

CATALOG INFORMATION

Dept and Nbr: CEST 81 Title: ENGR CONST DESIGN
Full Title: Engineering Construction Design/Drafting
Last Reviewed: 4/13/2015

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	3.00	Lecture Scheduled	2.00	17.5	Lecture Scheduled	35.00
Minimum	3.00	Lab Scheduled	3.00	17.5	Lab Scheduled	52.50
		Contact DHR	0		Contact DHR	0
		Contact Total	5.00		Contact Total	87.50
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 70.00

Total Student Learning Hours: 157.50

Title 5 Category: AA Degree Applicable
Grading: Grade Only
Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP
Also Listed As:
Formerly: CONS 81

Catalog Description:
Design and drafting techniques as applied to engineering drawings: highways, detail sheets, site and grading plans, underground utilities and structures, concrete and structural detailing.

Prerequisites/Corequisites:
CEST 50B (formerly CET 50B) and CEST 51 (formerly CET 51) with grades of "C" or better or equivalent.

Recommended Preparation:

Limits on Enrollment:

Schedule of Classes Information:
Description: Design & drafting techniques as applied to engineering drawings: highways, detail sheets, site & grading plans, underground utilities & structures, concrete & structural detailing.
(Grade Only)
Prerequisites/Corequisites: CEST 50B (formerly CET 50B) and CEST 51 (formerly CET 51) with grades of "C" or better or equivalent.
Recommended:

Limits on Enrollment:
Transfer Credit: CSU;
Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	Area			Effective:	Inactive:
CSU GE:	Transfer Area			Effective:	Inactive:
IGETC:	Transfer Area			Effective:	Inactive:
CSU Transfer:	Transferable	Effective:	Fall 1981	Inactive:	Fall 2021
UC Transfer:		Effective:		Inactive:	

CID:

Certificate/Major Applicable:
Certificate Applicable Course

COURSE CONTENT

Outcomes and Objectives:

The students will:

1. Identify and list the elements, plan and profiles, typical detail sheets, working drawings, site plans, and grading plans.
2. Demonstrate their knowledge and skills in drafting by successfully completing the following drawings.
 - A. Typical road detail sheet.
 - B. Concrete retaining wall.
 - C. Plan and profile sheet for a storm drain.
 - D. Site and grading plan.
 - E. Structural steel erection plan.

Topics and Scope:

Design and drafting techniques of projects related to civil engineering.

1. Typical road detail sheet.
2. Plan and profile for stormdrain, including details and necessary calculations.
3. Working drawing for concrete retaining wall including all details and tables.
4. Site and grading plan including quantity estimates.
5. Working drawing of simple steel erection plan including bill of materials.

Assignment:

1. Selected projects related to civil engineering including highway plans, underground utilities, site and grading plans,

- concrete and structural details.
2. Prepare from standard plans and specifications road detail drawing, including typical cross-sections, sidewalks, curb and gutters.
 3. Prepare from survey notes plan and profile for storm drain line. Determine drainage area, use charts to determine pipe size and slopes.
 4. Prepare from survey notes and standard plans and specifications a working drawing of a concrete retaining wall, including all details and tables.
 5. Prepare from survey data site grading plan including quantity estimate of total volumes of earth to move.

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

None, This is a degree applicable course but assessment tools based on writing are not included because problem solving assessments and skill demonstrations are more appropriate for this course.

Writing
0 - 0%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Homework problems, Quizzes, Exams, PROJECTS

Problem solving
15 - 25%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Performance exams, PROJECTS

Skill Demonstrations
40 - 60%

Exams: All forms of formal testing, other than skill performance exams.

Multiple choice, True/false, Matching items, Completion

Exams
25 - 35%

Other: Includes any assessment tools that do not logically fit into the above categories.

Class Participation

Other Category
0 - 10%

Representative Textbooks and Materials:

Instructor provide lab manual.