UCR CS 122A

Intermediate Embedded and Real-Time Systems

Fall 2016

Catalog description:
Covers software and hardware design of embedded computing systems. Includes hardware and software codesign, advanced programming paradigms (including state machines and concurrent processes), real-time programming and operating systems, basic control systems, and modern chip and design technologies. Laboratories involve use of microcontrollers, embedded microprocessors, programmable logic and advanced simulation, and debug environments.

Basic Course Information

Lecture: BRNHL A125; MW 6:10 - 7:30p.m.
Lab 021: CHUNG 136; MW 9:10a.m. - 12:00p.m.
Lab 022: CHUNG 136; MW 1:10p.m. - 4:00p.m.

Course Access
All course materials will be hosted on iLearn.

Contacts
Instructor:

Jeffrey McDaniel (Email: jmcda001@ucr.edu)
Office Hours: By appointment (Weekdays, Weekends)
Office: WCH 464

TA:

Chris Curtis (021) - ccurt002@ucr.edu
Office Hours: TBA
Office: WCH 464
Bashar Romanous (022) - broma002@ucr.edu
Office Hours: R 11am - 1pm
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Textbook/Homework

- *Required*: Programming Embedded Systems (PES), by Vahid/Givargis/Miller, (to appear near start of quarter).
    - 1. Sign-up at zyBooks.com
    - 2. Enter zyBook code: **UCRCS122AFall2016**
    - 4. Click *Subscribe*.

- *Required*: AVR development kits. EE/CE 120B kit + extra parts
    - Each student needs his/her own kit, before **Oct 3**.
    - Note: The local IEEE org sells parts. (CS122A Parts Kit)

Course grading
(*subject to change) The course is out of 1000 points*:

- 450 pts: Lab component
    - 270 pts: Lab assignments
    - 180 pts: Project
- 550 pts: Lecture component
    - 50 pts: Zybooks Readings
    - 245 pts: Midterm
    - 255 pts: Final

Letter grades follow the usual 90/80/70/60 scale with +/- for top and bottom 3% of each range. Curving may be done on individual items, if it helps.

Collaboration

The point of the homework is to help learn the material by doing, and to get feedback on the correctness of your ideas and the clarity of your written communication. In this spirit, it's fine to ask for, and provide, useful ideas and pointers to help yourself and others. But please **do not ask for or provide complete solutions**. Collaborate in the spirit of helping everyone to learn fully, so that all will do well on the quizzes and exams.

Honor code

All work that you submit must be fully authored by you. That is, you must write your own homework. If you incorporate ideas from another source, you must appropriately cite the source. Violation of this policy is plagiarism and will be referred to the UCR student conduct office.

Submissions

Labs must be submitted according to the lab submission guidelines.

Late Policy

Homework and programming assignments will be accepted up to 24 hours late with a 20% penalty.

Regrade Policy

Submit regrade requests in writing within one week of the distribution of the graded material. In the case of grade-database errors (clerical) notify the instructor within one week of posting. **Stay on top of your grades.**