

ENGINEERING TECHNOLOGY

The Computer Networking program prepares students for employment in an environment where required skills include possession of an A+ Certification, CISCO wireless fundamentals, direct and indirect electronic current, remote access and switch operation, Microsoft Windows Pro and related skills. Students have the option of either completing an Associate of Arts Degree, transferring to a four year college or university, completing a Certificate of Achievement or, for students already employed in the field, they can select courses that allow them to continue maintaining or upgrading their skills.

For more information, contact:
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Career Opportunities

Cisco Certified Networking Associate (CCNA)
Cisco Certified Networking Professional (CCNP)
Microsoft Certified Professional (MCP)
Certified Electronics Technician (CET)
Information Technology Specialist
Programmable Logic Devices Technician

Faculty

Full-Time

Alex Lynch

Part-Time

Richard Carmichael
Jess Sandoval

Dirk DeKreek
Albert Wolfkiel

◆ Computer Networking

Associate in Science Degree and/or Certificate of Achievement*

Cisco Option		Units
ENGTR120	First Half of CCNA Prep	4
ENGTR121	Second Half of CCNA Prep	4
ENGTR142	A+ Certification Preparation	4
ENGTR127	Cisco Wireless Fundamentals	3
Total		15

Electives

Select at least 12 units from the following electives

ENGTR110	Direct Current Electronics	4
ENGTR111	Alternating Current Electronics	4
ENGTR122	CCNP Routing	4
ENGTR123	CCNP Remote Access	4
ENGTR124	CCNP Switching	4
ENGTR125	CCNP Support	4
ENGTR130	Admin Microsoft Windows Pro	3
ENGTR131	Admin MS Windows Server	3
ENGTR144	Network+ Certification Prep	4

Electives 12
Total Units 27

◆ Engineering Technology

Associate in Science Degree and/or Certificate of Achievement*

Electrical Engineering Technology Option		Units
ENGTR110	Direct Current Electronics	4
ENGTR111	Alternating Current Electronics	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

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	Admin Microsoft Windows Pro	3
ENGTR131	Admin MS Windows Server	3
ENGTR142	A+ Certification Prep	4
ENGTR144	Network+ Certification Prep	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

ENGT R098—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)

ENGT R110—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

ENGT R111—Alternating Current Engineering 4 units

Prerequisites: ENGT R110.

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

ENGT R112—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 R122—CCNP Routing 4 units

Advisory: ENGT R121.
2 hours lecture, 6 hours lab weekly

This course provides the student with the knowledge to configure Cisco routers for advanced network deployment. The course also prepares students for the Cisco Routing exam. The Cisco Routing exam is one of four exams required to become a Cisco Certified Networking Professional (CCNP). Field trips may be required.

Transfer credit: CSU

ENGT R123—CCNP Remote Access 4 units

Advisory: ENGT R121.
2 hours lecture, 6 hours lab weekly

This course provides the student with the knowledge to configure remote access networking devices. The course also prepares students for the Cisco Remote Access Networks exam. The Cisco Remote Access Networks exam is one of four exams required to become a Cisco Certified Networking Professional (CCNP). Field trips may be required.

Transfer credit: CSU

ENGT R124—CCNP Switching 4 units

Advisory: ENGT R121.
2 hours lecture, 6 hours lab weekly

This course provides the student with the knowledge to configure multi-layer switched networks. The course also prepares students for the Cisco Switching exam. The Cisco Switching exam is one of four exams required to become a Cisco Certified Networking Professional (CCNP). Field trips may be required.

Transfer credit: CSU

ENGT R125—CCNP Support 4 units

Advisory: ENGT R121.
2 hours lecture, 6 hours lab weekly

This course provides the student with the knowledge to troubleshoot and repair various network problems. The course also prepares students for the Cisco Support exam. The Cisco Support exam is one of four exams required to become a Cisco Certified Networking Professional (CCNP). Field trips may be required.

Transfer credit: CSU

ENGT R126—CCDA Preparation 4 units

Prerequisites: ENGT R121.
2 hours lecture, 6 hours lab weekly

This course provides the student with the knowledge to design a computer network for a small to middle-sized business. This course also helps prepare the student to take the Cisco Certified Design Associate (CCDA) certification exam. 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 R132—Administering Microsoft Windows 2000 Infrastructure 4 units

2 hours lecture, 6 hours lab weekly

This course prepares the student to set up and support a Windows 2000 Network Infrastructure. It also helps prepare students for Microsoft's certification exam 70-216, "Implementing and Administering a Microsoft Windows 2000 Network Infrastructure." This exam is one of Microsoft's required core exams for those wishing to become a Microsoft Certified Systems Engineer (MCSE). Field trips may be required.

Transfer credit: CSU

ENGT R133—Administering Microsoft Windows 2000 Directory Services 4 units

2 hours lecture, 6 hours lab weekly

This course prepares the student to set up and support the Windows 2000 Directory Services. It also helps prepare students for Microsoft's certification exam 70-217, "Implementing and Administering Microsoft Windows 2000 Directory Services." This exam is one of Microsoft's required core exams for those wishing to become a Microsoft Certified Systems Engineer (MCSE). Field trips may be required.

Transfer credit: CSU

ENGT R134—Designing Microsoft Windows 2000 Directory Services 4 units

2 hours lecture, 6 hours lab weekly

This course prepares the student to design a Windows 2000 Directory Services. It also helps prepare students for Microsoft's certification exam 70-219, "Designing Microsoft Windows 2000 Directory Services." This is one of the seven exams needed for anyone wishing to become a Microsoft Certified Systems Engineer (MCSE). Field trips may be required.

Transfer credit: CSU

ENGT R135—Designing Microsoft Windows 2000 Security 4 units

2 hours lecture, 6 hours lab weekly

This course prepares the student to design security for a Windows 2000 directory network. It also helps prepare students for Microsoft's certification exam 70-220, "Designing Microsoft Windows 2000 Security." This is one of the seven exams needed for anyone wishing to become a Microsoft Certified Systems Engineer (MCSE). Field trips may be required.

Transfer credit: CSU

ENGT R136—Designing a Microsoft Windows 2000 Network 4 units

2 hours lecture, 6 hours lab weekly

This course prepares the student to design a Windows 2000 network. It also helps prepare students for Microsoft's certification exam 70-221, "Designing a Microsoft Windows 2000 Network." This is one of the seven exams needed for anyone wishing to become a Microsoft Certified Systems Engineer (MCSE). 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