EEL4730

Programming Embedded Systems

Dr. Herman Watson

COURSE DESCRIPTION

Embedded Systems implementation using programming of synchronous state machines to capture behavior of time-oriented systems for running on microcontrollers

COURSE OBJECTIVES

Through successful completion of the course, the student will:
Understand the stages of the embedded system problem solving process and and a relationship to the development of software for implementation.
Use C Language to capture and study time-oriented behavior of systems.

TOPICS COVERED

- Introduction to embedded systems
- Bit-Level manipulation in C
- Time-ordered behavior and state machines
- Time intervals and synchronous SMs
- Input/output
- Concurrency
- Creating a task scheduler
- Communication
- Utilization and scheduling
- Embedded system coding issues

Course Material:
Frank Vahid and Tony Givargis
Programming Embedded Systems
An Introduction to Time-Oriented Programming
ISBN 978-0-9829626-2-6

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