**ELEC 4810 - Long Term Technology Development and Project Management**  
(Elective for ELEC, ECPE, WIRE)

### 2008 Catalog Data

**ELEC 4810.** LONG TERM TECHNOLOGY DEVELOPMENT AND PROJECT MANAGEMENT (1-2). LAB. Pr., ELEC 2120 and consent of instructor. Students participate in ongoing electrical, computer, or wireless engineering design projects and competitions while learning project management and organization strategies. May be repeated for up to three credit hours.

### Textbook


### Reference

None

### Coordinator

A. S. Hodel, Associate Professor of ECE.

### Goals

Provide students with a meaningful, long-term, team-based design experience in electrical, computer, or wireless engineering. Students are to develop and maintain practices of documentation, scheduling, and project management within the context of an ongoing project design.

### Prerequisites by topic

1. Introductory computer programming in a high level language  
2. Electrical circuits  
3. Fourier and Laplace transforms and discrete Fourier transform

### Class Format

One 50-minute lecture per week in the first nine weeks.  
Open laboratory for the duration of the semester for project work.

### Lecture Topics

1. Overview of national and regional design competitions in electrical, computer, and wireless engineering. (1 week)  
2. What is the engineering design process? (1 week)  
3. Organization: project schedules and Gantt charts. (1 week)  
4. Task assignment: personal objectives. (1 week)  
5. Budget: cost planning and tracking. (1 week)  
6. Teamwork: organization and communication. (1 week)  
7. Lab notebooks: (1 week)  
8. Project documentation: (1 week)
9. Risk analysis and risk management (1 week)

**Typical methods for evaluating student performance**

1. Documentation (objectives, personal lab notebooks, weekly reports, end of semester report) 25%
2. Attendance (25%)
3. Project development participation (25%)
4. Achievement of objectives. (25%)

**Computer usage:**

Design and analysis packages as needed, e.g., MATLAB, PSPICE, SolidEdge, etc.

**Laboratory projects:**

Varies by semester. Projects are selected that will last at least two semesters from start to completion. Projects are specifically drawn from the fields of electrical, computer, or wireless engineering. A typical project would be to participate in the IEEE Southeastcon Student Hardware Competition held each spring at various locations in the southeast region.

**ABET category content as estimated by faculty member who prepared this course description:**

Engineering science: 0 credits or 0%
Engineering design: 1 credit or 100%

Prepared by **A. S. Hodel**  Date: **6/30/2008**