

CS 545: Concurrent Computing Landscape

Objectives

- This course provides an introduction to the theory of concurrent computation and concurrent programming languages and their representation on concurrent architectures.

Prerequisites

- CS 450.

Syllabus

- The Essence of Concurrent Programming
- Hardware Architectures
- Applications and Programming Styles
- Conditional Critical Section
- Semaphores
- The Dining Philosophers
- Readers and Writers
- Resource Allocation and Scheduling
- Monitors
- Synchronization Techniques
- Disk Scheduling: Program Structures
- Message Passing
- RPC and Rendezvous
- Rendezvous
- Examples
- Paradigms for Process Interaction
- Ada Tasking
- Concurrent C ++ Model
- Protected Type
- Capsule
- Selected Research Papers

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