

The University of Texas at Tyler
Department of Electrical Engineering

Course: EENG 4395 – Undergraduate Research (Elec.)

Syllabus

Catalog Description:

Directed research in electrical engineering involving a problem of mutual interest to the student and a faculty member. An oral presentation and a written report of the research results are required at the conclusion of the course. A maximum of 3 credit hours may be applied toward an undergraduate degree in electrical engineering. Prerequisite: Consent of the department chair.

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Credits: 3

Text(s): N/A

Additional Material: Reference Textbook(s)
Published Research Papers and Reports
Published Thesis and Dissertations

Course Coordinator:

Topics Covered: (paragraph of topics separated by semicolons)

Topics depend on available research problems of mutual interest to both faculty and student

Evaluation Methods: (only items in dark print apply): Any and all methods below may be used.

3. Report
4. Computer Programming
5. Project
6. Presentation

Course Objectives¹: By the end of this course students will be able to:

1. Outline published literature related to the research problem [3]
2. Analyze published literature related to the research problem [3]
3. Develop models for the research of the problem [3-6]
4. Develop algorithms for the solution of the research problem [3-6];
5. Evaluate the merits of various approaches and make recommendations [3-6].
6. Prepare a report outlining the research [3-6].
7. Deliver a presentation outlining the research findings [3-6].

¹Numbers in brackets refer to method(s) used to evaluate the course objective.

Relationship to Program Outcomes (only items in dark print apply)²: This course supports the following Electrical Engineering Program Outcomes, which state that our students will:

1. have the ability to apply knowledge of the fundamentals of mathematics, science, and engineering [1-5]
 2. have the ability to use modern engineering tools and techniques in the practice of electrical engineering [3-7];
 3. have the ability to analyze electrical circuits, devices, and systems [3-7];
 4. have the ability to design electrical circuits, devices, and systems to meet application requirements [3-7];
 5. have the ability to design and conduct experiments, and analyze and interpret experimental results [3-7];
 6. have the ability to identify, formulate, and solve problems in the practice of electrical engineering using appropriate theoretical and experimental methods [1-7];
 7. have effective written, visual, and oral communication skills [1-7];
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10. have a recognition of the need for and ability to pursue continued learning throughout their professional careers. [1-7]

²Numbers in parentheses refer to the degree to which this course supports the listed Electrical Engineering Program Outcome. Numbers in brackets refer to course objective(s) that address the Program Outcome.

Contribution to Meeting Professional Component: (in semester hours)

Mathematics and Basic Sciences:	0	hours
Engineering Sciences and Design:	3	hours
General Education Component:	0	hours

Prepared By: Hassan El-Kishky Date: December 1, 2009