CS621: Parallel and Distributed Computing  
Spring 2016 (MWF: 11:00–11:50am) FPAT 253

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Office: 321 Marksbury Building.  
Office Hours: MW: 9:00–10:00am, 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 11) (30%); Final Project (30%). Final grade: A: 100 - 86, B: 85 - 71, C: 70 - 60, E: below 60.