CSE 321
Realtime and Embedded Systems

MWF 9am-9:50, Knox 104

Instructor: Matt Stock
TA:
SAs:

Course Goals

- Understand the unique characteristics of programming realtime and embedded systems.
- Experience using C, C++, python and other languages in an embedded context.
- Experience reading hardware data sheets and programming specifications.
- Experience with interrupt handlers, hardware interfacing, and event driven programming.
- Understand security concerns with embedded systems.
- Knowledge of embedded realtime operating systems.

Textbook and Materials

We won't be using a textbook, however I will assign readings from time to time. This course is project-focused, and some materials will be required. Costs are expected to be less than $100. More info on that purchase soon.

Lecture and Recitation Attendance

Attendance is highly encouraged. The bulk of the material will not be provided via slides, but will be integrated into the demonstrations and lecture narrative. Likewise, the recitations will expand on the material covered in the lectures and will provide additional demonstrations of the techniques described in lecture. My web page (https://cse.buffalo.edu/faculty/stock/cse321/) will provide supplemental references (pinouts, programming guides, chipset references, example code, etc).

Office Hours

I will have office hours in Davis 303, MWF 10-11am. Other times may be possible on request.

Projects

Projects 1 and 2 are individual efforts. Project 3 can be done as a team of up to 4 people, however the effort and expectations will be proportionally higher. Because of the nature of embedded projects, both projects 2 and 3 will require a demo as part of the submission. The projects will become progressively more complex, and the time allocated will reflect that. More details when the projects are assigned.

Grading Policy

Project 1: 10%
Project 2: 20%
Project 3: 20%
Midterm exam: 20%
Comprehensive final: 30%