

ENGINEERING TECHNOLOGY

The Engineering Technology program prepares students for excellent career opportunities that are in strong demand such as electrical engineering, computer networking, and information technology. The program is also articulated with many 4-year Universities, which gives students the option of completing a course of study that leads to a Bachelors Degree. The program is part of a consortium of community colleges and area high technology industries funded by the National Science Foundation called Project CREATE which helps to ensure that our curriculum is current and approved by Industry. The program is also the only college in the Ventura County Community College District that offers courses and training in Programming Logic Controllers. In addition, many individual courses prepare students for certification exams such as the California Electronics Technician, Cisco Certified Networking Associate, CompTIA A+, CompTIA Network +, CompTIA Security +, and Microsoft Certified Professional. The program is a Cisco Networking Associate Regional Academy and a CompTIA Education to Career partner.

For more information, contact:
 Alex Lynch, alynch@vcccd.edu
 805-986-5840

Career Opportunities

Cisco Certified Networking Associate (CCNA)
 Microsoft Certified Professional (MCP)
 Certified Electronics Technician (CET)
 Information Technology Specialist
 Programming Logic Controllers Technician

Faculty

Full-Time
 Alex Lynch

Part-Time
 Richard Carmichael Dirk DeKreek
 Jess Sandoval Albert Wolfkiel

◆ Computer Networking

Associate in Science Degree and/or Certificate of Achievement*

Required Courses		Units
ENGTR120	First Half of CCNA Prep	4
ENGTR121	Second Half of CCNA Prep	4
ENGTR127	Cisco Wireless Fundamentals	3
ENGTR142	A+ Certification Preparation	4
Total Units		15
Electives		Units
Select at least 11 units from the following electives		
ENGTR110	Direct Current Engineering	4
ENGTR111	Alternating Current Engineering	4
ENGTR130	Administering Microsoft Windows Professional	3
ENGTR131	Administering Microsoft Windows Server	3
ENGTR144	Network+ Certification Preparation	4
ENGTR145	CompTIA Security+ Certification Preparation	3
Electives		11
Total Units		26

Associate in Science Degree and/or Certificate of Achievement*

Engineering Technology Option		Units
ENGTR110	Direct Current Engineering	4
ENGTR111	Alternating Current Engineering	4
ENGTR112	Digital Engineering	4
ENGTR113	Circuits Engineering	4
ENGTR114	Introduction to Programmable Logic Controllers	4
ENGTR115	Advanced Programmable Logic Controllers	4
Total Required Units		24
Electives		Units
Select at least 6 units from the following electives		
ENGTR120	First Half of CCNA Prep	4
ENGTR121	Second Half of CCNA Prep	4
ENGTR127	Cisco Wireless Fundamentals	3
ENGTR130	Administering Microsoft Windows Professional	3
ENGTR131	Administering Microsoft Windows Server	3
ENGTR142	A+ Certification Preparation	4
ENGTR144	Network+ Certification Preparation	4
Electives		6
Total Units		30

*For Associate Degree students must complete an additional 30 units of General Education courses

(See your counselor to determine your required General Education courses)

Engineering Technology Courses

ENGTR098—Short Courses in Engineering Technology ½-10 units

Lecture/lab hours depending on unit formula.

Specialized topics designed to inform or update interested persons in various disciplines within the engineering technology industry. Length of course determines unit credit. Field trips may be required. Course may be taken four times. (2)

ENGTR110—Direct Current Engineering 4 units

2 hours lecture, 6 hours lab weekly

Students use various engineering techniques to design, draft, construct, test, and evaluate direct current circuits. This is a core course in the Engineering Technology Degree sequence and helps those seeking employment as technicians. Field trips may be required.

Transfer credit: CSU

ENGTR111—Alternating Current Engineering 4 units

Prerequisites: ENGTR110.

2 hours lecture, 6 hours lab weekly

This course helps prepare students for the more rigorous study of alternating current engineering found at four-year engineering schools. Students use various engineering techniques to design, draft, construct, test, and evaluate direct current circuits. Field trips may be required.

Transfer credit: CSU

ENGTR112—Digital Engineering 4 units

2 hours lecture, 6 hours lab weekly

This course helps prepare students for the more rigorous study of digital electronics found at four-year engineering schools. Students will use various engineering techniques to design, draft, construct, test, and evaluate digital circuits. This course also helps those seeking employment as electronic technicians. Field trips may be required.

Transfer credit: CSU

ENGT R113—Circuits Engineering 4 units

Prerequisites: ENGT R111.
2 hours lecture, 6 hours lab weekly

This course helps prepare the student for the more rigorous study of circuits engineering found at four-year engineering schools. Students will use various engineering techniques to design, draft, construct, test, and evaluate electronic circuits. The course also helps prepare those seeking employment as engineering technicians. Field trips may be required.

Transfer credit: CSU

ENGT R114—Introduction to Programmable Logic Controllers 4 units

Prerequisites: ENGT R111 or AC R021.
2 hours lecture, 6 hours lab weekly

A beginning course on the principles of how PLCs work. Course provides practical information about installing, programming, and maintaining PLC systems. Course is designed to help students acquire the necessary qualifications to work in the automation industry. Field trips may be required.

Transfer credit: CSU

ENGT R115—Advanced Programmable Logic Controllers 4 units

Prerequisites: ENGT R114.
2 hours lecture, 6 hours lab weekly

In this second course on Programmable Logic Controllers, emphasis is on advanced programming, editing, and troubleshooting. Course is designed to help students acquire the necessary qualifications to work in the automation industry. Field trips may be required.

