

Advanced Manufacturing And Machinery Mechanics

Manufacturing

R.L. Turner High School
Business & Industry or STEM Endorsement



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 Applied Engineering (1 Credit)	Robotics I (1 Credit)	Robotics II (1 Credit)	Practicum in Manufacturing (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"> • MSSC Certified Production Technician • ISCET Associate-Level Certified Electronics Technician • Mastercam Professional Level Certification • NIMS Industrial Technology Maintenance - Basic Mechanical Systems
---	---

Occupations	Median Wage	Annual Openings	% Growth
Mechanical Engineering Technicians	\$57,117	453	9%
CNC Machine Operators	\$39,250	1,319	12%
Aerospace Engineering and Operations Technician	\$60,757	114	9%
Electrical and Electronics Engineering Technicians	\$60,382	1,439	9%
Industrial Engineering Technicians	\$61,672	326	9%

The Manufacturing Technology program of study focuses on the development and use of automatic and computer controlled machines, tools, and robots that perform work on metal or plastic. CTE learners will learn how to set up and operate a variety of machine tools to produce precision parts and instruments. Students will also learn how to modify parts to make or repair machine tools or maintain individual machines, and how to use hand-welding or flame-cutting equipment.

Manufacturing Technology

R.L. Turner High School



Recommended Course Sequence

Principles of Applied Engineering

Principles of Applied Engineering provides an overview of the various fields of science, technology, engineering, and mathematics and their interrelationships. Students will develop engineering communication skills, which include computer graphics, modeling, and presentations, by using a variety of computer hardware and software applications to complete assignments and projects. Upon completing this course, students will understand the various fields of engineering and will be able to make informed career decisions. Further, students will have worked on a design team to develop a product or system. Students will use multiple software applications to prepare and present course assignments.



Robotics I

In Robotics I, 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 Robotics II, 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.



Practicum in Manufacturing

The Practicum in Manufacturing course is designed to give students supervised practical application of previously studied knowledge and skills. Practicum experiences can occur in a variety of locations appropriate to the nature and level of experience.