Department: Electrical and Computer Engineering

EEL 3927 — Engineering Design Concepts

Curriculum Designation: Required for EE and CpE majors.

Course (Catalog) Description: Students are exposed to the concepts in design, project management, engineering team organization, and professionalism. Periodic written reports are required and used to satisfy the upper division writing (UDW) competency. The lecture material and texts provide instructions on technical writing, project management, ethics, and design skills. This course serves to prepare students by introducing the skills and knowledge necessary to effectively complete a capstone project.

Prerequisites: EEL3111, EEL3112, ENC1101, ENC2135 (FSU) or ENC1102 (FAMU)

Co-requisites:

Textbooks/Required Material:

Course Objectives:
1. Identify engineering problems using a needs assessment.
2. Estimate the cost of a project and prepare a proposed budget.
3. Prepare a project schedule
4. Apply systems engineering concepts to develop a solution to an engineering problem.
5. Develop an understanding of professional and ethical responsibility.
6. Conduct a failure modes and effects analysis
7. Use appropriate evidence from multiple sources to illustrate how a chosen topic is relevant to a particular field.
8. Compose as a process, including drafts, revision, and editing.
9. Convey ideas clearly, coherently, and effectively for a particular purpose, occasion, or audience representative as appropriate for the field.

Topics Covered:
1. Engineering Design Process
2. Project Management including Budget and Schedule
3. System Engineering Concept
4. Professional and Ethical Responsibility
5. Failure Modes and Effects Analysis
6. Professional Communication for Engineers

Class Schedule: Three 50- or two 75-minute lectures per week (3 credit hours).

Subject Area: Engineering
Significant Design:  No

Relationship to Assessed ABET Student Outcomes: 3(a-d), 4(a-c)

Last Updated by:  R.J. Perry  Date:  4/30/2021