

CDA 6132 Multiprocessor Architecture

Credits: 3 credits

Textbook, title, author, and year: No Textbook is required at this time

Reference materials: Reading material will be dynamically evolving in the class. Lots of research

Specific course information:

Catalog description: Multiprocessor interconnections and memory organizations. Performance evaluation, software issues, and case studies.

Prerequisites: Graduate Level.

Basic knowledge of Computer Programming Languages, Computer Architecture, Embedded Systems, or any combination of the above. Most importantly, students must have the interest and the will and be self-motivated to acquire hardware and software hands-on experience through research

Specific goals for the course:

1. To learn Multicore Architecture.
2. To learn advanced concepts of hardware parallel processing.
3. To learn advanced concepts of software multi-tasking.
4. To learn advanced hardware and software co-design issues.
5. To acquire hands-on experience with embedded systems.
6. To demonstrate knowledge through research papers.

Brief list of topics to be covered:

1. Parallel Topologies
2. Multicore Architectures
3. Parallel Processing
4. Massive Parallelism
5. Digital Signal Processing
6. Multi-Tasking
7. Parallel Programming