

WESTERN DAKOTA TECH

COMPUTER SCIENCE – INFORMATION TECHNOLOGY SPECIALIST

Associate of Applied Science, 69 Credit Hours, 18-Month Program

The Computer Science - Information Technology Specialist program strikes a balance between theory and application. Students will learn about real-life networking and cyber security environments, making them immediately productive upon graduation and prepared to take on a variety of information technology (IT) roles. The first year builds a solid foundation of basic hands-on computer skills and networking concepts. The second-year challenges students to learn to adapt and react to the changing world of computers. Deeper networking concepts are introduced, including cyber security, ethical hacking, complex networks, and programming skills. The emphasis of coursework will be based on preparing students for industry certification testing. Students also will be prepared to continue learning and advancing within the field, allowing them to work within an organization to apply networking, and cyber security to business strategy, tactics, and goals.

A typical job description for an information technology specialist would generally include working in an office environment. The job is often performed alone, and the IT Specialist must possess strong troubleshooting and technical skills, including strong math skills. Conversely, the IT Specialist must also work with users who are not comfortable with the system or who are experiencing difficulties, thus the requirement for strong communications skills. Configuring a network can require long hours of work in a short period of time. Maintaining the network can alternate between routine tasks to install, maintain, and update programs, as well as the hectic work of troubleshooting and fixing network problems. If a network crashes, the Information Technology Specialist must work quickly and purposefully to solve problems and restore the network operation. In addition, the task of updating and maintaining network services can require late hours and work on an irregular schedule. The IT worker must also be prepared to maintain related technology within an organization, including audio-visual equipment, televisions, phones, and cabling infrastructure. Physical duties may include climbing and working using ladders, installing cabling, moving computers and related equipment, and installing equipment.

Course No.	Course Title	Credits
General Education Requirements		
CIS 105	MICROCOMPUTER SOFTWARE APPLICATIONS I	3
ENGL 101	COMPOSITION*	3
ENGL 108	WORKPLACE COMMUNICATIONS II	3
ECON 202	PRINCIPLES OF MACROECONOMICS <i>online or</i>	3
SOC 100	INTRODUCTION TO SOCIOLOGY	
MATH 114	COLLEGE ALGEBRA**	3
PSYC 101	GENERAL PSYCHOLOGY <i>or</i>	3
PSYC 103	HUMAN RELATIONS IN THE WORKPLACE	
	Total	18
Technical Requirements		
CIS 122	INFORMATION TECHNOLOGY HARDWARE/SOFTWARE	6
CIS 129	WINDOWS OPERATING SYSTEMS	3
CIS 131	NETWORKING TECHNOLOGIES I	3
CIS 132	NETWORKING TECHNOLOGIES II	3
CIS 133	NETWORKING TECHNOLOGIES III	3
CIS 134	NETWORKING TECHNOLOGIES IV	3
CIS 201	LINUX TECHNOLOGIES	3
CIS 213	NETWORKING USING WINDOWS SERVER	3
CIS 215	NETWORK DESIGN AND VIRTUALIZATION	3
CIS 216	INTRODUCTION TO PROGRAMMING	3
CIS 219	ADVANCED SERVER TECHNOLOGIES	3
CIS 220	NETWORK SECURITY I	3
CIS 225	DATABASES	3
CIS 230	COMPUTER FORENSICS	3
CIS 235	NETWORK SECURITY II	3
CIS 299	INTERNSHIP	3
	Total	51

*Prerequisite: Acceptable ACCUPLACER score or Basic Writing.

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Semester Breakdown AAS

First Semester			Second Semester		
		CR			CR
CIS 105	Microcomputer Software Applications I	3	CIS 132	Networking Technologies II	3
CIS 122	Information Technology Hardware/Software	6	CIS 201	Linux Technologies	3
CIS 129	Windows Operating Systems	3	CIS 213	Networking Using Windows Server	3
CIS 131	Networking Technologies I	3	CIS 225	Databases	3
MATH 114	College Algebra	3	ENGL 101	Composition	3
			PSYC 101	General Psychology <i>or</i>	3
			PSYC 103	Human Relations in the Workplace	
Total Credit Hours		18	Total Credit Hours		18
Third Semester			Fourth Semester		
		CR			CR
CIS 133	Networking Technologies III	3	CIS 134	Networking Technologies IV	3
CIS 216	Introduction to Programming	3	CIS 215	Network Design & Virtualization	3
CIS 219	Advanced Server Technologies	3	CIS 230	Computer Forensics	3
CIS 220	Network Security I	3	CIS 235	Network Security II	3
ECON 202	Principles of Macroeconomics	3	ENGL 108	Workplace Communications II	3
	<i>online or</i>				
SOC 100	Introduction to Sociology				
Total Credit Hours		15	Total Credit Hours		15
Summer Semester *					
		CR			
CIS 299	Internship	3			
Total Credit Hours		3			

**See Program Director for details.*

If you are or have been convicted, pleaded guilty or no contest to, or received a suspended imposition of sentence for a felony or certain misdemeanors, you are advised that you may not be able to complete all course requirements for your chosen program, you may be prevented from taking required certification/licensure examinations in your chosen program field, and you may be prevented from gaining employment in your program field.

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