

# ENGINEERING TECHNOLOGY

Emphasis of this program is on practical skills for engineering technicians.

## Career Opportunities

Cisco Certified Networking Associate (CCNA)  
 Cisco Certified Design Associate (CCDA)  
 Cisco Certified Networking Professional (CCNP)  
 Microsoft Certified Professional (MCP)  
 Microsoft Certified Systems Engineer (MCSE)  
 Certified Electronics Technician (CET)  
 Programmable Logic Devices Technician

## Faculty

**Full-Time**  
 Alex Lynch  
 Victor Fuentes

**Counselor**  
 Daniel Goicoechea

**Part-Time**  
 Richard Carmichael  
 Dirk DeKreek  
 Rodger Morris  
 Albert Wolfkiel

John Craig  
 Quint Morris  
 Jess Sandoval

## Computer Networking

Associate in Science Degree and/or  
 Certificate of Achievement\*

<u>Cisco Option</u>		Units
ENGT R140	PC Repair and Upgrade	4
ENGT R120	First Half of CCNA Prep	4
ENGT R110	Direct Current Electronics	4
ENGT R121	Second Half of CCNA Prep	4
ENGT R111	Alternating Current Electronics	4
ENGT R142	A+ Certification Preparation	4
ENGT R112	Digital Engineering	4
ENGT R127	Cisco Wireless Fundamentals	4
<b>Total</b>		<b>32</b>

Associate in Science Degree and/or  
 Certificate of Achievement\*

<u>Microsoft Option</u>		Units
ENGT R140	PC Repair and Upgrade	4
ENGT R130	Admin Win2000 Professional	4
ENGT R131	Admin Win2000 Server	4
ENGT R132	Admin Win2000 Infrastructure	4
ENGT R133	Admin Win2000 Directory Services	4
ENGT R134	Design Win2000 Directory Services	4
ENGT R135	Design Win2000 Security	4
ENGT R136	Design a Win2000 Network	4
<b>Total</b>		<b>32</b>

## Engineering Technology

Associate in Science Degree and/or  
 Certificate of Achievement\*

<u>Electrical Engineering Technology Option</u>		Units
ENGT R140	PC Repair and Upgrade	4
ENGT R110	Direct Current Electronics	4
ENGT R142	A+ Certification Preparation	4
ENGT R111	Alternating Current Electronics	4
ENGT R112	Digital Engineering	4
ENGT R114	Introduction to Programmable Logic Controllers	4

ENGT R113	Circuits Engineering	4
ENGT R115	Advanced Programmable Logic Controllers	4
<b>Total Required Units</b>		<b>32</b>

\*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** 1/2-10 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 Electronics** 4 units  
 2 hours lecture, 6 hours lab weekly

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

Transfer credit: CSU

**ENGT R111—Alternating Current Electronics** 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 electronics found at four-year engineering schools. Students use various engineering techniques to design, draft, construct, test, and evaluate alternating current circuits. This course also helps those seeking employment as electronic technicians. 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**

*2 hours lecture, 6 hours lab weekly*

This is the first of two courses that provide students with the knowledge to plan, implement, and administer a Local Area Network. These two courses also prepare students to take the Cisco Certified Networking Associate (CCNA) exam. Field trips may be required.

*Transfer credit: CSU*

**ENGT R121—Second Half of CCNA Prep 4 units**

*Prerequisites: ENGT R120.*  
*2 hours lecture, 6 hours lab weekly*

This is the second of two courses that provide students with the knowledge to plan, implement, and administer a Local Area Network. These two courses also prepare students to take the Cisco Certified Networking Associate (CCNA) exam. 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 4 units**

*2 hours lecture, 6 hours lab weekly*

This is an introductory course in wireless technology. At the completion of this course students will have the ability to plan, implement, and administer a Wireless Local Area Network (WLAN) by configuring client's adapters, access points, and wireless bridges. Field trips may be required.

*Transfer credit: CSU*

**ENGT R130—Administering Microsoft Windows 2000 Professional 4 units**

*2 hours lecture, 6 hours lab weekly*

This course prepares the student to set up and support the Windows 2000 Professional desktop operating system. It also helps prepare students for Microsoft's certification exam 70-210, "Installing, Configuring and Administering Microsoft Windows 2000 Professional." 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 R131—Administering Microsoft Windows 2000 Server 4 units**

*2 hours lecture, 6 hours lab weekly*

This course prepares the student to set up and support the Windows 2000 Server operating system. It also helps prepare students for Microsoft's certification exam 70-215, "Installing, Configuring and Administering Microsoft Windows 2000 Server." 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 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 R140—PC Repair and Upgrade 4 units**

*2 hours lecture, 6 hours lab weekly*

This is an introductory course in the repair and upgrade of personal computers. It is for those students desiring hands-on experience in computer repair and upgrade but are not prepared for the more rigorous certification courses. Subjects include safety, troubleshooting, assembly, hardware upgrades, memory upgrades, and operating system upgrades. 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*