



Name \_\_\_\_\_

# 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.
<b>Choices may include:</b>	<b>Choices may include:</b>	<b>Required Units:</b>	<b>Required Units:</b>	<b>Required Units:</b>
<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 <b>AND</b> 15111	<b>OR</b>
<input type="checkbox"/> English 11 05073	<input type="checkbox"/> Advanced Algebra 11032	<input type="checkbox"/> One additional unit of Science	<input type="checkbox"/> Economics ½ unit 15060	<input type="checkbox"/> Physical Education ½ unit <b>AND</b> 08030
<input type="checkbox"/> English 12 05074		<b>OR</b>	<b>OR</b>	<input type="checkbox"/> Health ½ unit 18010
		<input type="checkbox"/> Biology 13020	<input type="checkbox"/> Problems of Democracy 1 unit 15201	
		<input type="checkbox"/> Chemistry 13031		
		<input type="checkbox"/> Physics 13042	<b>Additional units may include:</b>	
			<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"/> Mobile Applications Development 27128	<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"/> Advanced JAVA Programming 27127	<input type="checkbox"/> FBLA	<input type="checkbox"/> Volunteer
<input type="checkbox"/> Computer Hardware & Operating Systems (A+) 27219	<input type="checkbox"/> Data Modeling & SQL 27500	<input type="checkbox"/> Intro to Programming Languages 27120	<input type="checkbox"/> TSA	<input type="checkbox"/> Part-time Employment
<input type="checkbox"/> Introduction to Networking 27265	<input type="checkbox"/> Intro to Programming Languages 27120	<input type="checkbox"/> Internet of Things Fundamentals 27111	<input type="checkbox"/> FFA	<input type="checkbox"/> Service-Learning Project
<input type="checkbox"/> CCNA Introduction to Networks 27266	<input type="checkbox"/> CTE AP Computer Science Principles 27510	<input type="checkbox"/> CTE AP Computer Science A 27520	<input type="checkbox"/> DECA	<input type="checkbox"/> Job Shadow
<input type="checkbox"/> CCNA Routing & Switching Essentials 27267	<input type="checkbox"/> Governor's School: Information Technology 51012	<input type="checkbox"/> Programming Essentials: Python 27123	<input type="checkbox"/> FCCLA	<input type="checkbox"/> Internship
<input type="checkbox"/> CCNA Scaling Networks 27268	<input type="checkbox"/> Programming Essentials: Python 27123	<input type="checkbox"/> Computer Gaming and Design 27130	<input type="checkbox"/> Career Research	
<input type="checkbox"/> CCNA Connecting Networks 27269	<input type="checkbox"/> Computer Gaming and Design 27130	<input type="checkbox"/> Essentials of Desktop Operating Systems – Linux 27305	<input type="checkbox"/> Cooperative Work Experience	
<input type="checkbox"/> Essentials of Desktop Operating Systems 27300				
<input type="checkbox"/> Essentials of Network Operating Systems 27310				
<input type="checkbox"/> Geographic Information Systems (GIS) 27400				
<input type="checkbox"/> Computer Software Applications 27102				
<input type="checkbox"/> Introduction to Web Design 27170				
<input type="checkbox"/> Introduction to Cybersecurity 27280				

North Dakota Information Technology Related Postsecondary Programs			
Pathway	Certificate or Associate's Degree	Bachelor's Degree	Master's Degree or More
<b>Information Support &amp; Services</b>	<input type="checkbox"/> Office Technology (CCCC) <input type="checkbox"/> Computer Science (NHSC) <input type="checkbox"/> Computer Support Specialist (TMCC) <input type="checkbox"/> Computer Information Technology (UTTC) <input type="checkbox"/> Computerized Office Management (DCB) <input type="checkbox"/> Data Analytics Technician (BSC) <input type="checkbox"/> Geographic Information Systems Technician (BSC) <input type="checkbox"/> Information Processing Specialist (BSC) <input type="checkbox"/> Information Systems Administrator (NDSCS) <input type="checkbox"/> Information Technology (DCB, LRSC, NDSCS, RU, SBC, WSC) <input type="checkbox"/> IT Forensics & Security (NDSCS) <input type="checkbox"/> Management Information Systems transfer (NDSCS) <input type="checkbox"/> Office Technology (CCCC)	<input type="checkbox"/> Applied Business Information Technology (MiSU) <input type="checkbox"/> Computer Technology Management (DSU) <input type="checkbox"/> Data Analytics (RU) <input type="checkbox"/> Data Science (RU, UND) <input type="checkbox"/> Information Analytics (DSU) <input type="checkbox"/> Information Technology Management (RU, UJ, UM) <input type="checkbox"/> Technology Education (DSU, VCSU)	<input type="checkbox"/> Data Science (RU, UND) <input type="checkbox"/> Information Systems (MiSU) <input type="checkbox"/> Library/Information Technology (VCSU)
<b>Network Systems</b>	<input type="checkbox"/> Cybersecurity (TMCC) <input type="checkbox"/> Cybersecurity & Computer Networks (BSC) <input type="checkbox"/> Information and Communications Technology (NDSCS) <input type="checkbox"/> Network Systems Administration (RU, TMCC)	<input type="checkbox"/> Computer Information Systems (UM, VCSU) <input type="checkbox"/> Computer Technology Management (DSU) <input type="checkbox"/> Cyber Security (RU, UND) <input type="checkbox"/> Cyber Security and Information Technology (BSC) <input type="checkbox"/> Information Systems (UND) <input type="checkbox"/> Information Technology Management (RU, UJ, UM) <input type="checkbox"/> Management Information Systems (MiSU, NDSU, UJ)	<input type="checkbox"/> Electrical and Computer Engineering (NDSU) <input type="checkbox"/> Cyber Security (UND)
<b>Programming &amp; Software Development</b>	<input type="checkbox"/> Computer Programming (DSU) <input type="checkbox"/> Computer Science transfer (BSC, NDSCS, NHSC) <input type="checkbox"/> Software Application Development (RU)	<input type="checkbox"/> Computer Engineering (NDSU) <input type="checkbox"/> Computer Science (DSU, MiSU, NDSU, RU, UJ, UM, UND) <input type="checkbox"/> Software Engineering (VCSU)	<input type="checkbox"/> Computer Science (NDSU, UND) <input type="checkbox"/> Data Science (RU, UND) <input type="checkbox"/> Software Engineering (NDSU)
<b>Web &amp; Digital Communications</b>	<input type="checkbox"/> Web Design (DCB, NDSCS, RU, TMCC) <input type="checkbox"/> Web Developer/Webmaster (DCB, DSU, NDSCS) <input type="checkbox"/> Web Page Development and Design (BSC)		

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