CET 290 Civil Engineering Technology Surveying Capstone

Course Description: Students complete a project that demonstrates integrated competencies in surveying and mapping, including data collection, field work, computer laboratory work, and use of conventional and GPS equipment.

Prerequisites(s): CET 251 **Corequisite(s):** No corequisite

Lecture Hours: 1	Lab Hours: 6	Credit Hours: 3
Lab Fee: $210	Supplemental Fee: $ 0	Purpose:
☐ Transfer Assurance Guide Course (TAG)	☐ Transfer Module Course (TM)	
Course Format: Lec/Lab	Grading: A/B/C/D/F/I	
Delivery Method: □ Web □ Hybrid ☒ Classroom		
Semesters Offered: Fall Spring X Summer		

Course Primary Text:

Title: No additional text to purchase	Edition:

Supplemental Materials:

NCEES Test Blueprint (download)

Course Outcomes:

1	ABET (a), Assessed: – the student will be able to apply the knowledge, techniques, skills, and modern tools of the discipline to narrowly defined engineering technology activities.
2	ABET (b), Assessed: – The student will be able to apply the knowledge of mathematics, science, engineering, and technology to engineering problems that require limited application of principles but extensive practical knowledge.
3	ABET (c), Assessed: – The will be able to conduct standard tests and measurements, and to conduct, analyze and interpret experiments; conduct standardized field and laboratory tests related to civil engineering.
4	ABET (d), Assessed: – The student will be able to function effectively as a member of a technical team
5	ABET (e), Assessed: – The student will be able to identify, analyze, and solve narrowly defined engineering technology, problems.
6	ABET (f), Assessed: – The student will be able to apply written, oral, and graphical communication in both technical and non-technical environments; able to identify and use appropriate technical literature; be able to utilize principals, hardware, software, that are appropriate to produce drawings, reports, quantity estimates and other civil engineering technology documents.
7	ABET (g), Assessed: – The student will have an understanding of the need for and an ability to engage in self-directed continuing professional development
8	ABET (i), Assessed: - a commitment to quality, timeliness, and continuous improvement.

Course Topics:

Week 1	Mortgage Location Survey
Week 2	Boundary Survey
Week 3	Research
Week 4	Field Recon and data collection
Week 5	Office – Computer resolution
Week 6	Boundary Survey Plat
Week 7	Topographic Mapping Survey
Week 8	Control (State Plane Coordinates) and Elevation
Week 9	Field data collection- Data collector use
Week 10	Data Transfer- collector to computer
Week 11	Mapping using 3D software and GIS
Week 12	Business aspects of Surveying
Week 13	Professional Aspect of Surveying
Week 14	Section Corner retracement
Week 15	Future of Surveying and your career

Methods of Evaluation/Assessment

Mortgage Location Plat- State of Ohio Minimum Standards rubric 15%
Boundary Survey and Plat- State of Ohio or Kentucky minimum standards rubric 25%
Topographic Survey- Set of Plats and Maps (varies by project)- 40%
Section Corner Retracement- 15% historic
Preparation for Fundamentals of Surveying NCEES exam blueprint worksheet 5%

Course Keeper: George Armstrong PS, PE

Date Completed: 9-24-2013
Updated: March 15, 2019, Carol Morman