

ELECTRONICS AND ELECTRICAL TECHNOLOGY

ASSOCIATE DEGREE & CERTIFICATE PROGRAMS

2023-2024 CATALOG

DESCRIPTION

Cuesta College is an approved training provider as a general electrician certification training program. Students enrolled in an approved course may register with the Division of Apprenticeship Standards to be eligible to work as an electrician trainee and continue their employment if 150 classroom hours each year are completed until qualified for the certification exam. Students who complete all the mandatory courses are eligible to sit for the certification exam administered by the state of California. Passage of this exam in combination with specific work experience will complete the state electrician certification process.

There is additional paperwork required for the State Electrician Trainee Program. Please contact the Engineering Technology Department for more information at (805) 546-3264.

ASSOCIATE DEGREE AND CERTIFICATE PROGRAMS

An Associate Degree, depending on the focus of study, is designed to prepare students for transfer into upper division course work in a bachelor's degree program, or, to prepare students to enter the workforce in a particular vocational field. To qualify for an Associate's Degree, a student must: (1) complete each major-specific course required for the degree with at least a "C" grade or better, (2) complete all Cuesta College general education, graduation and residency requirements, and (3) achieve an overall grade point average of 2.0 for all courses attempted (major, general education, elective).

A Certificate Program is designed for students who desire specific training to meet an immediate occupational or personal goal, or for promotion or lateral transfer within their existing field of employment. To qualify for a Certificate of Achievement or a Certificate of Specialization, a student must 1) complete all courses required for the Certificate with an overall grade point average of 2.0.

DEGREES, CERTIFICATES & AWARDS

- Associate in Science (A.S.)
- Certificate of Achievement (C.A.)

CAREER OPPORTUNITIES

- Commercial Electrical Installer
- Electrical Engineer
- Electrical Installer
- Electrical Maintenance Technician
- Electrician
- Environmental Engineer
- Environmental Scientist
- Industrial Maintenance Electrician
- Solar Engineer

CONTACT

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ASSOCIATE DEGREE PROGRAM

Electrical Technology — Associate in Science

This certification program presents a broad range of topics that will enable students to gain the skills and knowledge necessary to install, maintain and troubleshoot a variety of electrical and electronic control systems. These include residential wiring, commercial/industrial wiring and cabling, national electric code, troubleshooting and maintenance, motor controls and programmable logic controllers. The National Science Foundation (NSF) and local industry awarded significant grants and resources to construct three (3) separate Cuesta laboratories: a state-of-the-art polyphase power and control laboratory, a computer and network cabling laboratory, and a large all purpose wiring laboratory. The program provides students with theory and “hands-on” practical experience related to all aspects of electrical, transformer, and controls technology. Prior knowledge of electronics and the electrical trade is not required: however, successful students will master the skills required for success in the electrical trades and related electrical and electronic industries listed under “career opportunities”.

This program of study leads to the Associate in Science degree. As such, general education courses are required as described in the Cuesta College Catalog. Intermediate algebra is not listed under the core technical courses because the mathematics requirement is considered general education for Associate in Science degrees.

CALIFORNIA STATE APPROVED ELECTRICIAN PROGRAM: California law requires that any individual working for an Electrical (C-10) Contractor be certified as an “Electrician Trainee”, “Residential Electrician” or “General Electrician” by the California Division of Labor Standards Enforcement (per. 108-108.5 CLC). The Electrician Trainee Program in Cuesta’s Electronic and Electrical Technology (EET) Department is the only fully certified non-union program within over a 100 mile radius of our main campus. Upon enrollment in one or more of the program courses, students will be able to immediately apply for their Electrician Trainee Certification number/ card and legally work for contractors. After completion of the certificate, students will be eligible to take the California “General Electrician” and /or “Residential Electrician” Exam(s).

TRANSFER PREPARATION

Courses that fulfill major requirements for an associate degree may differ from those needed to prepare to transfer. Students who plan to transfer to a four-year college or university should schedule an appointment with a Cuesta College counselor to develop a student education plan (SEP) before beginning their program.

