



Manufacturing Program of Study

Bismarck High School Career Cluster Program of Study

This Program of Study Template can serve as a guide, along with other career planning materials, as you continue your career path. Courses listed within this plan are only recommended coursework and should be individualized to meet each learner's educational and career goals. **Ask your high school counselor to help you fill in the required courses you need to graduate.**

Grade	English 8 semesters	Math 6 semesters	Science 6 semesters	Social Studies 6 semesters	Other Required Courses, Recommended Electives	Career & Technical Courses and/or Degree Major Courses	SAMPLE Occupations Relating to this Pathway
9	Comm Arts I	High School Math	High School Science Course	High School S.S. Course	Personal Finance Computer Science Physics See your counselor for more high school offerings	See your high school counselor for more course offerings	<ul style="list-style-type: none"> ▶ Assembler ▶ Boilermaker ▶ Design Engineer ▶ Environmental Engineer ▶ Foundry Worker ▶ Freight, Stock and Material Mover ▶ Health and Safety Representative ▶ Industrial Machinery Mechanic ▶ Inspector ▶ Labor Relations Manager ▶ Logistician ▶ Manufacturing Technician ▶ Pattern and Model Maker ▶ Production Manager ▶ Quality Control Technician ▶ Safety Engineer ▶ SPC Coordinator ▶ Tool and Diemaker ▶ Traffic Manager ▶ Welder
10	Comm Arts II	High School Math	High School Science Course	High School S.S. Course	Personal Finance Computer Science Physics See your counselor for more high school offerings	See your counselor for more high school offerings	
11	Comm Arts III *English Comp I *Public Speaking	High School Math or Pre-Algebra *College Algebra	High School Science Course *College General Biology –	High School S.S. Course – Government & History *Am. College History I & II *Political Systems	Physics Courses *Personal Finance *Computer Science *See counselor for additional college course offering (Available for Dual Enrollment)	See your high school counselor for more high school offerings *Unitec Programs- Collision Repair Technology, Automotive Technology, Welding Technology, Machine Tool	
12	Senior Comm Arts & Comm Arts elective *English Comp II *Intro to Literature	High School Math or Pre- Algebra *College Algebra	High School Science Course *College Oceanography, Astronomy or Physics	High School S.S. Course – Government & History *Am. College History I & II *Political Systems	Physics Courses *Personal Finance *Computer Science *See counselor for additional college course offerings (Available for Dual Enrollment)	See your high school counselor for more high school offerings *Unitec Programs – Collision Repair Technology, Automotive Technology, Welding Technology, Machine Tool	

***Dual Credit courses can often be substituted for high school credit. Check with your Counselor.**

***Dual Enrollment courses can be taken online or on a MAC campus.**

Assessments/Certifications: College Placement Assessments, Compass, ACT, SAT

Clubs/Extracurricular Activities: Ask your Counselor what is available at your school.

CTSO(s): FBLA FFA TSA Skills USA

Work-Based Learning: After School Employment Internship/Mentorship Job Shadowing Service Learning Supervised Business Experience

Planning, managing, and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance and manufacturing/process engineering.

Sample Career Specialties / Occupations	<p>Assembler Automated Manufacturing Technician Bookbinder Calibration Technician Electrical Installer and Repairer Electromechanical Equipment Assembler Extruding and Drawing Machine Setter/Set-Up Operator Extrusion Machine Operator Foundry Worker Grinding, Lapping, and Buffing Machine Operator Hand Packers and Packager Hoist and Winch Operator Instrument Maker Large Printing Press Machine Setter and Set Up Operator Machine Operator Manager, Supervisor Medical Appliance Maker Milling Machine Setter, Set-Up Operator Millwright Operator, Tender, Cutter/Brazer, Solderer, Machine Operator Painter Pattern & Model Maker Precision Layout Worker Precision Optical Goods Worker Production Associate Sheet Metal Worker Solderer and Brazer Tool and Die Maker Welder</p>	<p>Design Engineer Electrical and Electronics Technician and Technologist Electronics Engineer Engineering and Related Technician and Technologist Engineering Technician Industrial Engineer Labor Relations Manager Manufacturing Engineer Manufacturing Technician Power Generating and Reactor Plant Operator Precision Inspector, Tester, and Grader Process Improvement Technician Production Manager Purchasing Agent Supervisor</p>	<p>Biomedical Equipment Technician Boilermaker Communication System Installer/Repairer Computer Installer/Repairer Computer Maintenance Technician Electrical Equipment Installer/Repairer Facility Electrician Industrial Electronic Installer/Repairer Industrial Facilities Manager Industrial Machinery Mechanic Industrial Maintenance Electrician Industrial Maintenance Mechanic Industrial Maintenance Technician Instrument Calibration and Repairer Instrument Control Technician Job/Fixture Designer Laser Systems Technician Maintenance Repairer Major Appliance Repairer Meter Installer/Repairer Millwright Plumber, Pipefitter and Steamfitter Security System Installer/Repairer</p>	<p>Calibration Technician Inspector Lab Technician Process Control Technician Quality Control Technician Quality Engineer SPC Coordinator</p>	<p>Communications, Transportation and Utilities Manager Dispatcher Freight, Stock, and Material Mover Industrial Truck and Tractor Operator Logistical Engineer Logistician Material Associate Material Handler Material Mover Process Improvement Technician Quality Control Technician Traffic Manager Traffic, Shipping, and Receiving Clerk</p>	<p>Environmental Engineer Environmental Specialist Health and Safety Representative Safety Coordinator Safety Engineer Safety Team Leader Safety Technician</p>
Path-ways	Production	Manufacturing Production Process Development	Maintenance, Installation & Repair	Quality Assurance	Logistics & Inventory Control	Health, Safety and Environmental Assurance
Career K&S	<p>Cluster Knowledge and Skills</p> <ul style="list-style-type: none"> • Academic Foundations • Communications • Problem Solving and Critical Thinking • Information Technology Applications • Systems • Safety, Health and Environment • Leadership and Teamwork • Ethics and Legal Responsibilities • Employability and Career Development • Technical Skills 					