

# Information Technology & Careers

## AWARDS

Information Technology Support A.A.S. Degree . . . . .	60 cr
Network Technology and Security A.A.S. Degree . . . . .	60 cr
Advanced Network Security Certificate . . . . .	15 cr
Advanced Network Technology Certificate . . . . .	15 cr
IP Telephony Certificate . . . . .	15 cr
IT Help Desk Certificate . . . . .	15 cr
Microsoft Certified Solutions Associate (MCSA) Certificate. . . . .	15 cr

## INFORMATION TECHNOLOGY SUPPORT A.A.S., 60 CREDITS

Information Technology Support . . . . .	44 cr
Liberal Arts . . . . .	16 cr

### PURPOSE

The Information Technology Support program trains workers for employment providing service to computer users, including hardware and software installation and technical assistance. Coursework includes experiences and instruction in communication and problem-solving skills, as well as technical training with hardware, software, operating systems, applications software, security, and computer network operations. Designed to prepare graduates to select, maintain, configure, and oversee installation of business-oriented personal computers, software, and to support and train users. This program provides the student training for a variety of IT industry certifications including the CompTIA A+, Microsoft MCSA, and CCNA Cyber Operations.

*Important Note: Many of the courses in ITC degree programs have prerequisites which limit the minimum number of technical courses which can be take in any one semester. In order to ensure timely graduation, appropriate course loads, and the correct mix of technical and liberal arts courses students are strongly encouraged to meet with an academic advisor, counselor, and/or faculty member from the ITC department before registering for classes to determine a degree plan.*

## Information Technology Support Curriculum **44 credits**

□ ITC 1000 Computer Careers . . . . .	1
□ ITC 1200 Cybersecurity Essentials. . . . .	2
□ ITC 1400 IT Fundamentals . . . . .	3
□ ITC 1480 Linux Essentials . . . . .	3
□ ITC 2000 PC Hardware and Software (A+) . . . . .	3
□ ITC 2100 IT Career Success Skills and Strategies . . . . .	2
□ ITC 2189 Information Technology Careers Internship . . . . .	3
□ ITC 2410 Installing and Configuring Windows Clients . . . . .	3
□ ITC 2420 Configuring Windows Devices . . . . .	3
□ ITC 2430 Installation, Storage, and Compute with Windows Server. . . . .	3
□ ITC 2440 Identity with Windows Server . . . . .	3
□ ITC 2480 Administering Linux Servers . . . . .	3
□ ITC 2516 Introduction to Networks and Switching, Routing, and Wireless Essentials (CCNA 1/2) . . . . .	6
□ ITC 2810 CCNA Cybersecurity Operations. . . . .	3
□ ITC 2900 Information Technology Careers Capstone. . . . .	3

## Liberal Arts **16 credits**

□ ENG 1108 Writing and Research Skills . . . . .	4
□ COMM 1100 Interpersonal Communication <b>OR</b> COMM 1110 Public Speaking <b>OR</b> COMM 2230 Small Group Communication <b>OR</b> COMM 2240 Intercultural Communication . . . . .	3
□ MnTC Goal 3 (with lab) <b>OR</b> MnTC Goal 4 elective . . . . .	3
□ MnTC Goal 5 elective. . . . .	3
□ MnTC Goal 6 elective . . . . .	3

**TOTAL CREDITS 60**

# NETWORK TECHNOLOGY AND SECURITY

## A.A.S., 60 CREDITS

Network Technology and Security .....	44 cr
Liberal Arts .....	16 cr

### PURPOSE

This program prepares students for rewarding careers in the dynamic field of computer networking and security. The continued growth of the Internet, wide area networks (WANs) and local area networks (LANs) requires people with the broad knowledge and skills needed to design, manage, secure, and troubleshoot sophisticated information storage, retrieval and presentation systems.

### PROGRAM INFORMATION

This program covers the workings of networks and systems from desktop and mobile devices to cloud servers that could be located anywhere in the world. The curriculum has been designed to encompass many of the same competencies that are covered by several recognized IT industry certifications, for example CompTIA's A+, Network+, Linux+, and Security+; Cisco CCNA, CCNP, and CCNA Cyber Operations; and Microsoft Certified Solutions Associate (MCSA), so students will gain the knowledge and skills that are recognized as important for employment in the field.

*Note: Many of the courses in ITC degree programs have prerequisites which limit the maximum number of technical courses which can be taken in any one semester. In order to ensure timely graduation, appropriate course loads, and the correct mix of technical and liberal arts courses students are strongly encouraged to meet with an academic advisor, counselor, and/or faculty member from the ITC department before registering for classes to determine a degree plan.*

### Network Technology and Security Curriculum **44 credits**

□ ITC 2000 PC Hardware and Software (A+) .....	3
□ ITC 2100 IT Career Success Skills and Strategies .....	2
□ ITC 2189 Information Technology Careers Internship .....	3
□ ITC 2300 Information Technology Services and Applications .....	3
□ ITC 2410 Installing and Configuring Windows Clients .....	3
□ ITC 2430 Installation, Storage, and Compute with Windows Server ...	3
□ ITC 2480 Administering Linux Servers .....	3
□ ITC 2516 Introduction to Networks and Switching, Routing, and Wireless Essentials (CCNA 1/2) .....	6
□ ITC 2536 Enterprise Networking, Security, Automation, and Core Technologies (CCNA 3/CCNP 1) .....	6
□ ITC 2621 Cisco Enterprise Advanced Routing and Services (CCNP 2) ...	3
□ ITC 2810 CCNA Cybersecurity Operations .....	3
□ ITC 2830 Implementing Cisco Network Security (CCNA Security) ...	3
□ ITC 2900 Information Technology Careers Capstone .....	3

