



Information Technology Career Cluster

Pathway	OCCUPATIONS RELATING TO THIS CAREER CLUSTER
Information Support & Services	Database Administrator • Account Manager • Help Desk Specialist • Information Systems Architect • Systems Analyst • Instructional Designer • Testing Engineer
Network Systems	User Support Specialist • Network Administrator • Network Engineer • Information Technology Engineer • Network Security Analyst • Telecommunications Network Technician
Programming & Software Development	Computer Engineer • Software Applications Specialist • Game Developer • Software Applications Tester • Project Lead • Software Design Engineer
Web & Digital Communications	Multimedia Specialist • Web Designer • Web Site Developer • Animator • Blog Developer • Streaming Media Specialist

HIGH SCHOOL COURSE REQUIREMENTS				
English	Math	Science	Social Studies	Physical Education
Four units required to graduate; including literature, composition, and speech.	Three units required to graduate	Three units required to graduate.	Three units required to graduate.	One unit required to graduate.
Choices may include:	Choices may include:	Required Units:	Required Units:	Required Units:
<input type="checkbox"/> English 9 05071	<input type="checkbox"/> Algebra I 11031	<input type="checkbox"/> Physical Science 13030	<input type="checkbox"/> U.S. History 15085	<input type="checkbox"/> Physical Education 1 unit 08030
<input type="checkbox"/> English 10 05072	<input type="checkbox"/> Geometry 11120	<input type="checkbox"/> Biology 13020	<input type="checkbox"/> American Government ½ unit AND 15111	OR
<input type="checkbox"/> English 11 05073	<input type="checkbox"/> Advanced Algebra 11032		<input type="checkbox"/> Economics ½ unit 15060	<input type="checkbox"/> Physical Education ½ unit AND 08030
<input type="checkbox"/> English 12 05074		Additional units may include:	OR	<input type="checkbox"/> Health ½ unit 18010
		<input type="checkbox"/> Botany	<input type="checkbox"/> Problems of Democracy 1 unit 15201	
		<input type="checkbox"/> Chemistry		
		<input type="checkbox"/> Environmental Science	Additional units may include:	
		<input type="checkbox"/> Physics	<input type="checkbox"/> Civics	
			<input type="checkbox"/> Geography	
			<input type="checkbox"/> Psychology	
			<input type="checkbox"/> World History	

Career and Technical Education Electives			Extended Learning Opportunities	
Three units of foreign or Native American language, fine arts, or career and technical education are required to graduate.				
Information Technology Education			School-Based:	Community Based:
<input type="checkbox"/> Introduction to IT 27101	<input type="checkbox"/> Programming Essentials 27122		<input type="checkbox"/> SkillsUSA	<input type="checkbox"/> Mentorship
<input type="checkbox"/> IT Essentials 2 27220	<input type="checkbox"/> Fundamentals of JAVA Programming 27125		<input type="checkbox"/> FBLA	<input type="checkbox"/> Volunteer
<input type="checkbox"/> Computer Hardware & Operating Systems (A+) 27219	<input type="checkbox"/> Advanced JAVA Programming 27127		<input type="checkbox"/> TSA	<input type="checkbox"/> Part-time Employment
<input type="checkbox"/> Introduction to Networking 27265	<input type="checkbox"/> Data Modeling & SQL 27500		<input type="checkbox"/> FFA	<input type="checkbox"/> Service Learning Project
<input type="checkbox"/> CCNA Introduction to Networks 27266	<input type="checkbox"/> Intro to Programming Languages 27120		<input type="checkbox"/> DECA	<input type="checkbox"/> Job Shadow
<input type="checkbox"/> CCNA Routing & Switching Essentials 27267		Business Education	<input type="checkbox"/> FCCLA	<input type="checkbox"/> Internship
<input type="checkbox"/> CCNA Scaling Networks 27268	<input type="checkbox"/> Database 14026		<input type="checkbox"/> Career Research	
<input type="checkbox"/> CCNA Connecting Networks 27269	<input type="checkbox"/> Communication Technologies 14028		<input type="checkbox"/> Cooperative Work Experience	
<input type="checkbox"/> Essentials of Desktop Operating Systems 27300				
<input type="checkbox"/> Essentials of Network Operating Systems 27310		Technology & Engineering Education		
<input type="checkbox"/> Geographic Information Systems (GIS) 27400	<input type="checkbox"/> Foundations of Technology 10094			
<input type="checkbox"/> Computer Software Applications 27102	<input type="checkbox"/> PLTW Digital Electronics 10512			
<input type="checkbox"/> Introduction to Web Design 27170	<input type="checkbox"/> Communication Technology 10251			
<input type="checkbox"/> CIW Foundations 27180	<input type="checkbox"/> Technological Design 10410			
<input type="checkbox"/> CIW Site Design 27185				

