

# Computer Systems Administration Specialist

Program Number: 10-154-7

## Associate in Applied Science Degree

Information Technology Program Cluster  
Center for Agriscience and Technologies  
Program offered at Madison Campuses

For information call: (608) 246-6800 or  
(800) 322-6282 Ext. 6800

## About the Program

Earn a degree in Computer Systems Administration while gaining the skills necessary to obtain key industry certifications such as the CompTIA A+, Microsoft Certified Technology Specialist (MCTS) and Microsoft Certified Information Technology Professional (MCITP) with the Windows Server specialization. Challenge yourself to learn the technologies valued by area employers including Microsoft Windows system administration for both client and server systems. Learn the fundamentals of data networking, operating systems support and systems integration to prepare for your information technology career. A guided on-the-job internship with an area employer helps students find the jobs they desire.

Typical job duties include: install, configure, administer and operate client and server systems including Microsoft Windows server, Windows client, Linux and Microsoft Exchange. Perform technical troubleshooting of computer systems and networks. Integrate the hardware and software required to support new initiatives. Install, maintain and troubleshoot Internet connectivity for services such as email, web and other Internet applications. Be responsible for critical system backups and plan for the restoration of computing services in the event of disasters. Demonstrate initiative as a member of an information technology team.

## Requirements for Admission

- 1) High school diploma, HSED or GED with a minimum grade point average of 2.0 or equivalent
- 2) General knowledge of Microsoft Windows

## Curriculum

FIRST YEAR		Credits	Hrs/week	
First Semester			Lec	Lab
10-107-111	Careers in IT.....	1	1	0
10-150-160	IT Security Awareness.....	1	1	0
10-152-150	Introduction to Perl Programming.....	3	2	2
10-154-184	Windows Client.....	3	2	2
10-154-189	Computer Hardware Essentials.....	3	2	2
10-801-195	Written Communication.....	3	3	0
10-809-197	Contemporary American Society.....	3	3	0
<b>Total</b>		<b>17</b>		

Second Semester		Credits	Hrs/week	
			Lec	Lab
10-150-101	Network Essentials <b>OR</b> .....	3	2	2
10-150-170	CCNA1&2: Networking Routing Basics..... (3)	(3)	(2)	(2)
10-152-151	Scripting with Perl.....	3	2	2
10-154-186	Windows Network Infrastructure.....	3	2	2
10-154-191	A+ IT Technician.....	3	2	2
10-801-196	Oral/Interpersonal Communication.....	3	3	0
10-804-144	Math of Finance.....	3	3	0
<b>Total</b>		<b>18</b>		

## SECOND YEAR

First Semester		Credits	Hrs/week	
			Lec	Lab
10-107-175	Job Search Preparation.....	1	1	0
10-150-162	Computer Systems Security.....	3	2	2
10-154-188	Windows Active Directory*.....	3	2	2
10-154-190	Linux Server.....	3	2	2
10-809-166	Introduction to Ethics: Theory and Application.....	3	3	0
10-809-199	Psychology of Human Relations.....	3	3	0
<b>Total</b>		<b>16</b>		

Second Semester		Credits	Hrs/week	
			Lec	Lab
10-154-122	IT Service Concepts <b>OR</b> .....	3	2	2
10-107-159	IT Project Management**..... (3)	(3)	(2)	(2)
10-154-193	Email in a Windows Environment**.....	3	2	2
10-154-194	Windows Server Pro**.....	3	2	2
10-154-198	Systems Administration Internship**.....	3	2	2
10-809-197	Technical Reporting.....	3	3	0
	Elective.....	3		E
<b>Total</b>		<b>18</b>		

\*Offered fall semester only

\*\*Offered spring semester only

## Graduation Requirement

All Prerequisite courses require the grade of C or better in prerequisite in Information Technology (150-, 152-, 154-, 107-) course(s). All Information Technology courses require a grade of C or better in order to graduate.

*Note: Students are assessed for correct placement in English or mathematics courses based on their scores on the COMPASS test or on completion of the appropriate prerequisite/s. Additionally, there may be courses in other subject areas that may use COMPASS scores as prerequisites when reading, writing, math, or critical thinking competencies are required.*

## Recommended Electives

Electives must be associate degree (100 level) or college transfer (200 level) courses.		
10-106-101	Introduction to Keyboarding	1 credit
10-150-172	CCNA 3&4: Switching and WAN Access	3 credits
10-152-119	Introduction to Programming with Javascript	3 credits
10-152-120	Website Development - XHTML	3 credits

## Program Courses

### 10-150-101 Network Essentials 3 credits

Develop fundamental networking skills including an understanding of network hardware, installation, security and troubleshooting in a corporate environment. Through classroom and hands-on activities, learn how computers exchange information and how the Internet functions.

### 10-150-162 Computer Systems Security 3 credits

Introduces the basics of network security. The student is introduced to computer network vulnerabilities and threats and how to safeguard computer networks from those vulnerabilities and threats. This course exposes the student to network security planning, network security technology, network security organization and the legal and ethical issues associated with network security. Students learn the skills necessary for Security+ certification. Prerequisites: 10-150-160, 10-154-186 and one of the following: 10-150-101 or 10-150-170.

