

**AS Degree: Electronics & Computer Engineering Technology**

**Program Description**

The Electronics and Computer Engineering Technology (ECET) degree and certificate programs prepare individuals either for initial employment or for enhancement of existing skills in the electronics field, or for transfer into B.S. programs in Electronics Technology or Industrial Technology offered in the California State University system. Program completers will apply knowledge of electronic principles to the areas of communications, industrial electronics, and microcontrollers; demonstrate proper use of electronic test equipment and associate measurement results with circuit behaviors in the laboratory; quantitatively determine unknown electrical parameters from given or measured values and use these results to assess or troubleshoot faults in circuit and system operation; communicate, both verbally and in writing, knowledge of electrical concepts and their application to the observed behaviors of circuits and systems; and, in advanced courses, connect concepts learned in introductory courses to more general principles applicable in the employment context.

Course completers will:

Accurately measure relevant parameters of waveforms displayed on oscilloscope screen.

Employ polar and rectangular notation to determine magnitude and phase shift of an unknown circuit parameter.

Define common terms and recognize symbols used in AC electronics.

Analyze operation of AC circuits.

Calculate unknown electrical quantities in AC circuits.

Demonstrate the proper use of test equipment when measuring electrical quantities.

Compare and contrast characteristics of series versus parallel AC circuits.

Evaluate the characteristics of frequency-selective circuits.

Program Level Outcomes:

Breadth of study. Apply knowledge of electronic principles to the areas of communications, industrial electronics, and microcontrollers.

Use of test equipment. Demonstrate proper use of electronic test equipment and associate measurement results with circuit behaviors in the laboratory.

Quantitative analysis. Quantitatively determine unknown electrical parameters from given or measured values and use these results to assess or troubleshoot faults in circuit and system operation.

Communication. Communicate, both verbally and in writing, knowledge of electrical concepts and their application to the observed behaviors of circuits and systems.

High-level thought. In advanced courses, connect concepts learned in introductory courses to more general principles applicable in the employment context.

Other Program Courses:

Introductory course: accurate readings . . .

Introductory course numerically analyze. . .

Communications course: Able to interpret . . .

Communications course: able to calculate. . .

Advanced Lab course: Demonstrate the presence. . .

Microwave Communications course: Able to use. . .

Imagine you are in a job interview. In one or two paragraphs (at most), explain to the interviewer what you learned in your microwave communications course. Specifically:  
 What were the main themes and issues covered?  
 Why did you spend a full semester studying topics that, at first glance, may seem very specialized and esoteric—indeed, topics that are not even introduced in most two-year programs?  
 How would you relate what you learned in this course to the fundamental electrical concepts you have studied in other courses as well as to other areas of electronics?



**AS Degree: Respiratory Therapy**

Course completers will:

Apply basic forms of medical gas therapy to patients according to the policies of the clinical site you are assigned.

Perform advanced respiratory care treatments and procedures and perform basic respiratory care treatments to include mechanical ventilation, humidity therapy, aerosolized bronchodilator, bronchial hygiene, lung expansion, and non-invasive monitoring.

Demonstrate the correct procedure for aerosolized medication delivery by metered dose inhaler and small volume nebulizer.

Program Level Outcomes:

CRT and RRT Exam. Graduates will achieve the CRT and RRT credential.

Basic Treatment Competencies. The student will demonstrate, in the laboratory and clinical settings, the correct procedures for basic respiratory therapy treatment modalities.

Advanced Treatment Competencies. The student will demonstrate, in the laboratory and clinical settings, the correct procedures for advanced respiratory therapy procedures, to include manual and mechanical ventilation.

Other Program Courses:

Evaluate labor and delivery data and assessment at the time of delivery and construct a plan of resuscitation and stabilization.

Compare and contrast the features and benefits of volume controlled mechanical ventilation and pressure-controlled ventilation.

Demonstrate manual ventilation techniques with a bag-valve mask resuscitator on a mannequin.

**AS Degree: Aeronautics (Commercial Flight)**

Weight and balance. Compute safe limits of aircraft weight and balance.

Flight planning. Procedures and techniques used in cross-country flight.

Piloting vocabulary. Identify terms associated with piloting and air-traffic control.

Performance aircraft computations. Flight planning logs, aero charts, navigation plotters, and manual flight computers.

Helicopter flight characteristics. Aerodynamics and flight characteristics.

Map reading and interpretation.

Program Level Outcomes:

Aviation industry and career planning. Terms and vocabulary; federal legislation; government regulation; economics; career planning.

Aviation safety and human factors. Physiology; crew resource management; accident analysis

Aviation weather and aeronautical decision-making. Weather systems; forecasts and advisories; decision-making and problem-solving skills.

Flight operations and flight planning. Safe operation in primary, instrument, and commercial operation; principles of flight; analysis of performance data and evaluation of problem-solving scenarios.

Long-range flight planning Complete flight-planning logs using procedures for long-range navigation.

Vocabulary and electronic-navigation aids. Terms and vocabulary associated with aeronautical charting, aerial navigation, and electronic navigation.

Aircraft performance charts, manual flight calculations. Calculate solutions to aircraft performance charts and dead-reckoning navigation problems using a manual flight computer.