CMSC 818Z (Fall 1996)

Professor:
Dr. Jeff Hollingsworth
4161 AV Williams
(40) 5-2708
hollings@cs.umd.edu
Office Hours:
Tu 10:45-12:00
W 10:00-11:00

Class URL: `http://www.cs.umd.edu/~hollings/cs818z/f96`
You are expected to check the class web page on a regular basis (at *least* weekly).

Catalog Description:
Selected topics in high-performance systems, including contemporary architectures, interconnection topologies, shared memory and message-passing systems, multi-threaded kernels, latency avoidance and hiding techniques, methods for data and workload partitioning, performance profiling, debugging.

Objective:
An understanding of the issues in the design high performance computers.

Prerequisites: CMSC412, CMSC411 (or equivalent classes)

Topics Covered (in approximately the order we will cover them):
- Introduction (1 week)
- Applications (2 weeks)
- Programming Languages (1 week)
- Parallel Architectures (3 weeks)
- Operating systems for parallel computing (2 weeks)
- Runtime Libraries (1 week)
- Debugging Tools (2 weeks)
- Performance Tools (2 weeks)

Required Course Text:
Highly Parallel Computing **2nd Edition**, Almasi and Gottlieb, Benjamin/Cummings 1994.

Papers from the reading list (available soon)

Term Projects:
The class will include term projects to investigate some aspect of parallel computing in more depth. The projects are intended to be "mini-research" projects. Part of the projects will be to define a specific project from sample ideas I supply you. The project will also include a written and oral report to convey what you have learned.

Grading:

Classroom participation	15%
Programming Assignment	10%
Midterm	30%
Project	45%

The instructor reserves the right to fail, regardless of numeric score, students who do not submit a good faith attempt to complete all programming assignments.