EE 354 Syllabus Supplement

Catalog Description Takes up the logical design of computer systems with emphasis on the interaction between hardware and software. Topics include register design, memory systems, programmable I/O devices, interrupt driven I/O, controller design and microprogramming, bus systems, interface electronics, and assembly language programming. Computer aided design tools are used throughout course. Several different microcontrollers are used for projects to illustrate concepts. Assembly language and C used for class projects. Prerequisites: Electrical Engineering 254; working knowledge of C or C++. Fall.

Credit Hour Policy This course meets the federal requirements of 15 in-class hours plus an expected 30 hours of out-of-class work per credit hour over a semester. (At least 135 hours total; 9 per week)

Time & Place EE 354 meets Monday, Wednesday, and Friday at 11:00 AM in Koch Center 137

Learning Objectives After completing this course, successful students will be able to:

Course Objectives Statement

The objectives of this course are to teach students the design process for the implementation of a complete project which uses one or more microcontrollers.

Objectives by outcome

1b. Students will be able to apply the concepts of their field of study to formulate problems and identify creative solutions.
- Students will be able to write programs using selection, repetition, and functions in one or more assembly languages. (ABET e)
- Students will be able to write programs using selection, repetition, and functions in at least one major high level language. (ABET e)
- Students will understand the hardware/software interface for basic I/O devices such as A/D and D/A converters and parallel and serial ports. (ABET e)
- Students will understand how to use a micro controller for fundamental I/O and control purposes. (1b ABET e)
- All students will have experience in a high level language on at least two different microcontrollers. (ABET e)

2b. Students will be able to determine the requirements of an "open-ended" problem statement, complete a design and implementation to fulfill those requirements, and evaluate the effectiveness of the design.
- Students will complete at least two open ended design problems requiring an understanding of hardware and software. (ABET C)

Homework Problems will be assigned weekly. Most will require a program in either assembly language or C to be executed on a microcontroller. Assignments will differ as to what is to be turned in and what is the due date. This information will be placed on the assignment sheet.

Attendance Policy You are expected to attend all class sessions. Absences may adversely affect your grade.

Office Hours Dr. Blandford's office is Koch Center 266, Campus phone is 2201. He will usually be in his office from 7:00 to 9:00 AM and 10:00-11:00 AM.

Disability Policy It is the policy and practice of the University of Evansville to make reasonable accommodations for students with properly documented disabilities. Students should contact the Office

of Counseling and Health Education at 488-2663 to seek services or accommodations for disabilities. Written notification to faculty from the Office of Counseling and Health Education is required for academic accommodations.

Honor code This course will be governed by the University of Evansville Honor Code, which is

I will neither give nor receive unauthorized aid, nor will I tolerate an environment that condones the use of unauthorized aid

This code has two fundamental expectations:

- Students will submit as their own work only those items that are indeed their own work
- Students will hold each other responsible for adhering to the Code