

## **ECE 3331: Project Laboratory I**

**Credit / Contact hours:** 3 / 3

**Course coordinator:** Brian Nutter

**Textbook(s) and/or other required material:** Dennis Silage: Embedded Design Using Programmable Gate Arrays, Bookstand Publishing, ISBN-13: 9781589094864

**Catalog description:** Prerequisite: ENGL 1302; ECE 2372, 3302. A laboratory course to accompany second-year basic courses in electrical or computer engineering. (Writing Intensive)

**Pre-requisite(s) or co-requisites:** ENGL 1302; ECE 2372, 3302.

**Designation:** Required

**Course learning outcomes:** Upon completion of this course, students should be able to do the following:

1. Identify, analyze and solve practical electrical or computer engineering problems by applying knowledge of mathematics, science and engineering with modern engineering tools
2. Design a system, component or process to meet desired needs within realistic constraints
3. Communicate effectively through oral presentations and group discussions
4. Communicate effectively through written reports and other documents
5. Design and conduct scientific and engineering experiments, and to analyze and interpret the resulting data
6. Function and communicate effectively, both individually and within multidisciplinary teams
7. Interact with other students, faculty and practicing professionals on professional and ethical responsibility issues
8. Recognize the need for, and ability to engage in, perpetual learning by working on projects, both individually and within multidisciplinary teams, for which they have no prior experience and developing ways to learn
9. Use basic statistical techniques to analyze data
10. Pass the FCC Exam

**Student outcomes addressed:** a, b, c, d, e, f, g, h, i, j, and k.

**Topics covered:** Students, working together in teams of two or more, are required to design, construct and test electronic systems to meet given specifications. Each student is required to submit interim and final written and oral reports. Each student presents on an approximately weekly basis as is indicated in the schedule. Written feedback is provided for all oral presentations and written reports concerning communication style, effectiveness and technical content. The projects assigned are in the area of development of field programmable gate array based systems.