Transfer credit: CSU

ENGT R120—First Half of CCNA Prep 4 units

3 hours lecture, 3 hours lab weekly

This course is offered by the Oxnard College Cisco Networking Academy. It provides instruction in computer basics, Local Area Networks (LANs), the 7-layer OSI model, cabling, and network topologies. This course also covers Wide Area Networks (WANs), router configuration, Cisco IOS images, TCP/IP Protocol Suite, Internet Protocol (IP) addressing, and routing protocols. This course along with ENGT R121 prepares students to take the Cisco Certified Networking Associate (CCNA) exam. ENGT R120 is a core course in the Computer Networking A.S. Degree track in the Engineering Technology Department. Field trips may be required.

Transfer credit: CSU

ENGT R121—Second Half of CCNA Prep 4 units

Prerequisites: ENGT R120.
3 hours lecture, 3 hours lab weekly

This course is offered by the Oxnard College Cisco Networking Academy. This course provides instruction in the Open System Interconnection reference model and routing, LAN switching, VLANs, routing protocols, access control lists, and network management. It will also cover WANs, point-to-point protocol, ISDN, frame relay, and network management. This course along with ENGT R120 prepares students to take the Cisco Certified Networking Associate (CCNA) exam. This is a core course in the Computer Networking A.S. Degree track in Engineering Technology. Field trips may be required.

Transfer credit: CSU

ENGT R127—Cisco Wireless Fundamentals 3 units

2½ hours lecture, 1½ hours lab weekly

This course is offered by the Oxnard College Cisco Networking Academy. This is an introductory course in wireless networking technology. At the completion of this course students will have the ability to design, implement, administer, and troubleshoot a Wireless Local Area Network (WLAN) by configuring client adapters, access points, and wireless bridges. This is a core course in the Computer Networking A.S. Degree track in the Engineering Technology Department. Field trips may be required.

Transfer credit: CSU

ENGT R130—Administering Microsoft Windows Professional 3 units

2½ hours lecture, 1½ hours lab weekly

This course provides in-depth, hands-on introduction to the latest Microsoft Windows Professional operating system administration including creating and administering user and group accounts, network resources security, network printer server set-up and administration, resources and events auditing, and backup procedures. This is one of the two required core courses to become a Microsoft Certified Professional (MCP) and prepares students for related Microsoft exam. This course is an elective in the Computer Networking A.S. Degree track in the Engineering Technology Department. Field trips may be required.

Transfer credit: CSU

ENGT R131—Administering Microsoft Windows Server 3 units

2½ hours lecture, 1½ hours lab weekly

This course provides in-depth, hands-on introduction to the latest Microsoft Windows Server operating system administration including configuring server roles, maintaining server availability with clusters, planning a TCP/IP network infrastructure, and deploying security features. This is one of the two required core courses to become a Microsoft Certified Professional (MCP) and prepares students for related Microsoft exam. This course is an elective in the Computer Networking A.S. Degree track in the Engineering Technology Department. Field trips may be required.

Transfer credit: CSU

ENGT R141—Electronic Soldering Techniques 4 units

2 hours lecture, 6 hours lab weekly

This course prepares the student to identify electronic components, read color codes, remove and insert electronic components, and repair printed circuit boards. All electronic technicians need these skills and this is a required course for the Engineering Technology (Electronics) Certificate and Degree Programs. Field trips may be required.

Transfer credit: CSU

ENGT R142—A+ Certification Preparation 4 units

2 hours lecture, 6 hours lab weekly

This course provides instruction in computer repair and upgrade. This course also helps prepare students to take the two required exams for the Computing Technology Industry Association (CompTIA) A+ certification. Field trips may be required.

Transfer credit: CSU

ENGT R143—Introduction to LINUX 4 units

2 hours lecture, 6 hours lab weekly

In recent years LINUX operating systems have become a low-cost alternative to the various Microsoft Windows operating systems. This introductory course teaches students to locate, install, and use LINUX operating systems. Field trips may be required.

Transfer credit: CSU

ENGT R144—Network+ Certification Preparation 4 units

2 hours lecture, 6 hours lab weekly

This course provides instruction in computer networking. This course also prepares students to take the CompTIA Network+ certification exam. Field trips may be required.

Transfer credit: CSU

ENGT R145—CompTIA Security+ Certification Preparation 3 units

2½ hours lecture, 1½ hours lab weekly

The Security+ course covers a wide variety of topics including communication security, infrastructure security, cryptography, access control, authentication, external attack and operational and organization security. This course prepares students to take a CompTIA Security+ Certification Exam that validates security knowledge. Field trips may be required.

Transfer credit: CSU

**ENGT R198A-Z—Short Courses in Engineering
Technology 1½-6 units**

Lecture and/or lab hours as required by unit formula

Courses and/or workshops in selected areas of Engineering Technology are developed to meet specific needs of the industry as requested or required. Field trips may be required.

Transfer credit: CSU

NOTE: The courses listed below have been temporarily suspended. For further information, please contact the Occupational Ed. & Econ Dev. division office.

- ENGTR122 CCNP Routing
- ENGTR123 CCNP Remote Access
- ENGTR124 CCNP Switching
- ENGTR125 CCNP Support
- ENGTR126 CCDA Preparation
- ENGTR132 Administering Microsoft Windows 2000
Infrastructure
- ENGTR133 Administering Microsoft Windows 2000
Directory Services
- ENGTR134 Designing Microsoft Windows 2000
Directory Services
- ENGTR135 Designing Microsoft Windows 2000 Security
- ENGTR136 Designing a Microsoft Windows 2000 Network