**ECET 290 Applied Research Project**

**Hours:** 0/12/0

**Prerequisites:** Successful completion of program's previous academic terms with a minimum "C" grade in all courses **and** be eligible to graduate in the term in which ECET 290 is taken.

**Short description:**

Students will complete a project that tries to simulate the workplace environment. They will work in teams, possibly with clients, to develop hardware and software to meet project specifications, within a specified time frame. They will have an opportunity to integrate knowledge and skills acquired in previous program courses with the project analysis and design work elements learned from this course.

**Learning outcomes:**

Upon successful completion of this course a student will be able to:

* work as part of a team to generate a project specification and to design, develop and complete all phases of an electronic and computer engineering project;
* prepare project proposals, specifications, cost and material estimates, project schedules and reports;
* evaluate possible components based on price, specification and availability;
* produce a resource to enable specification, ordering and sourcing of specialized components;
* ensure that all projects and project activities meet quality assurance standards and requirements;
* use problem solving skills to resolve technical problems in the design and construction of projects;
* judge when to seek assistance ;
* make regular progress reports;
* learn how to use novel hardware and software, as required by the project;
* design and implement all necessary circuitry to accomplish the project specification;
* contribute to the successful completion of projects and activities by managing, scheduling, meeting deadlines, and adhering to best practices in electronics and computer engineering;
* use project management software to track, document and implement an electronic and computer engineering project;
* generate Gantt charts to track project activity;
* apply critical path analysis to plan and organize project work;
* create user or operator manuals;
* create a comprehensive technical report with detailed descriptions, program listings and diagrams.