



Manufacturing Career Pathway Program of Study



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.

Careers	<u>Certification/Associates Degree:</u>	Electric Motor Technician	Mechanical Research Tech.	Process Engineer
		Assembler	Electromechanical Assembler	Quality Control Technician
		Automated Manufacturing Technician	Health & Safety Representative	Quality Engineer
		Calibration Technician	Industrial Machinery Mechanic	SPC Coordinator
		CMM Programmer Layout Specialist	Inspector	Tool & Die Maker
		CNC Programmer / Machinist	Manufacturing Engineer	Tooling Engineer
		Computer Technician	Manufacturing Technician	Welding Technician
		<u>Bachelors or Higher Degree:</u>		
		Communications Operations Manager	Mechanical Engineer	
		Design Engineer	Musical Instrument Designer	
		Electronic Engineer	Occupational Health & Safety Inspector	
		Environmental Engineer	Production Manager	
		Industrial Engineer	Project Engineer	

High School Courses	9th Grade	10th Grade	11th Grade	12th Grade
	English	English	English	English
	Math	Math	Math	Math
	Science	Science	Science	
	Social Science	Social Science	Social Science	AP Psychology
	Physical Education	Physical Education/ Health	Physical Education	Physical Education
		Consumer Ed/ Communication Art		
Recommended Pathway Courses				
Introduction to Engineering Design		Civil Engineering & Architecture		
Principles of Engineering		Computer Integrated Manufacturing		
Digital Electronics		Robotics		

School Activities	Career Enhancement Tools / Work-based Learning			
	Advanced Manufacturing Expo (at Oakton)		NSERVE Summer Career Exploration Courses	
	Career Days, Ask the Expert Days, etc.		Robotics, Environmental, Science Clubs, etc.	
	Job Shadowing, Internships		Naviance / Career Cruising	
	Check out careers at Inspire Your Future . Log-in with your Career Cruising info .			

Pathways	Health, Safety & Environmental Assurance	Manufacturing Production Process Development
	Logistics & Inventory Control	Production
	Maintenance, Installation & Repair	Quality Assurance

College & University Majors	College & University Majors	
	Apparel and Textiles	Nuclear/Nuclear Power Technology
	Computer Engineering Technology	Occupational Safety and Health Technology
	Engineering	Plastics and Polymer Engineering
	Industrial Technology	Robotics Technology
	Laser and Optical Technology	
	Manufacturing Engineering	
	Mechanical Engineering	
	Metallurgical Technology	

Programs	Certificates	Degrees	Dual Credit	Four-Year Universities Transfer Programs
	Manufacturing Technology			
	Manufacturing Technology (32 cr)		(CAD116 Basic AutoCAD)	Northern Illinois University Illinois Institute of Technology DeVry
	Automation & Controls (14 cr)	Assoc. in Applied Science (60 cr)	(CAD220 - CAD Intro to Bldg Systems)	
	CNC/CAM Programming (12 cr)		(CAD210 - Industrial Design Eng. Tech.)	
	CNC Operations/Programming Prep. (10 cr)			
	Mechatronics Supply Chain Technician (12 cr)		(CAD134 - Basic AutoCAD for	

Oakton Community College	<p><i>Areas of Study:</i> CNC Machining Hydraulics and Pneumatics PLC Programming Robotics</p>		Interior Design) (MFG111 - Intro to Mfg. Automation Syst.) (CAD105 - Industrial Design Engineering)	These institutions offer baccalaureate degrees in Technical Management or Industrial Technology.
Technology & Manufacturing Association - TMA	<u>Manufacturing Career Pathway</u>			
	<i>Advanced Manufacturing Certificates</i> <i>NIMS Credentials</i>			
	<p><i>Areas of Study:</i> <i>Related Theory Apprenticeship Training Program</i> Tool & Die Making Mold Making CNC Programming</p> <p><i>Hands-On CNC Training Program:</i> Basic CNC Programming, Set-Up & Operation Adv. CNC Programming, Set-Up & Operation</p>	<p><i>Articulation agreements with TMA & local community colleges are in progress.</i></p>		
	<u>Related Theory Apprenticeship Training Program</u>			
	2 year Machinist Certificate			
	3 year Tool & Die Making, Mold Making or CNC Programming Certificate			
	Industrial Math: 2 semesters Print Reading: 1 semester Machine Tool Technology I: 1 semester Machine Tool Tech. II (CNC): 2 semesters Tool & Die Making OR Mold Making OR CNC Programming: 2 semesters			
<p><u>Hands-On CNC Training Program:</u> Basic CNC Course - 16 weeks (96 hours) Advanced CNC Course - 16 weeks (96 hours)</p>				
Symbol Training Institute	Certificates	Degrees	Dual Credit	Four-Year Universities Transfer Programs
	<u>Manufacturing Career Pathway</u>			
	<i>Advanced Manufacturing Certificate</i> <i>NIMS Credentials</i>			
	<p><i>Areas of Study:</i> CNC Machining CNC Advanced Machining QC Inspection Science CNC Programming Engineering</p>			
	Quality Control for Mfg. (60 hrs) (hrs = classroom hours)			
	CNC Program, Setup & Operation (96 hrs)			
	CNC Advanced Programming (60 hrs)			
	CNC Technology with Quality Control for Manufacturing (171 hrs)			
CNC Technology with Internship (176 hrs)				
CNC Machine Shop Internship (80 hrs)				