2/20/2023 DATE
☑ REQUIRED COURSE
☐ ELECTIVE COURSE

Technology DIVISION
☐ NEW COURSE
☑ REVISION

Lake Land College

Course Information Form

COURSE NUMBER:	CET-054		**TITLE:** *(30 Characters Max)*			**Soils and Aggregates**							
SEM CR HRS:	4	**Lecture:**	2		**Lab:**	4						**ECH:**	6
Course Level:	☐ Gen Ed / IAI ☐ Career/Technical ☐ Baccalaureate /Non-IAI ☑ Dev Ed/ Not in Degree Audit			**Clinical Practicum:**		0	**SOE/ Internship:**		0	**SOE ECH:**		**0**	
COURSE PCS #	12 - 15.0201		**IAI Code**							**Contact Hours (Minutes Per Week)**			
Repeatable (Y/N):	N	**Pass/Fail (Y/N):**	N	**Variable Credit (Y/N):**		**Min:**		**Max:**		**16 Wks**	300	**8 wks**	600
Prerequisites:	**TEC-050 - Tech Math I**												
Catalog Description: (40 Word Limit)	A laboratory oriented study of soil and aggregate testing procedures that identify and classify.												

	List the Major Course Segments (Units)	Contact Lecture Hours	Contact Lab Hours	Clinical Practicum	Non-Clinical Internship/ SOE
1	Aggregate Types and Uses	6			
2	Laboratory Tests for Aggregates	6	20		
3	Water Content and Grain Size Analysis	3	10		
4	Soil Classification	3			
5	Atterberg's Limits	4	12		
6	Moisture vs. Density Curve	4	12		
7	Field Tests for Compaction	4	6		
	TOTAL	30	60	0	0

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

COURSE MATERIALS		
TITLE:	***Basic Construction Materials***	Soil Mechanics Laboratory Manual
AUTHOR:	Marotta	Braja M. Das
PUBLISHER:	Prentice Hall	Oxford University Press
VOLUME/EDITION/URL:	8th Edition	8th Edition
COPYRIGHT DATE:	2010	2012

MAJOR COURSE SEGMENT	HOURS	LEARNING OUTCOMES
		The student will be able to:
Aggregates		
Aggregate uses	3	Understand uses of different aggregates
Aggregate types	3	Identify types of aggregates
Aggregate production	3	List methods of aggregate production
Aggregate gradation	12	Perform an aggregate gradation
Coarse aggregate specific gravity	6	Perform a coarse aggregate specific gravity
Fine aggregate specific gravity	4	Perform a fine aggregate specific gravity
Fine aggregate fineness modulus	3	Perform a fine aggregate fineness modulus
Soils		
Water content	3	Calculate a water content of a soil
Grain size analysis	10	Identify the %'s of sand, silt & clay
Soil classification	2	Use I.D.H. & A.A.S.H.T.O. charts to classify soil types
Liquid limit	6	Perform and calculate liquid limit
Plastic limit	5	Perform and calculate plastic limit
Plasticity index	5	Calculate plasticity index
Proctor curve	10	Perform and calculate a proctor curve

Hydrometer	8	Perform and calculate hydrometer results
Specific gravity	4	Perform a soil specific gravity
Field compaction	3	Nuclear density test of soil
	90	

COURSE OUTCOMES*	At the successful completion of this course, students will be able to:
	• Perform the duties necessary to be an Aggregate Technician within industry
	• Demonstrate proper testing procedures of aggregates in the laboratory
	• Complete documentation necessary for aggregate testing
	• Compile documentation including the equipment, methods, and purpose for soil testing as related to Civil Engineering projects.

** Course Outcomes will be used in the Assessment Software for Outcomes Assessment. Limit to 3 - 5.*