7/24/2025	DATE		TEC	DIVISION
☑	REQUIRED COURSE		☐	NEW COURSE
☐	ELECTIVE COURSE		☑	REVISION

Lake Land College

Course Information Form

COURSE NUMBER:	CET-081		TITLE: *(30 Characters Max)*			CAD for Civil Engineering					
SEM CR HRS:	3.0	Lecture:	2.0			Lab:	2.0	ICCB Lab:	2.0	ECH:	4.0
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 - 15.1304		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: 200	8 Wks: 400
Prerequisites:	CET 082										
Corequisites:	None										
Catalog Description: (40 Word Limit)	Basic and advanced use of Microstation Geopak that focus on 3D drawing use and processing along with processing and creating data for terrain models, proposed and existing cross sections for plans and other civil engineering applications.										

List the Major Course Segments (Units)	Contact Lecture Hours	Contact Lab Hours	Clinical Practicum	Work-based Learning
Geopak fundamentals	4	4		
Coordinate geometry	3	3		
Horizontal alignment	3	3		
Existing ground profiles	3	3		
Existing ground cross sections	3	3		
Vertical alignment	3	3		
Typical sections	3	3		
Earthwork quantities	4	4		
Proposed cross sections	4	4		
TOTAL	30	30	0	0

EVALUATION

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

COURSE MATERIALS

TITLE:	*Harnessing Microstation V8*	
AUTHOR:	Krisnan/Taylor	
PUBLISHER:	Tompson/Delmar	
VOLUME/EDITION/URL:	5th edition	
COPYRIGHT DATE:	2007	

MAJOR COURSE SEGMENT	HOURS	LEARNING OUTCOMES
		The student will be able to:
Geopak fundamentals	8	1. Revise the Geopak project manager.
Coordinate geometry	6	1. Prepare and access the coordinate geometry database. 2. Demonstrate Geopak coordinate geometry.
Horizontal alignment	6	1. Develop and store horizontal chains using Microstation elements.
Existing ground profiles	6	1. Compute existing ground profiles based on a DTM.
Existing ground cross sections	6	1. Develop existing ground cross sections based on a DTM.
Vertical alignment	6	1. Develop and store vertical alignments using the profile generator.

Typical sections	6	1. Demonstrate Geopak typical section generator in project manager to create proposed cross sections. 2. Identify what criteria files are and how Geopak uses them to define proposed cross sections.
Earthwork quantities	8	1. Demeonstrate the procedures for calculating earthwork quantities with Geopak. 2. Demonstrate project manager to set up and process an earthwork run.
Proposed cross sections	8	1. Develop cross section sheets using the cross section sheet composition tool.
	60	

Outcomes*	Outcome Title	At the successful completion of this course, students will be able to:
Course Outcome 1	DrawingsMicrostation	Illustrate civil engineering related detail drawings utilizing Microstation.
Course Outcome 2	Process CE Constr	Describe processes included in design of civil engineering construction projects.
Course Outcome 3	Quantities CE Proj	Compute quantities for civil engineering projects.
Primary Laker Learning Competency	Professional Skills & Ethics: Students demonstrate professional skills and ethical accountability.	
Secondary Laker Learning Competency	Creative Thinking & Problem Solving: Students think creatively to solve problems.	

**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.*