Rutgers University, Department of Electrical and Computer Engineering
ABET COURSE SYLLABUS
COURSE: 14:332:496, 497

Course Catalog Description: 14:332:496, 497 - Co-Op Internship in ECE (6)
Practical training in professional environment

Pre-Requisite Courses: Consent of Undergraduate Director

Co-Requisite Courses: None

Pre-Requisite by Topic: None

Textbook & Materials: None.

References: None

Overall Educational Objective: The internship provides the student with the opportunity to practice and/or apply knowledge and skills in various electrical and computer engineering professional environments. The internship is intended to provide a capstone experience to the student's undergraduate studies by integrating prior course work into a working engineering environment.

Course Learning Outcomes: A student who successfully fulfills the course requirements will have demonstrated:

1. an ability to work in a professional environment

2. An ability to utilize technical resources both from prior relevant coursework, as well as from sources students must seek out on their own (e.g., various technical literature, data sheets, webinars, etc.)

3. An ability to write technical documents and give oral presentations related to the work completed.

How Course Outcomes are Assessed:
Technical Report (100%)

N = none   S = Supportive   H = highly related

Outcome	Level	Proficiency assessed by
(a) an ability to apply knowledge of Mathematics, science, and engineering	H	Technical Report
(b) an ability to design and conduct experiments and interpret data	H	Technical Report
(c) an ability to design a system, component or process to meet desired needs within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, and sustainability	H	Technical Report
(d) an ability to function as part of a multi-disciplinary team	H	Professional environment
(e) an ability to identify, formulate, and solve ECE problems	H	Technical Report
(f) an understanding of professional and ethical responsibility	H	Professional experience
(g) an ability to communicate in written and oral form	H	Technical Report & Presentation
(h) the broad education necessary to understand the impact of electrical and computer engineering solutions in a global, economic, environmental, and societal context	S	Professional experience
(i) a recognition of the need for, and an ability to engage in life-long learning	S	Professional experience
(j) a knowledge of contemporary issues	S	Professional experience
(k) an ability to use the techniques, skills, and modern engineering tools necessary for electrical and computer engineering practice	H	Technical Report

Information to Students: The following conditions apply.

1. Student should not be on academic probation.

2. Student should have completed a minimum of 90 credits with a cumulative grade point average of 2.5 or better.

3. Student should have completed a minimum of 40 credits in the major with a major cumulative grade point average of 2.5 or better.

4. The Internship must at least be of six month duration. Normally, it is to be taken in the Summer semester following the student's junior year. The Internship should continue with the same employer during the Fall semester of the student's senior year. The Co-Op credit will not be given for summer employment alone. This implies that the student earns 6 credits for Summer and Fall together, or earns no credits at all.

5. In order to earn credit, the student must be working on a specified and approved project. Initially, a one-page or so description of the project and an application form appropriately filled must be submitted for approval to the Undergraduate Director. Additionally, the student must have a faculty advisor as well as an industrial advisor who will supervise the student. At the end of the project, a technical report must be written, and a copy of it must be submitted to the Undergraduate Director as well as to the industrial advisor who together decide whether the student is to receive a passing grade or not.

6. The 6 credit Co-Op Internship would replace one departmental (or computer) elective and one technical elective.

7. Students electing to participate in the Co-Op Internship program for Pass/No Credit cannot designate any other electives as Pass/No Credit.

Independent Learning Experiences: These are reflected in the Technical Report

Contribution to the Professional Component:
(a) College-level mathematics and basic sciences: 0 credit hours
(b) Engineering Topics (Science and/or Design): 6 credit hours
(c) General Education: 0 credit hours
Total credits: 6

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