

CMSC 483

Parallel and Distributed Processing

Instructor: Dr. Howard E. Motteler

Time: TuTh 2:30–3:45, SS 112

Texts: Transputer Education Kit Book Set

Course Outline

- The OCCAM programming language and environment (4 weeks)
 - The OCCAM language and development environment: folding editor, compiler, loader, network loader, and debugger
 - The OCCAM system interface: i/o libraries, file handling, string and numeric function, etc.
- Transputer Hardware (2 weeks)
 - Classification of multiprocessor systems
 - Transputer architecture
 - Networks of transputers and the network loader
- The implementation of OCCAM (2 weeks).
 - Hard and soft channels
 - Link processors
 - Process scheduling and context switching
- Topics in parallel and distributed programming
 - Classification of multi-processor machines
 - SIMD Programming and a CM Project
 - Parallel algorithms and measures of efficiency
 - OCCAM and dataflow
 - Scheduling and the task assignment problem

Grading

Grading is based mainly on projects, and in part on a midterm and final. There will be several short to moderate length projects and/or homeworks in the first half of the course, and a single large project, for the second half. Projects are submitted on floppy disks, and are due in class on the assigned due dates. Late projects lose 20% for each class meeting they are delayed. Students must propose their own final project. A detailed description and design sketch for this project must be submitted by the middle of the semester. All work must be done by the end of the semester; no incompletes will be given.

Activity	Points
Short projects and homework	100
Final Project	200
Midterm	50
Final	50
Total	400