

Advanced Manufacturing & Machinery Mechanics

Newman Smith High School
Business & Industry Endorsement

Business Marketing & Finance

This four year plan can be used as an example to help plan your high school career.

Subject	9th Grade	10th Grade	11th Grade	12th Grade
Language Arts	English	English	English	English
Math	Math	Math	Math	Math
Science	Science	Science	Science	Science
Social Studies	Social Studies	Social Studies	Social Studies	Social Studies
CTE Courses	Principles of Manufacturing (1 Credit)	Robotics I (1 Credit)	Robotics II (1 Credit)	Career Preparation (2 Credits)
Additional Elective				
Additional Elective				
Additional Elective				

Additional Graduation Requirements <ul style="list-style-type: none"> Foreign Language (2 Credits) Physical Education (1 Credit) Fine Arts (1 Credit) 	Possible Industry Based Certifications <ul style="list-style-type: none"> FANUC Robot Operator 1 Mastercam Associate Level Certification NCCER Industrial Maintenance Mechanic NIMS Industrial Technology Maintenance - Maintenance Operations
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Occupations	Median Wage	Annual Openings	% Growth
Electro-Mechanical Assemblers	\$30,160	951	9%
Electro-Mechanical Technicians	\$56,555	127	9%
Industrial Machinery Mechanics	\$49,816	3,788	27%

The Advanced Manufacturing and Machinery Mechanics program of study focuses on the assembly, operation, maintenance, and repair of electromechanical equipment or devices. CTE learners may work in a variety of mechanical fields, gaining knowledge and experience in robotics, refinery and pipeline systems, deep ocean exploration, or hazardous waste removal. CTE concentrators may work in a variety of fields of engineering.


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Recommended Course Sequence


Principles of Manufacturing

In this course, students are introduced to knowledge and skills used in the proper application of principles of manufacturing. The study of manufacturing technology allows students to reinforce, apply, and transfer academic knowledge and skills to a variety of interesting and relevant activities. Students will gain an understanding of what employers require to gain and maintain employment in manufacturing careers.




Robotics I

In this course, students will transfer academic skills to component designs in a project-based environment through implementation of the design process. Students will build prototypes or use simulation software to test their designs. Additionally, students will explore career opportunities, employer expectations, and educational needs in the robotic and automation industry.



Robotics II

In this course, students will explore artificial intelligence and programming in the robotic and automation industry. Through implementation of the design process, students will transfer academic skills to component designs in a project-based environment. Students will build prototypes and use software to test their designs.



Career Preparation

This course, provides opportunities for students to participate in a work-based learning experience that combines classroom instruction with business and industry employment experiences. The goal is to prepare students with a variety of skills for a changing workplace. Career preparation is relevant and rigorous, supports student attainment of academic standards, and effectively prepares students for college and career success.