1995-97 Catalog Data: 4773 - Laboratory (Special Projects). Prerequisite: 3872 or 4273. Individually supervised special engineering problems of experimental nature. (F, Sp)

Textbook/reference: No text / Lecture Notes are provided

Coordinator: G.E. Crain

Goals: Course designed to give students experience in the complete engineering design process. Projects are provided by Industry Sponsors. They are designed to give students experience in team design of a project. Students are required to use knowledge information learned from across the curriculum, supplemented by research investigations required to develop the product according to customer specification.

Prerequisites by topic:
1. Design of Digital Systems
2. Electrical Instrumentation
3. Entire Electrical and Computer Engineering Curriculum

Topics:
1. Teamwork and Organization
2. Communication Skills
3. Oral presentations and written Documentation
4. System and Computer Program Design
5. Ethics, Quality, Safety
6. Design, Construction, and Test of Projects

Computer usage:
1. Computers are used as controllers and software or database development sites. Language and design package are project dependent.
2. Students are responsible for software design and documentation.

Design Projects: Industry Sponsors provide three things: a short statement of need, a mentor to provide information and direction, and the finances required to develop the product. Projects will all require students to either
1. Envision, design, develop & demonstrate hardware assembly;
2. Envision, design, develop & demonstrate software for control of a system or database; or.
3. Participate in a Multidisciplinary proposal/study with another College of Engineering Unit.

Assessment materials will include oral presentations, written documentation, team organizational activities and individual contributions. Oral presentations will be assessed by communications graduate students, written documents will be assessed by technical writing experts and both will be assessed by a panel consisting of faculty members, practicing engineers (mentors) and those experienced in engineering management (Board of Visitors). Students will evaluate their teammates at two points in the semester.

Contribution to Professional Component:
Engineering Design 3 credits or 100%

Program Objectives, Related Strategy and Actions:
2.i, 2.ii, 3.i, 3.iii, 4.i, 4.ii, 5.i, 5.ii

ABET 2000 Criterion 3
a. c. d. e. f. g. h. k.

Prepared by: Gerald E. Crain Date: June 17, 1999