



Maintenance, Installation, and Repair

Career Goal (O*NET Code): Maintenance Repairer (49-9042), Industrial Electronic Installer (49-2094), Electrician (47-2111), BioMedical Equipment Technician (49-9062).

Cluster Overview: 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

SUGGESTED COURSEWORK

EXTENDED LEARNING EXPERIENCES

High School	9th	Core Courses:	English I Algebra I Biology	World Geography Languages other than English I Health/PE or Equivalent	Curricular Experiences: SkillsUSA TSA	Extracurricular Experiences: Science Olympiad				
		Career-Related Electives:	Technology Systems (Modular Lab Based)** or Electrical Trades or Industrial Electronics or Machine Shop							
	10th	Core Courses:	English II Geometry Principles of Technology I	World History Languages other than English II Technology Applications						
		Career-Related Electives:	Engineering Graphics or Engineering Principles or Electronics Technology or Construction Systems							
	11th	Core Courses:	English III Mathematical Models with Applications Physics	United States History Communication Applications PE or Equivalent			Career Learning Experiences: Career Preparation (Paid/Unpaid) Job Shadowing Internship Apprenticeship	Service Learning Experiences: Boy Scouts of America Girl Scouts of the USA Habitat for Humanity Community Service Volunteer		
		Career-Related Electives:	Energy, Power, and Transportation Systems or Power Technology or Manufacturing Systems or Introduction to Robotics							
	12th	Core Courses:	English IV Algebra II Engineering	Government/Economics Fine Arts						
		Career-Related Electives:	Research Design and Development or Problems and Solutions in Technology or Manufacturing Technology							
On-the-Job Training	Maintenance Assistant	Shop Helper	Drafting Assistant	Professional Associations: American Electroplaters and Surface Finishers Society American Iron and Steel Institute American Machine Tool Distributors Association American Welding Society Composites Fabricators Association Industrial Fasteners Institute National Association of Manufacturers National Tooling and Machining Association Precision Metalforming Association Robotic Industries Association Society for Maintenance and Reliability Professionals						
	NOTE: These experiences may be completed as part of the high school experience.									
Certificates	Welder/Welding OSHA CareerSafe	Drafting		Career Options: Assemblers Machine Operator						
	NOTE: Students may earn all or part of these certificates as part of the high school experience.									
Postsecondary	Associate's Degree	15 hours Core Curriculum Cluster Foundation Industrial Math (TECM 1X01) OR Technical Algebra and Trigonometry (TECM 1X43) Quality Control (QCTC 1X03) Productions and Operations Management (BMGT 1X31) OR Principles of Management (BMGT 1X03) Teaming (QCTC 1X05) OR Human Relations (HRPO 1X11) Integrated Software Applications I (ITSC 1X09) OR Business Computer Applications (BCIS 1X05) OR Computer Applications (POFI 1X01) OR Introduction to Computer Technology (CPMT 1X03) Introduction to Environmental Safety and Health (EPCT 1X07) OR Material Handling (OSHT 1X16) OR Construction Site Safety and Health (OSHT 1X07) POS Specific Courses Technical Blueprint Reading and Sketching (DFTG 1X25) Electricity Principles (CETT 1X02) Manufacturing Materials and Processes (MCHN 1X19) Basic Machine Shop (MCHN 1X38) Introduction to Industrial Maintenance (INMT 1X05) Bench Work and Layout (MCHN 1X32) Programmable Logic Controls (ELPT 1X19) Special Tools and Fixtures (MCHN 2X47) Introduction to Welding Using Multiple Processes (WLDG 1X07) CAD/CAM (INMT 1X43)			Career Options: Pattern and Mold Makers Sheet Metal Workers Production Associates					
		None identified.			Licenses, Credentials & Certifications:					
	Bachelor's Degree	Technology Management	Design Technology	Industrial Technology	Career Options: Calibration Technician Electromechanical Technician					
		Engineering Technology	Design Technology	Industrial Safety	Career Options: Plant Manager					

* May substitute for the required credit for Physical Education
** Satisfies the required credit for Technology Applications
*** May substitute for the required credit for Health Education

Students should take Advanced Placement (AP), International Baccalaureate (IB), dual credit, Advanced Technical Credit (ATC), or locally articulated courses, if possible.

This plan of study serves as a guide, along with other career planning materials, for pursuing a career path and is based on the most recent information as of 2007. All plans should meet high school graduation requirements as well as college entrance requirements. Students may select other elective courses for personal enrichment purposes.