9/25/2025	DATE	TEC	DIVISION
☑	REQUIRED COURSE	☐	NEW COURSE
☐	ELECTIVE COURSE	☑	REVISION

Lake Land College

Course Information Form

COURSE NUMBER:	HVC-070		**TITLE:** *(30 Characters Max)*		Air Conditioning II						
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 & CIP:	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:	HVC-068										
Corequisites:	None										
Catalog Description: (40 Word Limit)	This course covers ductless and central air-conditioning, absorption and evaporative cooling, humidity control, thermostats, heating and cooling loads, air conditioning installation and troubleshooting/service.										

List the Major Course Segments (Units)	Contact Lecture Hours	Contact Lab Hours	Clinical Practicum	Work-based Learning
Air conditioning installation	9	18		
Central air conditioning	6	18		
Typical operating conditions	3	18		
Troubleshooting	3	18		
Thermostats	3	9		
Heating and cooling loads	6	9		
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
PUBLISHER:	Cengage
VOLUME/EDITION/URL:	9th
COPYRIGHT DATE:	2021

MAJOR COURSE SEGMENT	HOURS	LEARNING OUTCOMES
		The student will be able to:
Installation	27	1. Identify installation procedures. 2. Locate equipment placement.
Central air conditioning	24	1. Explain the differences in package and split system air conditioners. 2. Discuss placement of package and split system air conditioners.
Typical operating conditions	21	1. Report air conditioner operating conditions. 2. Experiment with pressure and temperature changes.
Troubleshooting	21	1. Discuss air conditioner troubleshooting methods. 2. Troubleshoot air conditioner problems. 3. Repair air conditioning units.
Thermostats	12	1. Choose proper thermostats for different air conditioning equipment. 2. Locate proper placement of air conditioning system thermostats.

Heating and cooling loads	15	1. Measure building sizes to determine correct furnace and air conditioners. 2. Calculate heating and cooling loads.
	120	

Outcomes*	Outcome Title	At the successful completion of this course, students will be able to:
Course Outcome 1	Measure Refrig AC	Measure refrigerant in a central air conditioning system.
Course Outcome 2	Refrig Levels AC	Assess proper refrigerant levels in central air conditioning systems.
Course Outcome 3	Troubleshoot AC	Troubleshoot a central air conditioning system.
Course Outcome 4	Calculate Heat Cool	Calculate heating and cooling loads.
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.*