1. CEE 4940 - Fundamentals of Civil Engineering

2. Course credit hours: 0
   Contact hours per week: 2
   Credit category: Engineering Topics

3. Course coordinator: Lenly Weathers

4. Textbook: None

5. Course information:

2020 Catalog description	Review fundamentals in preparation for fundamentals-of-engineering (FE) test.
Prerequisite(s) or Concurrent Enrollment	Prerequisite: CEE 3030, CEE 3413, CEE 3420, CEE 3610, CEE 3710, CEE 4310, CEE 4320, CEE 4800, and CEE 4920 (CEE 3030, CEE 3420, CEE 3710, CEE 4310, CEE 4320, CEE 4800 and CEE 4920 may be taken concurrently).
Course type	Required

6. Course instructional outcomes:

Course Outcome No.	Course Outcome (CO)	ABET Student Outcome
CO1	Solve problems of the type found on Fundamentals of Engineering examination and listed below under Course Topics	1, 2

ABET criterion 3 Student Outcomes addressed by this course:

SO No.	Student Outcome (SO)
3.1	An ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics
3.2	An ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors

7. Course topics:
   1. Statics (2 classes)
   2. Mechanics of Materials (2 classes)
   3. Dynamics
   4. Fluid mechanics
   5. Structural analysis (2 classes)
   6. Structural design (2 classes)
   7. Materials (2 classes)
   8. Hydraulics and Hydrologic Systems (2 classes)
   9. Environmental Engineering (2 classes)
   10. Probability and Statistics

11. Engineering Economics
12. Transportation Engineering (2 classes)
13. Geotechnical Engineering (2 classes)
14. Surveying
15. Construction

Program criteria (curriculum) addressed by this course:

1. Apply knowledge of mathematics through differential equations, calculus-based physics, chemistry, and at least one additional area of basic science
2. Apply probability and statistics to address uncertainty
3. Analyze and solve problems in at least four technical areas appropriate to civil engineering
4. Design a system, component, or process in at least two civil engineering contexts
5. Explain basic concepts in project management, business, public policy, and leadership
6. Explain the importance of professional licensure

8. Additional topics, assignments, or requirements for dual-level (4000/5000) course:
   N/A

9. Date: 07/15/2020