8/4/2025	DATE	TEC	DIVISION
☑	REQUIRED COURSE	☐	NEW COURSE
☑	ELECTIVE COURSE	☑	REVISION

Lake Land College

Course Information Form

COURSE NUMBER:	BCT-076		TITLE: *(30 Characters Max)*			Architectural Design						
SEM CR HRS:	4.0	Lecture:	1.0			Lab:	6.0	ICCB Lab:	6.0		ECH:	7.0
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 - 15.1303		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	350	8 wks 700
Prerequisites:	BCT-062											
Corequisites:	None											
Catalog Description: (40 Word Limit)	The study of architectural design considerations that influence the energy efficiency of structures. Including project site integration, window orientation, framing techniques, material selection and HVAC design. Heating and cooling load calculations, labs and computer aided drafting will be utilized.											

List the Major Course Segments (Units)	Contact Lecture Hours	Contact Lab Hours	Clinical Practicum	Work-based Learning
Concepts in building science	6	24		
Project site integration	3	10		
Optimum value engineering	3	28		
Architectural drafting and design	3	28		
TOTAL	15	90	0	0

EVALUATION

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

COURSE MATERIALS

TITLE:	Mechanical and Electrical Systems in Architecture, Engineering, and Construction	
AUTHOR:	Frank R. Dagostino, Joseph B Wujek	
PUBLISHER:	Prentice Hall	
VOLUME/EDITION/URL:	5th 3dition	
COPYRIGHT DATE:	2010	

MAJOR COURSE SEGMENT	HOURS	LEARNING OUTCOMES
		The student will be able to:
Concepts in building science	30	1. Perform heat loss calculations. 2. Perform heat gain calculations. 3. Calculate required ducts sizes for given load requirements. 4. Install vapor barriers and insulation. 5. Identify environmentally friendly building materials. 6. Calculate water savings based on alternative plumbing techniques and fixtures. 7. Describe applicable building codes and standards for sustainable construction.
Project site integration	13	1. Determine the best house orientation based on environmental factors. 2. Determine the best placement of windows based on environmental factors. 3. Explain the concept of xeriscaping.
Optimum value engineering	31	1. Describe how to frame a house using optimum value engineering.

Architectural drafting and design	31	1. Draft a duct system. 2. Draft structural steel connections and details. 3. Read an electrical plan. 4. Read a plumbing schematic.
	105	

Outcomes*	Outcome Title	At the successful completion of this course, students will be able to:
Course Outcome 1	Calc Heating Cooling	Calculate heating and cooling loads.
Course Outcome 2	Opt Value Engineer	Explain optimum value engineering.
Course Outcome 3	Install Insul Vapor	Install insulation and vapor barriers properly.
Primary Laker Learning Competency	Critical Thinking: Students connect knowledge from various disciplines to formulate logical conclusions.	
Secondary Laker Learning Competency	Quantitative Literacy: Students analyze data and mathematical patterns in real-life situations.	

**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.*