

**EE 456
Syllabus**

**Fall 2016/17
Blandford/Randall**

Web site: <http://csserver.evansville.edu/~blandfor>

Text: None

Software:

1. C51 C Compiler for the 8051 from Keil Software. The professional version is available on selected machines in the lab. Alternatively, you may download the most recent student version from <http://www.keil.com/> choose *Evaluation Software* under downloads and click on *C51 tools*. Fill out the registration form. The demo version includes complete manuals.
2. CA ARM C Compiler for the STM 32 ARM-M4 microcontroller from Keil Software. You may download the most recent student version from <http://www.keil.com/> choose *Evaluation Software* under downloads and click on *ARM Tools*. Fill out the registration form. The demo version includes manuals.

Hardware:

1. Each student will need a 3-wide solderless breadboard for project construction. These are available through the stockroom or you can use the one that was required for EE 210/215.
2. Each student will need a STM 32 ARM Discovery board (the same as was used in EE 354).
3. Components for special projects will be furnished by the instructor.

There will be no hours exams or final exam. Grades will be based on project results with each project having a different requirement. All projects will have the same weighting with respect to grading. Each project will take approximately two weeks.

Project	Project
LED Maze project	Sparkfun ToF Range Finder sensor
LED CharliePlexed driver	One-wire interface with multiple sensors
FIR Filter four the "sound start" of the FFR	Graphics display
I2C temperature sensor on the ARM Discovery board plus low power mode	Bluetooth???

Date	Project	Lecture	Instr
Aug. 29	LED Maze project		DB
Sept 5	LED Maze project		DB
Sept 12	Charlieplexed display		DB
Sept 19	FIR Filter for FFR Sound Start	FIR filters	DB
Sept 26	FIR Filter for FFR Sound Start		DB
Oct. 3	Sparkfun rangefinder		MR
Oct. 12	Sparkfun rangefinder		MR
Oct. 17	One-wire interface with multiple sensors		MR
Oct 24	One-wire interface with multiple sensors		MR
Oct. 31	Graphics Display		MR
Nov 7	Graphics Display		MR
Nov 14	Blue Tooth/I2C		MR/DB
Nov 21	THANKSGIVING		
Nov 28	Blue Tooth/I2C		MR/DB

Modified: August 13, 2016