

# ELECTRICITY/ELECTRONICS/TECHNICAL CALCULATIONS 33

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The Electricity/Electronics curriculum is designed to provide entry-level job training in this broad and expanding field. These classes lead to trainee positions in maintenance, installation, field service, networking, and apprenticeship in the area of specialization. Students who seek a Certificate or an Associate of Science Degree in the fields of: 1) Electronics Technology, 2) Communication Engineering Technology, 3) Computer Engineering Technology, 4) Electric Power Technology, or 5) Avionics Technology, will complete a series of Electronics Technology courses common to electricity, communications, and computers and then complete the appropriate area of specialization. All classes must be completed with a grade of C or better.

Students planning to transfer to a four-year institution and major in electronics should consult with a counselor regarding the transfer process and lower division requirements.

Core competencies emphasized by courses in this department:

- Read and retain information
- Employ vocabulary of the subject studied
- Find and interpret information

## ELECTRICITY/ELECTRONICS ASSOCIATE OF SCIENCE DEGREE

To graduate with a specialization in one of the Electricity/Electronics majors, students must complete all the requirements for the appropriate certificate with a grade of C or better plus the general breadth requirements for the Associate Degree.

## ELECTRICITY/ELECTRONICS CERTIFICATES

These certificates are designed to provide students with the fundamentals of electronics technology by offering courses common to electricity, communications and computers. This preparation can be for transfer to the university or for further study in areas of communication, computers, electricity, and aircraft electronics. It can also prepare students for entry-level positions in electronics, maintenance, installation, field service, networking, and apprenticeship in the field of electronics technology. Students should have normal color vision, hand/eye coordination and the ability to lift over 50 pounds.

## ELECTRONICS TECHNOLOGY

(Core Courses required for all specializations)

REQUIRED COURSES	UNITS
TECALC 087 Technical Calculations	4
ELECTR 110 Direct Current Circuit Analysis	3
ELECTR 111 Direct Current Circuit Laboratory	1

ELECTR 115	Alternating Current Circuit Analysis	3
ELECTR 116	Alternating Current Circuit Laboratory	1
ELECTR 155	Electronic Drawing and Assembly	3
ELECTR 230	Semiconductor Devices	3
ELECTR 235	Solid State Circuit Analysis	4
ELECTR 265	Digital Logic Design	4
ELECTR 266	Microprocessor Technology	4
ELECTR 270	Linear Integrated Circuit Analysis	4
<b>TOTAL UNITS</b>		<b>34</b>

## COMMUNICATIONS ENGINEERING TECHNOLOGY

This certificate is designed to provide students with the fundamentals of electronics technology as it applies to communications engineering. The curriculum prepares students for entry-level positions in electronics communications maintenance, installation, field service, networking, and apprenticeship in the field of communications engineering technology.

### Complete the required courses for Electronics Technology plus REQUIRED COURSES UNITS

ELECTR 220B	F.C.C. Rules and Regulations	3
ELECTR 250B	Radio Transmitters, Receivers, and Antennas	4
ELECTR 255B	Telephone Networking	4
<b>TOTAL UNITS</b>		<b>45</b>

## COMPUTER ENGINEERING TECHNOLOGY

These certificates are designed to provide students with the fundamentals of electronics technology as it applies to computer engineering. The curriculum prepare students for entry-level positions in computer maintenance, installation, field service, networking, and apprenticeship in the field of computer engineering technology.

### Complete the required courses for Electronics Technology plus REQUIRED COURSES UNITS

ELEC 217B	Industrial Electricity	4
ELECTR 158	Microcomputer Operation	2
ELECTR 280B	Computer Operations and Maintenance	4
<b>TOTAL UNITS</b>		<b>44</b>

## ELECTRIC POWER TECHNOLOGY

These certificates are designed to provide students with the fundamentals of electronics technology as it applies to industrial electricity. The curriculum prepare students for entry-level positions in electrical maintenance, installation, field service, networking, and apprenticeship in the field of electronic power technology.

### Complete the required courses for Electronics Technology plus REQUIRED COURSES UNITS

ELEC 216B	Introduction to Industrial Electricity	4
ELEC 217B	Industrial Electricity	4
ELEC 218B	Controlling Industrial Electricity	4
<b>TOTAL UNITS</b>		<b>46</b>

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### AVIONICS TECHNOLOGY

This certificate is designed to provide students with the fundamentals of electronics technology as it applies to avionics. The curriculum prepare students for entry-level positions in aircraft electricity, maintenance, installation, field service, networking, and apprenticeship in the field of avionics technology.

**Complete the required courses for Electronics Technology plus**

<b>REQUIRED COURSES</b>		<b>UNITS</b>
AERO 121*	Aviation Fundamentals	3
AERO 140D	Instrument Ground School & Flight Simulators	4
ELECTR 220B	FCC Rules and Regulations	3
ELECTR 250B	Radio Transmitters, Receivers, & Antennas	4
ELECTR 257B	Navigation & Communication System	4
<b>TOTAL UNITS</b>		<b>52</b>

\*AERO 102 & 103 can be substituted for AERO 121 & 140C

### GENERAL ELECTRICIAN CERTIFICATE

This certificate will allow an "Electrician Trainee" to sit for the California State General Electrician Certification examination. These courses also satisfy the continuing education requirement every three years for certified electricians.

### REQUIRED COURSES

		<b>UNITS</b>
ELEC 216B	Introduction to Industrial Electricity	4
ELEC 217B	Industrial Electricity	4
ELEC 218B	Controlling Industrial Electricity	4
ELECTR 110	Direct Current Circuit Analysis	3
ELECTR 111	Direct Current Circuit Laboratory	1
ELECTR 115	Alternating Current Circuit Analysis	3
ELECTR 116	Alternating Current Circuit Laboratory	1
ELECTR 230	Semiconductor Devices	3
ELECTR 235	Solid State Circuit Analysis	4
ELECTR 265	Digital Logic Design	4
INSPEC 014C	Advanced Construction Inspections: National Electric Code	3
INSPEC 024C	Community Relations for Civil Service Employees	3
PE 231	First Aid and CPR	3
TECALC 087	Technical Calculations	4
<b>TOTAL UNITS</b>		<b>44</b>

\*Pending approval from the California Community College Chancellor's Office

