EET 290 Electronics Engineering Technology Capstone Project

Course Description: Students design a system using analog and digital electronics concepts, and prepare and deliver a professional presentation of their completed project. Topics include: design theory, feasibility study, engineering economics, and presentation skills.

Prerequisites(s): EET 122, ESET 251 **Corequisite(s):** No corequisite

Lecture Hours: 2	Lab Hours: 4	Credit Hours: 4
Lab Fee: 140	Supplemental Fee: 0	Purpose:
☐ Transfer Assurance Guide Course (TAG)	☐ Transfer Module Course (TM)	
Course Format: Lec/Lab	Grading: A/B/C/D/F/I	
Delivery Method: □ Web	□ Hybrid	x Classroom
Semesters Offered: □ Fall	x Spring	□ Summer

Course Primary Text:

No Textbook Required	

Supplemental Materials:

Course Outcomes:

Project Management Skills

- an ability to effectively create a Gantt chart
- an ability to effectively develop and utilize a work breakdown structure
- an ability to assess project risk
- an ability to develop a statement of need document
- an ability to develop a concept of operations document
- an ability to develop a statement of work document

Oral Technical Presentations

- an ability to develop and effective presentation of a technical nature
- an ability to present achieved goals to a technically fluent audience
- an ability to work on a team in the development of technical presentations

Written documentation

- to develop timely, concise resports convering the important aspects of the project status
- to develop a project final report as part of a research and development team

Financial managment

- to learn about the acquisition and ordering of critical componenets
- to develop a project within a fixed budget and timeline
- to understand the concept of cost/risk assessment

Applications of electronics theory

- the ability to choose an optimum design based on coursework in circuits and electronics
- to understand the concept of redundant architecture and catastrophic design
- to understand the trade-offs of cost and design
- to understand the concept of margin of error and designing for such.

Course Topics:

Week 1	Overview of project Determination of project leaders Brainstorming session to determine possibilities for scope of project Individual research to come up with ideas
Week 2	Discuss project and assign responsibilities How is this project going to be done? Finalize the scope of project, project timeline, presentation of research, responsibilities defined.
Week 3	1st Review: Oral presentations on design work and progress. Turn in first written reports. Project assignments as defined by the group.
Week 4	Project assignments as defined by the group.
Week 5	Project assignments as defined by the group.
Week 6	SSR - Systems Requirement Review
Week 7	Project assignments as defined by the group.
Week 8	Project assignments as defined by the group.
Week 9	Project assignments as defined by the group.
Week 10	PDR - Preliminary Design Review
Week 11	Project assignments as defined by the group.
Week 12	Project assignments as defined by the group.
Week 13	Project assignments as defined by the group.
Week 14	Project assignments as defined by the group.
Week 15	FDR - Final Design Review - Presentation and written report. Written report to include: 1. All schematics, software with full explanation of operation. 2. Cost estimate of project including all parts. 3. Conclusions. Include other options for design.

Methods of Evaluation/Assessment

Grade Scale:

Homework Assignments (20%)
SRR (15%)

PDR (15%)
FDR (30%)
Final Report (20%)

93-100	A	72-76	C
90-92	A-	69-71	C-
87-89	B+	67-68	D+
82-86	B	62-66	D
80-81	B-	59-61	D-
77-79	C+	0-58	F

Budget: **$500.00**

Course Keeper: Ralph Whaley

Date Completed: April 19, 2019