### 10-152-150 Introduction to Perl Programming 3 credits

This course is design to introduce students who are non-programming Information Technology majors to scripting. During the course students will develop sound scripting skills for solving common business problems. Stressing structured programming and modular design, this course uses pseudo code as the major program design technique. This course emphasis programming of scripts using the Perl programming language. Students will be required to complete simple to compound scripting assignments. Prerequisite: Working knowledge of Microsoft Windows (computer literacy, proficiency with a mouse, file management).

### 10-152-151 Scripting with Perl 3 credits

This course provides the student with experience with the Perl programming language. The course covers concepts such as repetitive tasks, file maintenance, log file analysis or Bioinformatics, database access, and module usage. A simple text editor will be used for creating scripts and the Perl interpreter will be used to run the scripts. Prerequisite: 10-152-150.

### 10-154-122 IT Service Concepts 3 credits

Introduces the "value added" customer service roles and responsibilities of an IT professional; the components of a successful IT support infrastructure, customer service as the bottom line for IT operations, the evolution of IT support, industry trends, teamwork, IT professional work habits. Explores listening, written and verbal communications skills and critical thinking skills to resolve incidents. Examines how to identify and defuse challenging customer behavior, solve and prevent problems, and the importance of documentation. Course addresses awareness of best practices of the ITIL framework.

### 10-154-184 Windows Client 3 credits

Learn how to install, configure and administer Windows Vista, the latest Windows desktop operating system. Work in a computer laboratory setting to develop the real-world expertise needed to set up and support the Windows desktop environment. As you progress through topics including Windows installation, hardware device configuration and establishing network connectivity, you are also preparing for Microsoft Exam 70-620. As an added bonus you will learn the operation of VMWare Workstation. Prerequisite: Working knowledge of Microsoft Windows (computer literacy, proficiency with a mouse, file management).

### 10-154-186 Windows Network Infrastructure 3 credits

Gain the skills necessary for supporting and configure a Windows Network infrastructure including name resolution, file and print services, and remote access. Learn the practical skills required to troubleshoot and monitor network problems while preparing for Microsoft MCTS Exam 70-642. Prerequisites: 10-107-111, 10-154-184 and completion or concurrent enrollment in one of the following: 10-150-101 or 10-150-170.

### 10-154-188 Windows Active Directory 3 credits

Gain the skills to administer and support a Windows Active Directory environment—and prepare for Microsoft Exam 70-640—a core requirement for the MCTS Windows Server Specialization. Gain practical experience managing a Windows Active Directory infrastructure, including configuration, backup ad troubleshooting while preparing for Microsoft MCTS exam 70-640. Prerequisite: 10-154-186.

### 10-154-190 Linux Server 3 credits

Introduces Linux with a focus on system administration skills. Topics include installation, file and directory management, command execution, input/output redirection and pipes, shell scripts, network services, security, troubleshooting and the X Window system. Prerequisite: 10-150-101 or 10-150-170.

### 10-154-193 Email in a Windows Environment 3 credits

Through the use of Microsoft Exchange Server, gain an understanding of the principles of a modern email system. Acquire the knowledge and skills necessary to install, configure, and administer Microsoft Exchange Server. Learn how to provide web access to Exchange using Microsoft's Outlook Web Access. Install and configure Instant Messaging and learn how to monitor and tune Exchange Server. Prepare for the Microsoft MCP examination on Exchange Server. Prerequisite: 10-154-188.

### 10-154-194 Windows Server Pro 3 credits

Complete your education in Windows Server Support—and prepare for Microsoft Exam 70-646—while learning the day to day skills required for supporting Windows web, infrastructure and application servers. Learn the essentials of Windows scripting and batch files and other desktop tools required to profile and monitor Windows Servers. Prerequisites: 10-154-186 and 10-154-188.

### 10-154-198 Systems Administration Internship 3 credits

Provides work experience in an area data center environment offering a variety of experiences managing and operating computer systems. The student spends approximately 15 hours per week at the internship site. By consent of instructor, a special project may be substituted for the internship. Prerequisites: 10-107-175, 10-150-162 and 10-154-188 or consent of instructor.

### Additional Required Program Courses

10-107-111	Careers in IT	1 credit
10-107-159	IT Project Management	3 credits
10-107-175	Job Search Preparation	1 credit
10-150-160	IT Security Awareness	1 credit
10-150-170	CCNA1&2: Networking & Routing Basics	3 credits
10-154-189	Computer Hardware Essentials	3 credits
10-154-191	A+ IT Technician	3 credits

## Career Potential:

- Microsoft Certified Technology Specialist(MCTS)
- Computer Systems Administrator
- Computer System Operator
- Systems Technician
- IS Technical Services Specialist
- Help Desk Analyst
- Email Administrator

With additional education and/or work experience, graduates may find employment as:

- Network Administrator
- Computer Operations Shift Supervisor
- Data Center Manager
- Chief Information Officer (CIO)
- Microsoft Certified Information Technology Professional (MCITP)

*More detailed and updated information on this program may be available at: [matcmadison.edu](http://matcmadison.edu). The college reserves the right to make changes in the regulations and courses announced in this publication without notice.*

*Madison Area Technical College provides equal opportunity in education and employment.*

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