Instructor

- **Instructor:** Joe Zhang
  - **Office:** TEC 216
  - **Phone:** (601) 266-5510
  - **Email:** chaoyang.zhang@usm.edu

- **Meeting time and location:**
  - 11:00AM – 12:15PM Tuesday & Thursday
  - Classroom: WSB 132
**Course Home Page**

- Course homepage
  - [http://www.cs.usm.edu/~zhang/csc730](http://www.cs.usm.edu/~zhang/csc730)

- Office Hours
  - Tuesday & Thursday 2:30PM – 3:30PM
  - Wednesday 1:00PM – 3:00PM

- Course announcements including project and assignments
  - Available online or handouts

- About lecture notes
  - Available online with PDF format or distributed in class.

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**Prerequisites**

- Background in computer system, algorithms and C/C++ programming
Textbook

- Textbook
  - *Introduction to Parallel Computing: Design and Analysis of Algorithms*
  - Online resources for MPI

Course Description and Objectives

- Description
  - This course introduces fundamental concepts, techniques and tools of parallel and distributed computing

- Objectives
  - Upon completion, students will
    - be familiar with the fundamentals of the system architecture and software of parallel and distributed computing
    - be able to design and analyze parallel algorithms for a variety of problems and computational models
    - have experience with the implementation of parallel applications on several platforms
    - be able to measure, tune, and report their performance
Course Topics

Topics to be covered:
- Fundamental concepts in parallel and distributed computing
- Parallel computer architectures
- Parallel algorithm design
- Performance and scalability
- MPI and OpenMP Programming
- Matrix computation and solving linear system*
- Distributed computing
- New advances in high performance computing

HPC Systems

- Shared memory or Distributed memory systems
  - at the Mississippi Center of Supercomputing Research (MCSR)
  - http://www.mcsr.olemiss.edu/
- Vislab facility
  - You can also use the facilities at High Performance Visualization Lab (TEC 205) at USM.
Schedule

• Course home page

Grading Policy

• Two assignments: 30%
• One project: 40%
  – Different projects for CSC630 and CSC 730 students
• Tests and final exam: 30%
Homework Policy

• The requirements are given on the course homepage or in the handouts
• All assignments and projects are mandatory for all students
• Assignments must be turned in by the due time and in the proper format.
  – No late assignment will be accepted unless compelling reasons can be supplied and verified.
  – Without permission, late assignments will receive no grade.

Honesty

• Students are expected to do their own work on all assignments
• The answer, writing and final result that you hand in must be your own effort but you are welcome to discuss general issues with other students
• This doesn’t apply to the group project
Attendance

- Students are expected to attend all classes
- If you miss a class, it is your responsibility to make up the missed class.

DAD Policy

If a student has a disability that qualifies under the American with Disabilities Act (ADA) and requires accommodations, he/she should contact the Office for Disability Accommodations (ODA) for information on appropriate policies and procedures. Disabilities covered by ADA may include learning, psychiatric, physical disabilities, or chronic health disorders. Students can contact ODA if they are not certain whether a medical condition/disability qualifies.

Address:
The University of Southern Mississippi
Office for Disability Accommodations
118 College Drive # 8586
Hattiesburg, MS 39406-0001
Voice Telephone: (601) 266-5024 or (228) 214-3232 Fax: (601) 266-6035

Individuals with hearing impairments can contact ODA using the Mississippi Relay Service at 1-800-582-2233 (TTY) or email Suzy Hebert at Suzanne.Hebert@usm.edu.
CSC630/CSC730
Parallel & Distributed Computing

Questions?

Dr. Joe Zhang
PDC-1: Course Outline