

TOPS University Associate of Applied Sciences: Technical Studies Heating, Air Conditioning, and Refrigeration

Postsecondary Partner: South Louisiana Community College (SLCC)

Overview

The mission of this program is to provide specialized classroom instruction and practical shop experience to prepare students for employment in a variety of jobs in the field of heating, air conditioning, and refrigeration. The Heating, Air Conditioning & Refrigeration Program provides individuals with the technical knowledge and skills to install, service, repair, and maintain equipment used in residential heating, air conditioning and refrigeration systems

Graduates of our Heating, Air Conditioning, and Refrigeration program are able to:

- Demonstrate knowledge of the refrigeration cycle including safety procedures and testing requirements for temperature/pressure relationships.
- Explain the physics of heat and how it applies to the air conditioning and refrigeration field.
- Demonstrate knowledge of troubleshooting and testing air conditioning components, systems, and accessories, including the sequence of operation and air flow.
- Demonstrate knowledge of heating and air conditioning and refrigeration controls, including wiring configurations and technical components for optimum performance. .

Capstone Credentials

Regional (Emerging)	Basic	Advanced	Fast Forward Advanced Plus
-Career and Technical Certificate: HVAC -Carpenter International Training Fund (CITF) Career Connections: Pre-Apprentice Core Skills	-EPA Section 608 Certification	-Technical Diploma: HVAC -EPA Section 608 Certification AND Air Conditioning, Electrical, OR Heat Employment Ready	-Associate of Applied Sciences: Technical Studies HVAC

**Core Academic Course*
***Jump Start CTE Course*

Grade 9	
Semester 1	Semester 2
*English I 120331	*Foreign Language I
*Fine Arts Requirement	*Algebra I 160321
*Physical Science 150802	**General Technology Education (Introduction to Skilled Crafts) 110010 or Jobs for America's Graduates 1 042010 or Agriscience I 010301
*Physical Education I 190105	*½ Physical Education II 190106 ½ Health Education 190500

Grade 10	
Semester 1	Semester 2
*English II 120332	*Foreign Language II
*Algebra II 160322	*Geometry 160323
*World History 220401	*U.S. History 220403
*Biology 150301	*Chemistry 150401

Additional and/or equivalent TOPS core aligned courses can be found in Bulletin 741.

Grade 11			
Semester 1		Semester 2	
Postsecondary Course	LDOE Course/Code	Postsecondary Course	LDOE Course/Code
**Introduction to HACR HCAR 1002	**Air Conditioning/Refrigeration I 310100	*Math 1105 College Algebra	*Algebra III: DE-CMAT 1213 College Algebra 160500
*Rhetoric & Composition ENG 1010	*English III: DE-CENL 1013 English Composition I 120601	*Environmental Science ENSC 1000	*Environmental Science: DE-CEVS 1103 Environmental Science 150914
*American National Government POLI 1100	*US Government: DE-CPOL 2013 Intro to American Government 220514	*Mathematics for Workforce Occupations-WFMA 1003	*Technical Math DE-165010
**Principles of Refrigeration HACR 1106	**Air Conditioning/Refrigeration II 310105	**Electric Motors HACR 1303	**TBD
**Electrical Fundamentals HACR 1206	**TBD	**Applied Electricity and Troubleshooting HACR 1313	**TBD
	*World Geography 220401		**Workplace Safety 311923 or Intro to Computational Thinking 061141 or Intro to Computational Thinking (LSU Partnership) 061140

Grade 12			
Semester 1		Semester 2	
Postsecondary Course	LDOE Course/Code	Postsecondary Course	LDOE Course/Code
*Introduction to Fiction ENG 2055 or British Literature ENG 2020	*English IV: DE-CENL 2303 Introduction to Fiction 120614 or DE-CENL 2103 British Literature I 120608	**Domestic Refrigeration HACR 1413	**TBD

**Residential Central Air Conditioning I HACR 1604	**TBD	**Room Air Conditioning HACR 1503	**TBD
**Residential System Design HACR 2202	**TBD	**Residential Central Air Conditioning II HACR 2104	**TBD
**Residential Heating HACR 2306	**TBD		Agriscience II 010302 or CDF Qualifying Pre-apprenticeship I (Electrical) (2 credits) 080231 or CDF Qualifying Internship I (2 credits) 080200

This pathway framework is an outline of how the approved courses can be implemented. Schools may opt to rearrange the order of course sequencing in order to meet local scheduling requirements. Additionally, Fast Forward pathways are dynamic and the Jump Start Review Panel will consider course equivalents on an as needed basis.