PROGRAMMING & DIGITAL TECHNOLOGY PATHWAY

Our MISSION

Educating all learners for tomorrow's world.

Pathway Experience

The Academy of Manufacturing, Engineering, and Technology offers pathways in engineering, construction technology, computer programming, network systems. Learners in this academy have many opportunities to gain real world experience in their classes through simulations, job shadows, and a capstone experience. Learners may earn dual credit or industry certifications to prepare them for college or careers.

HIGH-WAGE, HIGH-SKILL, AND HIGH-DEMAND CAREERS

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

PROGRAM OF STUDY: COMPUTER PROGRAMMING

SUBJECT	9th Grade	10th Grade	11th Grade	12th Grade
Choice Ready Planning	HS 101	Choice Ready	Cybersecurity	Senior Experience
Pathway Courses	**Intro to Coding/ Programming Python**	**Mobile App & Dev/ Pathway Elective**	**Java I/Pathway Elective**	**AP Java II or Capstone**
English Language Arts	**4 Credits required:** core academic, electives, and dual credit are available			
Math	**3 Credits required:** core academic, electives, and dual credit are available			
PE/Health	**1 1/2 Credits required:** core academic, electives, and dual credit are available			
Social Studies	**3 Credits required:** core academic, electives, and dual credit are available			
Science	**3.5 credits required:** core academic, electives, and dual credit are available			
Other Electives	Other electives for pathway preparation: Business, Marketing, World Language			

Student Leadership and Career and Technical Student Organization(s)

Coding, Cyber Security Help Desk, e-Sports

College & Career Experiences – Accessible to ALL Academy Program of Study Students

4-year rolling plan, Classroom Guest Speakers, Campus and Industry Tours, Career Interest Inventory, College Application, R U ReadyND exploration, Compass Tool Profiles, College & Career Research, College and industry representative visits during advisory and lunch and learn session, Job Shadow/ Professional Interview/CareerViewXR, Scholarship & Financial Aid, Senior Capstone/Profile of a Graduate Reflection

Aligned Early Postsecondary Courses – Accessible to ALL Academy Program of Study Students

Review the West Fargo Course Catalog for dual credit course and advanced placement course offerings. (link)

Professional Certification(s)

AP Computer Science A

Information Technology Coordinated Plan of Study – ND Scholarship

Information Technology Career Cluster

Course Name	Cr
Intro to Programming	.5
Programming with Python	.5
Fundamentals of Java	.5
Mobile App Development & Security	.5
AP Computer Science I	.5
Help Desk Cooperative Work Experience	.5-4

Is This Pathway for You?

- Do you enjoy working with computers?
- Are you curious to learn reasoning and logic to solve complex problems?
- Are you comfortable with situations that are unpredictable and rapidly changing?
- Are you interested in how procedures make machines work?
- Do you like to read technical materials and diagrams and solve technical problems?
- Are you patient when problem-solving to find a solution?
- Do you enjoy working as a team or independently?
- Do you play video games and figure out how they work?

North Dakota Information Technology Related Post-Secondary Programs

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