CEST 85 Course Outline as of Fall 1995

CATALOG INFORMATION

Dept and Nbr: CEST 85 Title: CIVIL COMP DRAFTING
Full Title: Civil Engineering Computer-Aided Design/Drafting
Last Reviewed: 10/24/2022

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	2.00		Non-contact DHR	35.00

Total Out of Class Hours: 70.00 Total Student Learning Hours: 192.50

Title 5 Category:	AA Degree Applicable
Grading:	Grade Only
Repeatability:	33 - 3 Enrollments Total
Also Listed As:	
Formerly:	CET 85

Catalog Description:
Computer-aided design/drafting for the civil engineering technician. The Softdesk civil software program will be utilized. Areas covered include: input of boundary, contours, field data, creation of DTM model topography, design of a road plan and profile, building layout, design utilities, and titles and notes.

Prerequisites/Corequisites:
AP TECH 57 and CEST 50B (formerly CET 50B) with grades of "C" or better or equivalent.

Recommended Preparation:

Limits on Enrollment:

Schedule of Classes Information:
Description: Computer-aided design/drafting for the civil-engineering technician. The Softdesk civil software program will be utilized. Areas covered include: input of boundary, contours & field data, creating of DTM model topography, design of a road plan & profile, building layout, design utilities & titles & notes. (Grade Only)
Prerequisites/Corequisites: AP TECH 57 and CEST 50B (formerly CET 50B) with grades of "C"

or better or equivalent.
Recommended:
Limits on Enrollment:
Transfer Credit: CSU;
Repeatability: 3 Enrollments Total

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 1995	Inactive:	
UC Transfer:		Effective:		Inactive:	

CID:

Certificate/Major Applicable:
Certificate Applicable Course

COURSE CONTENT

Outcomes and Objectives:
Upon completion of this course, the students will:
1. Input existing boundary, contours, and field data.
2. Create a DTM model from topography.
3. Design a road plan and profile.
4. Layout buildings and utilities while working with existing and proposed utilities.
5. Design utilities (sanitary, storm, water, etc).
6. Organize the project on standard size sheets, then title and note.
7. Plot the project.

Topics and Scope:

1. Course introduction and organization.
2. Introduction to survey and COGO modules.
   A. Input existing bearings and distances, point files, and digitized contours.
3. Introduction to the DTM module.
   A. Create DTM model topography, check contours and point data.
   B. Create TIN by contours and points.
   C. Create 3-D grid.
   D. Create and view contours.
4. Introduction to design and advanced design modules.
   A. Design road plan and profile.
   B. Layout center line and stations.
   C. Create offsets, profile, vertical curves, cross sections, and road template.

D. Define profile to "outside of drawing".
E. Process templates, obtain earthwork.
F. Import daylight lines.
G. Label plan and profile and cross-sections.

5. Building layout and utility layout.
   A. Make, digitize, or import build block, fire hydrants, street lights, trees.
   B. Set parameters for placing utilities.
   C. Place buildings and utilities.
6. Design utilities (sanitary, storm, water, etc.).
   A. Create offsets for utilities.
   B. Layout utilities using plan and profile restrictions.
7. Draw "D" size sheet with title blocks.
   A. Set text size and style and import notes via COGO notes and text file.
   B. Use various text sizes to create a text.
   C. Plot project using a view.
8. Utilize model and paper space applications.

Assignment:

1. Reading and written assignments as assigned by instructor.
2. Computer drawings and plotting.

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, Field work, Lab reports	Problem solving 10 - 25%

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

Class performances	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:
SOFTDESK Civil Engineering Software Manual. Latest Edition