CEES 4423 – CEES Professional Internship School of Civil Engineering and Environmental Science Fall Semester Only

Catalog Description: Prerequisite: Completion of at least 19 hours of Civil Engineering and Environmental Science (CEES) coursework (for Civil Engineering and Environmental Engineering majors); or completion of at least 19 hours of CEES and/or science coursework (for Environmental Science majors); or completion of at least 19 hours of CEES and/or Architecture (ARCH) coursework (for Architecture Engineering majors). Provides three hours of professional elective credit for 400 hours of internship. Prior to starting the internship, students should consult with the CEES internship program advisor, write a proposal of planned activities, and secure the approval of the advisor. On completion of the internship, the students should enroll in this course, attend weekly sessions, submit a report, and make an oral presentation to the CEES internship program advisor and selected audience. (F)

Textbooks: None required

Internship Program Advisor: Dr. Robert C. Knox

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Course Outline:

1. Project – The student must first secure an internship, then consult with the CEES internship program advisor and determine if this internship meets the requirements for professional elective credits. To meet the requirements, the set of activities that the student expects to complete during their internship must contain higher-level engineering or science work such that the sum of the experiences for the internship is equivalent to what a student would learn in a three-credit, upper division CEES course. In addition, the internship supervisor must agree in writing to prepare a minimum of two intern evaluation/progress reports over the course of the internship. The reports can be in the form of an email or letter to the CEES internship program advisor.

2. Proposal – The student must complete a proposal prior to starting the internship, but after consultation with the CEES internship program advisor and the potential employer. The proposal should identify the potential employer, the direct supervisor, and the duration of internship. The proposal should be submitted to the CEES internship program advisor, with a copy to the CEES director.

The proposal must include the following sections: Introduction, Objectives, Internship Plan, and Schedule. The Introduction section should state the relevance of and need for the proposed internship work from the perspective of the student's major field of study. The Objectives section should state the technical project objectives, as well as the student's individual learning objectives. The Internship Plan section should provide a discussion of the specific project(s) that the student will work on and identify the student's responsibilities for each project. The Schedule section should outline the timetable for completion of all internship projects. The proposal should be at least 1-3 pages long, typewritten using 12 point, Times New Roman font, and double-spaced with 1" margins.

Important Note:

The proposal must be submitted at least 30-days prior to the start of the internship, and it must be evaluated and approved by the CEES internship program advisor prior to the start of the internship. Following completion of the internship, if the actual work conducted differs significantly from the contents of the proposal, a revised proposal must be approved by the advisor before the student enrolls in the class.

- 3. Internship Students must complete 400 hours of internship, with satisfactory progress reports. This could be completed by working full-time over one summer semester or by working part-time over several regular semesters.
- 4. Course After completing their internship, the student should enroll in CEES 4423, which will meet weekly and include activities that will enhance the lessons learned during the internship program. It will also provide guidance on the reporting requirements and provide a forum for the oral presentations.

As a part of the course requirements, the student must complete a written and oral report, as described below.

Written Report: this report will typically be at least 25 pages long (not including the title page, executive summary, references, or appendices), and must be typewritten using 12-point, Times New Roman font, and double-spaced with 1" margins. The typewritten report should contain all the sections required for the proposal (i.e., Introduction, Objectives, Internship Plan, and Schedule), updated and expanded as appropriate. The report should provide detailed descriptions of all projects conducted and the student's

role. The report should also include sections titled "Results" and "Self Assessment". The Results section should describe the student's responsibilities during the internship and the scope of work completed. The Self Assessment section should include the student's assessment of his/her internship accomplishments. The Self Assessment section should include answers to at least the following questions: Did you feel prepared for this internship? How did your "real-world" experience compare to your classroom experience? In what area did you feel most deficient? What did you (or could you) do to address this deficiency? In what area did you feel most confident and why? How did your "people skills" change because of your internship? Would you describe your employer's work environment as nurturing, rigid, creative, or other? Do you feel that you learn more in a 3-credit class or a 3-credit internship?

The final written report must be submitted and presented as part of the CEES 4423 class requirements. The student must submit a draft report to the CEES internship program advisor 4 weeks before it is due to allow for advisor review and student revisions.

<u>Oral Presentation</u>: The student should make a modern, computer-based, 20–25-minute oral presentation that highlights the same topics as the written report, as scheduled during the CEES 4423 class. The student should also be prepared for a 15–20-minute question and answer period following the presentation.

Assessment: This course is graded on a Satisfactory/Unsatisfactory (S/U) basis. To earn a grade of "S", all the criteria in the following table must be met satisfactorily.

Assessment items	Criteria
1. Proposal	Proposal is grammatically correct, includes all required sections, and clearly identifies internship work tasks and relevance to CEES curriculum.
2. Supervisor's Report	Lists dates worked, describes project(s) and student's responsibilities, and evaluates student's performance.
3. Technical Performance	Project(s) is/are completed as assigned using good science and engineering principles.
3. Written Report	Report is well organized, clearly written, contains no typographical or grammatical errors, and includes all required sections. Report describes relationship of work to CEES curriculum. Report is submitted on time.
4. Oral Presentation	Presentation is delivered in a professional manner (i.e., well-practiced and with a minimum of technical difficulties) and student can respond effectively to questions.
5. Class Activities	Satisfactory participation in designative activities.