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: Electrical Engineering Faculty

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 Objectives[1]: 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].

[1] *Numbers 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];

10. have a recognition of the need for and ability to pursue continued learning throughout their professional careers. [1-7]

[2]*Numbers 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