### Liberal Arts **16 credits**

□ ENG 1108 Writing and Research Skills .....	4
□ COMM 1100 Interpersonal Communication <b>OR</b> COMM 1110 Public Speaking <b>OR</b> COMM 2230 Small Group Communication <b>OR</b> COMM 2240 Intercultural Communication .....	3
□ MnTC Goal 3 (with lab) <b>OR</b> MnTC Goal 4 elective .....	3
□ MnTC Goal 5 elective .....	3
□ MnTC Goal 6 elective .....	3

**TOTAL CREDITS 60**

## ADVANCED NETWORK SECURITY CERTIFICATE, 15 CREDITS

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### PURPOSE

This certificate program provides comprehensive knowledge and skills needed for IT professionals who have network security and information assurance responsibilities. Courses cover industry standard topics including security incident management, Cisco IOS and ASA firewalls, ethical hacking, VPNs, intrusion detection, and overall security policy and practices. Participants must have CCENT certification or three years of experience as a network technician, administrator or analyst in a Cisco environment.

#### Advanced Network Security Certificate **15 credits**

□ ITC 2480 Administering Linux Servers . . . . .	3
□ ITC 2810 CCNA Cybersecurity Operations . . . . .	3
□ ITC 2820 Information Systems Security Advanced . . . . .	3
□ ITC 2830 Implementing Cisco Network Security (CCNA Security) . . . . .	3
□ ITC 2840 Advanced Network Security . . . . .	3

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**TOTAL CREDITS 15**

## ADVANCED NETWORK TECHNOLOGY CERTIFICATE, 12-15 CREDITS

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### PURPOSE

This certificate provides IT employees with knowledge and skills needed to assume additional or higher-level responsibilities for a large enterprise networked environment. The curriculum focuses on content from the Cisco CCNP Enterprise and Cisco CCNA Security certifications, and provides flexibility for various levels of current competence and areas of emphasis. Participants must have CCNA certification or three years of experience as a network technician, administrator or analyst in a Cisco environment.

#### Advanced Network Technology Certificate **12-15 credits**

□ ITC 2480 Administering Linux Servers . . . . .	3
□ ITC 2830 Implementing Cisco Network Security (CCNA Security) . . . . .	3
□ ITC 2611 Cisco Enterprise Network Core Technologies (CCNP 1) <b>OR</b> . . . . .	3
□ ITC 2536 Enterprise Networking, Security, Automation, and Core Technologies (CCNA 3/CCNP 1) . . . . .	6
□ ITC 2621 Cisco Enterprise Advanced Routing and Services (CCNP 2) . . . . .	3

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**TOTAL CREDITS 12-15**

## IP TELEPHONY CERTIFICATE, 15 CREDITS

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### PURPOSE

The ability to communicate effectively and efficiently is critical to all businesses today. The convergence of voice, video, and data networks into single networks supporting Voice over IP (VoIP), team collaboration, chat services, video conferencing, email, and other communication methods has transformed the way these services are delivered. This certificate provides IT employees with the knowledge and skills to implement and administer these converged communications networks. Participants must have CCNA certification or three years of experience as a network technician, administrator or analyst in a Cisco environment.

#### IP Telephony Certificate **15 credits**

□ ITC 2720 Implementing Cisco Collaboration Devices . . . . .	3
□ ITC 2730 Quality of Service (QoS) . . . . .	3
□ ITC 2740 Cisco IP Telephony Integration (Part I) . . . . .	3
□ ITC 2750 Cisco IP Telephony Integration (Part II) . . . . .	3
□ ITC 2760 IP Telephony: Enterprise Planning and Design . . . . .	3

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**TOTAL CREDITS 15**

## I.T. HELP DESK CERTIFICATE, 15 CREDITS

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### PURPOSE

This program provides the knowledge and skills for employment in entry-level positions that support end-users of technology in a networked environment. Students will learn the essential components and function of the hardware and software used in specific desktop applications. Interpersonal relations and customer service will be covered.

#### IP Help Desk Certificate **15 credits**

□ ITC 2000 PC Hardware and Software (A+) . . . . .	3
□ ITC 2410 Installing and Configuring Windows Clients . . . . .	3
□ ITC 2420 Configuring Windows Devices . . . . .	3
□ ITC 2516 Introduction to Networks and Switching, Routing, and Wireless Essentials (CCNA 1/2) . . . . .	6

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**TOTAL CREDITS 15**

# MICROSOFT CERTIFIED SOLUTIONS ASSOCIATE (MCSA) CERTIFICATE, 15 CREDITS

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## PURPOSE

Microsoft software and systems are pervasive within the enterprise computing environment. This certificate will provide the student necessary system administration skills to operate in the Microsoft server and client environment, and will provide the student training for the MCSA certifications in Windows Client and Windows Server.

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Microsoft Cert. Solutions Assoc. Certificate	15 credits
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□ ITC 2410 Installing and Configuring Windows Clients . . . . .	3
□ ITC 2420 Configuring Windows Devices . . . . .	3
□ ITC 2430 Installation, Storage, and Compute with Windows Server . . . . .	3
□ ITC 2440 Identity with Windows Server . . . . .	3
□ ITC 2450 Networking with Windows Server . . . . .	3

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**TOTAL CREDITS 15**



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