North Dakota Information Technology Related Postsecondary Programs			
Pathway	Associate's Degree or Less	Bachelor's Degree	Master's Degree or More
Information Support & Services	<input type="checkbox"/> Computer Applications (CCCC) <input type="checkbox"/> Computer Information Systems (BSC, DCB) <input type="checkbox"/> Computer Support Specialist (BSC, TMCC) <input type="checkbox"/> Computer Technology/Information Technology (DCB) <input type="checkbox"/> Geographic Information Systems Technician (BSC) <input type="checkbox"/> Information Systems Administrator (NDSCS) <input type="checkbox"/> Information Processing Specialist (BSC) <input type="checkbox"/> Information Management (NHSC, RC) <input type="checkbox"/> Information Technology (LRSC, NDSCS, RC, SBC, WSC) <input type="checkbox"/> IT Forensics (NDSCS) <input type="checkbox"/> Management Information Systems transfer (NDSCS)	<input type="checkbox"/> Applied Business Information Technology (MiSU) <input type="checkbox"/> Computer Technology Management (DSU) <input type="checkbox"/> Information Security (RC) <input type="checkbox"/> Management Information Science (UJ) <input type="checkbox"/> Information Technology (UJ) <input type="checkbox"/> Information Technology Management (RC, UM) <input type="checkbox"/> Technology Education (DSU, VCSU)	<input type="checkbox"/> Information Systems (MiSU) <input type="checkbox"/> Library/Information Technology (VCSU) <input type="checkbox"/> Technology (UND)
Network Systems	<input type="checkbox"/> Information Management (NHSC, RC) <input type="checkbox"/> Information Technology (LRSC, NDSCS, RC, SBC, WSC)	<input type="checkbox"/> Computer Information Systems (MaSU, UM, VCSU) <input type="checkbox"/> Information Systems (UND) <input type="checkbox"/> Management Information Systems (NDSU)	<input type="checkbox"/> Computer Science (NDSU, UND) <input type="checkbox"/> Electrical and Computer Engineering (NDSU)
Programming & Software Development	<input type="checkbox"/> Computer Science transfer (BSC, NDSCS) <input type="checkbox"/> Mobile Application Developer (NDSCS) <input type="checkbox"/> Software Application Development (RC)	<input type="checkbox"/> Computer Engineering (NDSU) <input type="checkbox"/> Computer Science (DSU, MiSU, NDSU, RC, UJ, UM, UND) <input type="checkbox"/> Electrical and Computer Engineering (NDSU) <input type="checkbox"/> Software Engineering (VCSU)	<input type="checkbox"/> Electrical and Computer Engineering (NDSU) <input type="checkbox"/> Software Engineering (NDSU)
Web & Digital Communications	<input type="checkbox"/> Computer Technology/Webmaster and Web Design (DCB) <input type="checkbox"/> Web Design (NDSCS) <input type="checkbox"/> Web Developer (NDSCS) <input type="checkbox"/> Web Page Development and Design (BSC) <input type="checkbox"/> Web Programming (RC)	<input type="checkbox"/> New Media and Web Design (NDSU)	

North Dakota Postsecondary Institutions Offering Information Technology Related Programs					
BSC	Bismarck State College	www.bismarckstate.edu	NHSC	Nueta Hidatsa Sahnish College	http://nhsc.edu
CCCC	Cankdeska Cikana Community College	www.littlehoop.edu	RC	Rasmussen College	www.rasmussen.edu
DCB	Dakota College at Bottineau	www.dakotacollege.edu	SBC	Sitting Bull College	www.sittingbull.edu
DSU	Dickinson State University	www.dickinsonstate.edu	TMCC	Turtle Mountain Community College	www.tm.edu
LRSC	Lake Region State College	www.lrsc.edu	UJ	University of Jamestown	www.uj.edu
MaSU	Mayville State University	www.mayvillestate.edu	UM	University of Mary	www.umary.edu
MiSU	Minot State University	www.minotstate.edu	UND	University of North Dakota	www.und.edu
NDSCS	ND State College of Science	www.ndscs.edu	VCSU	Valley City State University	www.vcsu.edu
NDSU	ND State University	www.ndsu.edu	WSC	Williston State College	www.willistonstate.edu