-Basic certification exam, which is the National Registry Emergency Medical Technician Basic exam.

Required Courses	Units
EME 100/PE 104 Advanced First Aid	3
EME 106 EMT Basic (Lecture)	6
EME 106L EMT Basic Skills (Laboratory)	1

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 one year full-time pre-hospital experience 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	Units
ZOO 145 Intro to Anatomy/Physiology	3
EME 106 EMT Basic (Lecture)	6
EME 106L EMT Basic Skills (Laboratory)	1
EME 175 Paramedic Preparation (Lecture)	2
EME 175L Paramedic Preparation Skills (Laboratory)	1

**A.A. 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	Units
EME 206 Intro/Paramedic Training (Lecture)	4
EME 206L Intro/Paramedic Training (Laboratory)	1
EME 207 Paramedic Medical Training (Lecture)	10
EME 207L Paramedic Medical Skills (Laboratory)	1.5
EME 208 Paramedic Trauma Training (Lecture)	4.5
EME 208L Trauma Skills (Laboratory)	.5
EME 209 Paramedic Obstetrical/Pediatric Training (Lecture)	2.5
EME 209L Paramedic Obstetrical/Pediatric Skills (Laboratory)	.5
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
TOTAL UNITS	40.5

COURSE OFFERINGS

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

EME 55 CPR for Health Care Providers (.5)
½ hour lecture

Note: Pass/No Pass grading only; may be taken 4 times

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 Advanced First Aid (3)
3 hours lecture

Note: Cross listed as PE 104

Transfer acceptability: CSU; UC

The study and application of emergency medical skills and procedures, including basic anatomy and physiology, terminology, and prevention of disease transmission, for CPR certification from the American Heart Association.

EME 106 Emergency Medical Technician Basic (Lecture) (6)
6 hours lecture

Prerequisite: Current BLS course CPR card and Emergency Response or equivalent card, and must be age 18 by the first day of class. Proof of meeting the prerequisite will be required at the first class meeting.

Corequisite: EME 106L

Note: May not be taken for Pass/No Pass grading; may be taken 2 times

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-Basic certification.

EME 106L Emergency Medical Technician Basic Skills (Laboratory) (1)
3 hours laboratory

Prerequisite: Current American Heart Association CPR for Health Care Providers CPR and American Red Cross Emergency Response card, and must be age 18 on the first day of EME 106

Corequisite: EME 106

Note: Pass/No Pass grading only; may be taken 2 times

Application of skills required for treatment of pre-hospital emergencies. This course prepares the student for National Registry, California, and San Diego County EMT-Basic certification. Student is required to complete 16 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 four years

Note: Pass/No Pass grading only

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

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

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

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, 10.5, 12, 13.5, or 15 hours laboratory

Corequisite: EME 210 or EME 215

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, laboratory, or lecture/laboratory may be scheduled by the department. Refer to Class Schedule.

Note: May be taken 4 times

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, laboratory, or lecture/laboratory may be scheduled by the department. Refer to Class Schedule.

Note: May be taken 4 times

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, laboratory, or lecture/laboratory may be scheduled by the department. Refer to Class Schedule.

Note: May be taken 4 times

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; may be taken 4 times

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

Note: May be taken 3 times

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; may be taken 3 times

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; may be taken 2 times

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)

1 1/2 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; may be taken 2 times

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) (4)

4 hours lecture

Prerequisite: Admission into Paramedic program

Corequisite: EME 206L

Note: May be taken 2 times

Introduction to Paramedic training which meets the requirements of the National Standard Curriculum for Paramedic Training.

EME 206L Introduction to Paramedic Training (Laboratory) (1)

3 hours laboratory

Prerequisite: Admission into Paramedic program

Corequisite: EME 206

Note: Pass/No Pass grading only; may be taken 2 times

Application of skills used in the Introduction to Paramedic Training which meets the requirements of the National Standard Curriculum for Paramedic Training.

