

HVAC and Sheet Metal

Architecture & Construction

Newman Smith High School
Business & Industry 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 Construction (1 Credit)	Heating, Ventilation, and Air Conditioning (HVAC) and Refrigeration Technology I (1 Credit)	Heating, Ventilation, and Air Conditioning (HVAC) and Refrigeration Technology II (2 Credits)	Practicum in Construction Technology OR 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"> • Refrigerant handling (EAP 608) • OSHA 30 Hour Construction • NCCER HVAC, Level 1 • NCCER Sheet Metal, Level 1
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Occupations	Median Wage	Annual Openings	% Growth
Heating, Air Conditioning, and Refrigeration Mechanics	\$41,808	3,356	26%
Sheet Metal Workers	\$37,419	1,479	17%
Cost Estimators	\$63,939	2,239	21%

The HVAC and Sheet Metal program of study explores the occupations and educational opportunities associated with installing, serving, or repairing heating and air conditioning systems and also the fabrication, assembly, installation, and repair of sheet metal products and equipment, such as ducts, control boxes, drainpipes, and furnace casings. This program of study may also include exploration into preparing cost estimates for certain construction projects involving heating and air conditioning and sheet metal.

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Recommended Course Sequence

Principles of Construction

This course is intended to provide an introduction and lay a solid foundation for those students entering the construction or craft skilled areas. The course provides a strong knowledge of construction safety, construction mathematics, and common hand and power tools. For safety and liability considerations, limiting course enrollment to 15 students is recommended. This course also provides communication and occupation skills to assist the student in obtaining and maintaining employment.

Heating, Ventilation, and Air Conditioning (HVAC) and Refrigeration Technology I

In this course, students will gain knowledge and skills needed to enter the industry as technicians in the HVAC and refrigeration industry or building maintenance industry, prepare for a postsecondary degree in a specified field of construction management, or pursue an approved apprenticeship program. Students will acquire knowledge and skills in safety, principles of HVAC theory, use of tools, codes, and installation of HVAC and refrigeration equipment.

Heating, Ventilation, and Air Conditioning (HVAC) and Refrigeration Technology II

In this course, students will gain advanced knowledge and skills needed to enter the industry as HVAC and refrigeration technicians or building maintenance technicians or supervisors, prepare for a postsecondary degree in a specified field of construction or construction management, or pursue an approved apprenticeship program. Students will acquire knowledge and skills in safety, electrical theory, use of tools, codes, installation of commercial HVAC equipment, heat pumps, troubleshooting techniques, various duct systems, and maintenance practices.

Practicum in Construction Technology

In this course students will be challenged with the application of gained knowledge and skills from Construction Technology I and II. In many cases students will be allowed to work at a job (paid or unpaid) outside of school or be involved in local projects the school has approved for this class.