CS621: Parallel and Distributed Computing
Spring 2019 (MWF: 12:00pm – 12:50pm) MMRB 243

Instructor: Jun Zhang. E-mail: jzhang@cs.uky.edu. Tel: 257–3892.
Office: 321 Marksbury Building.
Office Hours: MW: 11:00am – 12:00pm, and by appointment.

Learning Outcomes: Students will learn about parallel and distributed computers. They will be able to write portable programs for parallel or distributed architectures using Message-Passing Interface (MPI) library.

Prerequisites: Two 500 level computer science courses, or consent of instructor. Some background on computer architectures and scientific computing. No previous experience with parallel computers is necessary. However, programming skill in Fortran or C is required.


Topical outline (tentative, Chapters 1 - 5):

- Parallel and high-performance computers;
- Models and parallel computers;
- Basic communication operations;
- Performance and scalability;
- MPI and OpenMP programming;
- Basic matrix computations;
- Direct methods for systems of linear equations;
- Applications.

Exact contents of this course may vary. New materials may be added as new technologies emerge.

Grading: Programming projects and homeworks (40%); One Midterm (Friday, March 8) (30%); Final Project (30%). Final grade: A: 100 - 90, B: 89 - 76, C: 75 - 60, E: below 60.