EME 207	Paramedic Medical Training (Lecture)	(10)
<i>10 hours lecture</i>		
Prerequisite: Admission into Paramedic program		
Corequisite: EME 207L and EME 211		
Note: May be taken 2 times		
The study of medical diseases for Paramedic training which meets the requirements of the National Standard Curriculum for Paramedic Training. Includes ACLS training and certification.		
EME 207L	Paramedic Medical Skills (Laboratory)	(1.5)
<i>4½ hours laboratory</i>		
Prerequisite: Admission into Paramedic program		
Corequisite: EME 207		
Note: Pass/No Pass grading only; may be taken 2 times		
Application of skills necessary for the medical portion of Paramedic Training which meets the requirements of the National Standard Curriculum for Paramedic Training.		
EME 208	Paramedic Trauma Training (Lecture)	(4.5)
<i>4½ hours lecture</i>		
Prerequisite: Admission into Paramedic program		
Corequisite: EME 208L and EME 212		
Note: May be taken 2 times		
The study of traumatic emergencies for Paramedic training which meets the requirements of the National Standard Curriculum for Paramedic Training. Includes Pre-hospital Trauma Life Support training and certification.		
EME 208L	Trauma Skills (Laboratory)	(.5)
<i>1½ hours laboratory</i>		
Prerequisite: Admission into Paramedic program		
Corequisite: EME 208		
Note: Pass/No Pass grading only; may be taken 2 times		
Application of skills necessary for trauma class of Paramedic training which meets the requirements of the National Standard Curriculum for Paramedic Training. Includes Pre-hospital Trauma Life Support training and certification.		
EME 209	Paramedic Obstetrical and Pediatric Training (Lecture)	(2.5)
<i>2½ hours lecture</i>		
Prerequisite: Admission into Paramedic program		
Corequisite: EME 209L and EME 212		
Note: May be taken 2 times		
The study of Obstetrical and Pediatric emergencies for Paramedic training which meets the requirements of the National Standard Curriculum for Paramedic Training. Includes Pediatric Education for Pre-hospital Professionals.		
EME 209L	Paramedic Obstetrical and Pediatric Skills (Laboratory)	(.5)
<i>1½ hours laboratory</i>		
Prerequisite: Admission into Paramedic program		
Corequisite: EME 209		
Note: Pass/No Pass grading only; may be taken 2 times		
Application of skills necessary for the Obstetrical and Pediatric class for Paramedic Training which meets the requirements of the National Standard Curriculum for Paramedic Training. Includes Pediatric Education for Pre-hospital Professionals.		
EME 210	Hospital Clinical Experience	(4)
<i>12 hours laboratory</i>		
Prerequisite: A minimum grade of 'C' in EME 209 and EME 209L		
Note: May be taken 2 times		
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)
<i>4½ hours laboratory</i>		
Corequisite: EME 207		
Note: May be taken 2 times; Pass/No Pass grading only		
Application of assessment and BLS skills necessary to be successful in Paramedic Training.		

EME 212	Clinical Integration II	(1.5)
<i>4½ hours laboratory</i>		
Corequisite: EME 208 and EME 209		
Note: Pass/No Pass grading only; may be taken 2 times		
Application of assessment and BLS skills necessary to be successful in Paramedic Training.		

EME 215	Field Internship	(9)
<i>28 hours laboratory</i>		
Prerequisite: A minimum grade of 'C' in EME 210		
Note: May be taken 2 times		
Assignment to a response vehicle with a field preceptor. Includes direct patient care responsibilities in providing advanced life support.		

EME 295	Directed Study in Emergency Medical Education	(1,2,3)
<i>3, 6, or 9 hours laboratory</i>		
Prerequisite: Approval of project or research by department chairperson/director		
Note: May be taken 4 times		
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 (ENGR)

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

Associate in Arts Degrees -

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

- Engineering

Certificates of Proficiency -

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

- Engineering Technician

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.

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.A. DEGREE MAJOR**

Program Requirements (Select a minimum of 11 units)		Units
DT 125 or	AutoCAD Introduction to Computer Aided Drafting	3
DT 128	SolidWorks Introduction to 3D Design and Presentation	
ENGR/		
ECHT 126	Intro Electric/Computer Engineering	4
ENGR 210	Electrical Network Analysis	3
ENGR 210L	Electrical Network Analysis Laboratory	1
ENGR 231	Engineering Measurement Analysis	3
ENGR 235	Engineering Mechanics Statics	3
ENGR 236	Engineering Mechanics Dynamics	3
ENGR 245	Properties of Materials	4