



# Parallel Computing

## CSE 6441

**Credit Hours:**

3.00 - 3.00

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**Course Levels:**

Graduate (5000-8000 level)

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**Course Components:**

Lecture

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**Course Description:**

Principles and practice of parallel computing; design, implementation, and performance evaluation of parallel programs for shared-memory, distributed-memory and heterogeneous parallel systems.

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**Prerequisites and Co-requisites:**

Prereq: 5441 (621).

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**Course Goals / Objectives:**

- Mastery of parallel algorithm design
  - Mastery of parallel programming for shared-memory and distributed-memory systems and GPUs
  - Familiarity with performance evaluation for parallel programs
  - Familiarity with architectural trends for parallel computers, including interconnection networks, GPUs, multicore processors, and distributed-memory systems
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**Course Topics:**

- Parallel algorithm design
  - Parallel programming for shared-memory and distributed-memory systems and GPUs
  - Parallel programming for shared-memory and distributed-memory systems and GPUs
  - Architectural trends for parallel computers
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**Designation:**

Elective