4/30/2026	DATE	TEC	DIVISION
☑	REQUIRED COURSE	☐	NEW COURSE
☐	ELECTIVE COURSE	☑	REVISION

Lake Land College

Course Information Form

COURSE NUMBER:	HVC-072		**TITLE:** *(30 Characters Max)*	Heat Generating Systems							
SEM CR HRS:	5.0	**Lecture:**	2.0	**Lab:**	6.0	**ICCB Lab:**	6.0	**ECH:**	8.0		
Course Level:	☐ Gen Ed / IAI ☐ Baccalaureate /Non-IAI	☑ Career/Technical ☐ Dev Ed/ Not in Degree Audit		**Clinical Practicum:**	0.0	**Work-based Learning:**	0.0	**WBL ECH:**	0.0		
COURSE PCS #	12 - 47.0201		**IAI Code:**	N/A				**Contact Hours (Minutes/Week)**			
Repeatable (Y/N):	N	**Pass/Fail (Y/N):**	N	**Variable Credit (Y/N):**	N	**Min:**		**Max:**		**16 Wks**	400	**8 Wks**	800
Prerequisites:	Successful completion of HVC-066										
Corequisites:	None										
Catalog Description: (40 Word Limit)	This course covers: forced-air heating fundamentals, hydronic heating fundamentals, heat pumps, gas-fired heating systems, oil-fired heating systems, electric heating systems and heating system installation/service.										

List the Major Course Segments (Units)	Contact Lecture Hours	Contact Lab Hours	Clinical Practicum	Work-based Learning
Forced-air heating fundamentals	5	18		
Hydronic heating fundamentals	8	18		
Gas-fired heating systems	7	30		
Oil-fired heating systems	2			
Electric heating systems	4	12		
Heating system installation/service	4	12		
TOTAL	30	90	0	0

EVALUATION							
QUIZZES	☑	**EXAMS**	☑	**ORAL PRES**	☐	**PAPERS**	☐
LAB WORK	☑	**PROJECTS**	☐	**COMP FINAL**	☑	**OTHER**	☐

COURSE MATERIALS	
TITLE:	Refrigeration & Air Conditioning Technology
AUTHOR:	Eugene Silberstein, Jason Obrzut, John Tomczyk, Bill Whitman, and Bill Johnson
PUBLISHER:	Cengage
VOLUME/EDITION/URL:	9th edition
COPYRIGHT DATE:	2021, 2017

MAJOR COURSE SEGMENT	HOURS	LEARNING OUTCOMES
		The student will be able to:
Forced-air heating fundamentals	24	1. Define basic furnace components. 2. Compare different furnace types. 3. Demonstrate furnace controls.
Hydronic heating fundamentals	24	1. Identify hydronic heat system components. 2. Review hydronic heat system controls.
Gas-fired heating systems	24	1. Interpret the gas furnace sequence of operation. 2. Examine gas furnace components. 3. Measure gas furnace combustion and venting. 4. Test gas furnace operation.
Oil-fired heating systems	16	1. Identify oil furnace systems. 2. Explain oil furnace operations.
Electric heating systems	16	1. Review the electric furnace components. 2. Operate the electric furnace controls. 3. Check electric furnace operation.
Heating system installation/service	16	1. Perform basic service and troubleshooting on heating systems.

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Outcomes*	Outcome Title	At the successful completion of this course, students will be able to:
Course Outcome 1	Operation Sequence	Describe the sequence of operation of heating systems.
Course Outcome 2	Operation	Test proper operation of heating systems.
Course Outcome 3	Service/Troubleshooting	Perform service and troubleshooting techniques on heating systems.
Primary Laker Learning Competency	Critical Thinking: Students connect knowledge from various disciplines to formulate logical conclusions.	
Secondary Laker Learning Competency	Information & Technology Literacy: Students evaluate information effectively using the appropriate technological tools.	

**Course and program outcomes will be used in the software for outcomes assessment and should include at least 1 primary and 1 secondary Laker Learning Competency. Limit to 3-5.*