Objective

This course teaches the principles of using computing in the larger context of a system. The student is expected to enter this class with an understanding of computer architecture, assembler, and proficiency programming in the C (or related) language. Emphasis is given to video data as an example of processing found in an embedded system. In concurrent lab work, each student will design and implement many of the ideas that are found in a digital video camera.

Text

No text is required. The majority of course material will be provided during lectures.


Professor

Dr. Adam Hoover
313A Riggs Hall
656-3377
ahoover@clemson.edu
office hours walk-in anytime, or by appointment

Topics

Data in embedded systems
Displays
Codecs
Processor, bus, and platform "flavors"
The boot process
Real-time analysis
Proving schedulability
Framegrabbing - image digitization from scene to display
Device driver fundamentals
Emerging embedded technologies, chips, and ideas

Grading

60% labs, 20% midterm, 20% final
Midterm and final are presentations/reports

Academic Integrity

“As members of the Clemson University community, we have inherited Thomas Green Clemson’s vision of this institution as a high seminary of learning. Fundamental to this vision is a mutual commitment to truthfulness, honor, and responsibility, without which we cannot earn the trust and respect of others. Furthermore, we recognize that academic dishonesty detracts from the value of a Clemson degree. Therefore, we shall not tolerate lying, cheating, or stealing in any form.”