

LEVEL I CERTIFICATES & AAS, HEATING, VENTILATION, AND AIR CONDITIONING (HVAC)

Additional information: Reference the SHSU Polytechnic College (<https://sam.edu/>) page for additional information.

Program Description

The Heating, Ventilation, and Air Conditioning (HVAC) Program is designed to equip students with the technical knowledge and hands-on skills required for in-demand careers in residential HVAC systems. The program emphasizes a strong foundation in mechanical principles, electrical systems, diagnostics and safety standards, while also providing extensive practical training in installation, maintenance, and repair. Built around industry-recognized certifications and a workforce-aligned curriculum, students gain real-world experience through hands-on labs, internships and partnerships with regional employers.

As part of the program, students will earn EPA Section 608 Universal Certificate and the ESCO Employment Ready/HVAC Excellence Certification. Upon completion of the program, graduates are prepared to enter the workforce as skilled HVAC technicians and are eligible to serve as a registered technician under a licensed contractor sponsor and begin accruing the required supervised work experience toward technician or contractor licensure.

Statewide Industry Insights

- Current Workforce: 63,439
- Average Salary: \$62,000
- Open Positions: 6,926

Data provided by Lightcast, 2025

Code	Title	Hours
Level I Certificate, HVAC Electrical and Controls Technician		
HART 1401:	Basic Electricity for HVAC	4
HART 1407:	Refrigeration Principles	4
HART 2301:	Air Conditioning and Refrigeration Codes	3
HART 2368:	Practicum (Or Field Experience) – HVAC/R Technology/Technician	3
HART 2442:	Commercial Refrigeration	4
Total Hours		18

Note: The Level I certificate program stacks into the AAS curriculum.

Code	Title	Hours
Level I Certificate, Residential HVAC Technician		
EECT 1300:	Technical Customer Service	3
HART 1441:	Residential Air Conditioning	4
HART 1445:	Gas and Electrical Heating	4
HART 2331:	Advanced Electricity for HVAC	3
HART 2334:	Advanced Air Conditioning Controls	3
Total Hours		17
Cumulative Total		35

Note: The Level I certificate program stacks into the AAS curriculum.

Code	Title	Hours
AAS, Heating, Ventilation, and Air Conditioning (HVAC)		
ENGL 1301	Composition I ¹	3
GOVT 2306	Texas Government ²	3
MATH 1314	Pre Calculus Algebra ³	3
SPCH 1318	Interpersonal Communication ⁴	3
SPCH 1321	Business & Professional Communication ⁵	3
HART 2336:	Air Conditioning Troubleshooting	3
HART 2441:	Commercial Air Conditioning	4
HART 2345:	Residential Air Conditioning Systems Design	3

Total Hours	25
Cumulative Total	60

- ¹ ENGL 1301 satisfies the Core Curriculum requirement for Component Area I (Communications).
- ² GOVT 2306 satisfies the Core Curriculum requirement for Component Area VII (Political Science/Government).
- ³ MATH 1314 satisfies the Core Curriculum requirement for Component Area II (Mathematics).
- ⁴ SPCH 1318 satisfies the Core Curriculum requirement for Component Area IV (Language, Philosophy, and Culture).
- ⁵ SPCH 1321 satisfies the Core Curriculum requirement for Component Area IX (Component Area Option).

Additional information: Reference the SHSU Polytechnic College (<https://sam.edu/>) page for additional information.

Level I Certificate, HVAC Electrical and Controls Technician

First Year

Fall	Hours	
HART 1401: Basic Electricity for HVAC		4
HART 1407: Refrigeration Principles		4
HART 2301: Air Conditioning and Refrigeration Codes		3
HART 2368: Practicum (Or Field Experience) – HVAC/R Technology/ Technician		3
HART 2442: Commercial Refrigeration		4
		18

Total Hours: 18

Note: The Level I certificate program stacks into the AAS curriculum.

Level I Certificate, Residential HVAC Technician

First Year

Spring	Hours	
EECT 1300: Technical Customer Service		3
HART 1441: Residential Air Conditioning		4
HART 1445: Gas and Electrical Heating		4
HART 2331: Advanced Electricity for HVAC		3
HART 2334: Advanced Air Conditioning Controls		3
		17

Total Hours: 17

Note: The Level I certificate program stacks into the AAS curriculum.

AAS, Heating, Ventilation, and Air Conditioning (HVAC)

First Year

Fall	Hours	Spring	Hours
ENGL 1301 ¹		3 SPCH 1321 ⁵	3
GOVT 2306 ²		3 HART 2336: Air Conditioning Troubleshooting	3
MATH 1314 ³		3 HART 2441: Commercial Air Conditioning	4
SPCH 1318 ⁴		3 HART 2345: Residential Air Conditioning Systems Design	3
		12	13

Total Hours: 25

- ¹ ENGL 1301 satisfies the Core Curriculum requirement for Component Area I (Communications).
- ² GOVT 2306 satisfies the Core Curriculum requirement for Component Area VII (Political Science/Government).
- ³ MATH 1314 satisfies the Core Curriculum requirement for Component Area II (Mathematics).
- ⁴ SPCH 1318 satisfies the Core Curriculum requirement for Component Area IV (Language, Philosophy, and Culture).
- ⁵ SPCH 1321 satisfies the Core Curriculum requirement for Component Area IX (Component Area Option).

The Texas Higher Education Coordinating Board (THECB) marketable skills initiative is part of the state's **60x30TX plan** and was designed to help students articulate their skills to employers. Marketable skills are those skills valued by employers and/or graduate programs that can be applied in a variety of work or education settings and may include interpersonal, cognitive, and applied skill areas.

The Level I Certificates and AAS Program in Heating, Ventilation, and Air Conditioning (HVAC) are designed to provide graduates with the following marketable skills:

- Ability to install, maintain, and repair residential and commercial heating, ventilation, and air conditioning systems, including electrical components, ductwork, and controls.
- Develop the skills to identify and troubleshoot mechanical and electrical issues in HVAC systems using industry-standard diagnostic tools and techniques..
- Apply EPA Section 608 guidelines to safely handle, recover, and dispose of refrigerants in accordance with environmental regulations.
- Ability to communicate effectively with clients, document service work, and explain technical issues in clear, professional language.
- Demonstrate knowledge of OSHA standards, safe work practices, and compliance with state and federal HVAC licensing requirements.