ECE 395 - Advanced Digital Systems Laboratory

Instructors:

This class is usually taught by Professor Haken, who is known for his invention the Continuum Fingerboard. His research is in computer music, so he is really great at embedded systems, DSP, programming and more! As a mentor, he is pretty awesome. He has experience in academia and in industry. He was a consultant before he was a professor so he has a lot of cool stories about Intel, Motorola, and even some companies from the biomedical industry. He is a really cool guy.

Prerequisites:

ECE 385 is officially the only prerequisite, but many students motivated to pursue their own projects take ECE 395 without credit in ECE 385.

When to Take It:

Most students take this as a junior or senior. Exceptional sophomores can do well in this class too. Students who are fast and self sustaining learners, have experience with embedded systems (other than Arduinos), and have a good network of contacts that have knowledge in other fields, may be able to be successful in this class before taking ECE 385.

Class Content:

This is a class where you get to make anything you want... within reason. Keep in mind that you have to use a micro controller/FPGA/Computer because it is a Digital Systems Lab, but let your imagination run wild.

These are some projects people have done in the past:

- Automatic Foosball Table (You can play foosball against a computer)
- Hydraulic Hexapod (six legged robot)
- Graphics Cards (from scratch)
- Tesla Coils
- iPad-Controlled Power Wheels (The small electric cars that toddlers can drive)
- Robots of all kinds (Arms, Hands, Battle bots, etc)

Work:

The workload varies, depending on what you choose to make. This is one of the most open classes in the entire college. You basically need to spend enough time to get things done.

Life After:

This class prepares you for actual work and ECE445 (senior design). You get to work on a long term project with a deadline and you need to do whatever you can to meet that deadline and finish this. Students can really learn a lot in this class.