TRANSFER RESOURCES:

CSU and UC Articulation Agreements and Majors Search Engine:

www.ASSIST.org

CSU System Information:

www2.calstate.edu

FINANCIAL AID

Paying for the cost of a college education requires a partnership among parents, students and the college. As the cost of higher education continues to rise we want you to know that Cuesta College offers a full array of financial aid programs—grants, work study, scholarships, federal loan programs, and fee waivers. These programs are available to both full-and part-time students who are seeking a degree or certificate. For those who qualify, financial aid is available to help with tuition, fees, books and supplies, food, housing, transportation, and childcare. Please log onto our website for additional information:

www.cuesta.edu/student/student-services/financial-aid

Required Courses (39 credits)

CTCH 260	Construction Management	3
EET 119	State Electrician Trainee Topics.	4
EET 169	Residential Wiring	3
EET 181	National Electrical Code	3
EET 183	Commercial And Industrial Wiring	4
EET 213	Electronics Fundamentals	6
EET 224	Industrial Electronics.	4
EET 228	PLC Automation And Solar Monitoring	4
EET 257	Computer Instrumentation And Control	4
EET 267	Power Systems And Rotating Electrical Machinery	4

Advising Note: To satisfy the Math/Analytical Thinking requirement for the General Education portion of this degree, students should choose from among Math 127, 229, 231, 242, or 265A.

Total Credits: **39**

[Click Here For Program Student Learning Outcomes](#)

CERTIFICATE PROGRAMS**Electronics and State Electrician** — Certificate of Achievement

This certification program presents a broad range of topics that will enable students to gain the skills and knowledge necessary to install, maintain and troubleshoot a variety of electrical and electronic control systems. These include residential wiring, commercial/industrial wiring and cabling, national electric code, troubleshooting and maintenance, motor controls and programmable logic controllers. The National Science Foundation (NSF) and local industry awarded significant grants and resources to construct three (3) separate Cuesta laboratories: a state-of-the-art polyphase power and control laboratory, a computer and network cabling laboratory, and a large all purpose wiring laboratory. The program provides students with theory and “hands-on” practical experience related to all aspects of electrical, transformer, and controls technology. Prior knowledge of electronics and the electrical trade is not required: however, successful students will master the skills required for success in the electrical trades and related electrical and electronic industries listed under “career opportunities”.

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Required Courses (40 credits)

CTCH 260	Construction Management	3
EET 119	State Electrician Trainee Topics.	4
EET 169	Residential Wiring	3
EET 181	National Electrical Code	3
EET 183	Commercial And Industrial Wiring	4
EET 213	Electronics Fundamentals	6
EET 224	Industrial Electronics.	4
EET 228	PLC Automation And Solar Monitoring	4
EET 267	Power Systems And Rotating Electrical Machinery	4
MATH 127.	Intermediate Algebra	5

Advising Note: Math 229, 231, 242 or 265A can be substituted for Math 127

Total Credits: **40**

[Click Here For Program Student Learning Outcomes](#)

Power and Instrumentation Certificate — Certificate of Achievement

This certification program was developed at the request of the Electronics and Electrical Technology (EET) Industry Advisory Committee. The specific coursework allows working professionals the opportunity to gain new or expanded expertise in their field for promotions, transfers, or alternate employment. Additionally, this certification provides more advanced coursework options for entry level EET students once they complete their basic coursework. Students pursuing their Associate in Science degree in Electrical Technology or the State Electrician Certification, typically find they have completed all or most of the requirements for this Certificate of Achievement. Most of the courses in this program are offered at night on Cuesta's main campus to allow students to complete the program without adjustments to their daily work schedule. Additionally, we find that students and employers are pleasantly surprised to find the level of quality and sophistication in Cuesta's state-of-the-art power/control and wiring laboratories. These laboratories were primarily funded by significant grants from the National Science Foundation (NSF) and create a true "hands-on" learning environment.

Required Courses (16 credits)

EET 227	Fluid And Pneumatic Technology	4
EET 228	PLC Automation And Solar Monitoring	4
EET 257	Computer Instrumentation And Control	4
EET 267	Power Systems And Rotating Electrical Machinery	4

Total Credits: **16**

[Click Here For Program Student Learning Outcomes](#)



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