CET-280 Civil Engineering Technology Capstone Class

Course Description: Students design a one-story commercial building with complete integrated building systems for architectural, mechanical and electrical systems.

Prerequisites(s): CET 205; CET 210 and CET 215 OR CET 205; CET 211 and CET 212

Corequisite(s):

Lecture Hours: 3	Lab Hours: 4	Credit Hours: 5
Lab Fee: $140	Supplemental Fee: $0	Purpose:
□ Transfer Assurance Guide Course (TAG)	□ Transfer Module Course (TM)	
Course Format: Lecture	Grading: A/B/C/F/I	
Delivery Method: □ Web	□ Hybrid	☒ Classroom
Semesters Offered: Fall	X Spring	Summer

Course Primary Text:

Title: Mechanical and Electrical Systems for Buildings	Edition: Fifth
Author(s): Janis, R. R. and Tao, W. K. Y	
Publisher: Pearson Education, Inc.	

Supplemental Materials:

Ohio Plumbing Code; Ohio Building Code; Ohio Mechanical Code; National Electric Code; American with Disabilities Accessibility Guidelines
Miscellaneous Manufacturer Catalogues and Web Pages;

Course Outcomes:

1	ABET (A), Assessed: an ability to apply knowledge, techniques, skills and modern tools of the discipline to narrowly defined engineering technology activities.
2	ABET (B), Assessed: an ability to apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require limited application of principles but extensive practical knowledge.
3	ABET (C), Assessed: an ability to conduct standard tests and measurements, and to conduct, analyze and interpret experiments.
4	ABET (D), Assessed: an ability to function effectively as a member of a technical team.
5	ABET (E), Assessed: an ability to identify, analyze, and solve narrowly defined engineering technology problems.
6	ABET (F), Assessed: an ability to apply written, oral and graphical communications in both technical and non-technical environments; an ability to identify and use appropriate technical literature.
7	ABET (G), Assessed: an understanding of the need for and an ability to engage in self-directed continuing professional development.
8	ABET (H), Assessed: an understanding of and a commitment to address professional ethical responsibilities, including a respect for diversity.
9	ABET (I), Assessed: a commitment to quality, timeliness and continuous improvement.

Course Topics:

Week 1	Introduction to Design Problem
Week 2	Review of Mechancial and HVAC and continuation of HVAC/Design Processs
Week 3	Cooling and Heating Summary Sheets; Presure Drop Sheets/Design Process
Week 4	Duct sizing/Desing Process/Lab 1 Architectural
Week 5	Ducgt sizing continued; HVAC Sizing and choosing of HVAC Unit/Design Process
Week 6	HVAC Design Continued/Finalized and Desing Process
Week 7	Lighting Design Review/Design Process
Week 8	HVAC Drsign Completed/Desing Process/Lab 2 HVAC and ductwork and sheets
Week 9	Electrical Design/Design Process
Week 10	Electrical Design Continued/Desing Process
Week 11	Electrical Design Continued including Lightning Protection/Electrical/ Design Process
Week 12	Plumbing Design
Week 13	Comntinued
Week 14	Electrical Desing Finalized/ Lab 3 Electrical
Week 15	Review and Summary/ Project Manual/ Turn in final complete constgruction documents

Methods of Evaluation/Assessment

☒ Formative: □ Summative

HVAC Lab 1 including sheets and ducts 300 Points
Electrical Lab 2 including lightning protection, single line, panelboards and lighting an. rfeceptaclkes 300 Points
Plumbing including sewer Lab 3; 300 points
Project Manual 300 Points

Course Keeper: ~~Ralph Wells~~
Course Keeper: Elias Feghali

Date Completed: September 30, 2013
Updated: September 16, 2016
Updated: March 15, 2019