CS 4973 - Supercomputing Architecture and Development Fall 2014

Course Information

Location:	SCI 324
Class Times:	MW 14:00 – 15:15

Instructor:	Mike Morris
Office:	CB 126
Office Hours:	MW 11:00 – 12:00, 13:00 – 14:00, R 9:00 – 11:00, 13:00 – 14:00, F 10:00 – 12:00
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Instructor:	Karl Frinkle
Office:	MTH 112
Office Hours:	MWF 9:00 – 9:50, 11:00 – 11:50, MW 15:30 – 16:30, TR by appointment only
Office Phone:	(580)745 – 2028
E-mail:	kfrinkle@se.edu
Website:	http://homepages.se.edu/kfrinkle/

Course Overview

In this course, we will build, from the basic components, a high performance computing cluster. Components will be provided, and it will be up to the class to put the systems together. Documentation of the entire process will be required.

Course Outline

The following is an itemized list of what you will be expected to do this semester

- Catalog list of cluster parts
- Prepare a construction document for the cluster
- Install OS on cluster
- Get cluster on SE network
- Run benchmarks
- Optimize Cluster
- Write final report on process and results

Course Work

As stated in the course overview, at each stage of the cluster building, you will be expected to document your work. Before work has begun on the systems, you are to come up with an outline of the building process. Items in the outline should include at least the items in the list above.

After each stage of cluster development, you are expected to write up the process. Highlights should include step-by-step instructions on completing the stage. Further comments should include problems encountered and solutions or workarounds to the problem.

Once the cluster has been built, you will be running code on the cluster, attempting to optimize the system. There will be many small and large changes to the system required to ensure quick runtimes. You will also be required to get the cluster on the SE network, allowing you to log on to the system from off campus.

At the end of the semester, you will be expected to compile a document for the complete process of setting up the cluster on the SE network.

Grades

Your overall grade will be based on the following items

- Outline of the building process
- Actually building of the cluster, with documentation at each step
- Connectivity to the SE network
- Analysis of cluster performance
- Complete documentation of cluster build and analysis

Policies

Attendance will be taken each class period. Perfect attendance is highly recommended. All students are expected to do their own work on all assignments and exams. Any evidence of cheating or plagiarism will be dealt with on an individual basis. When working in the computer lab, you must follow posted guidelines. Students are expected to arrive in class on time and stay until the class ends. An atmosphere conducive to learning will be maintained. Students are expected to exhibit maturity, responsibility, courtesy and integrity.

Academic dishonesty or misconduct is not tolerated. Academic dishonesty is behavior in which a deliberately fraudulent misrepresentation is employed in an attempt to gain undeserved intellectual credit, either for oneself or for another. Academic misconduct is behavior that results in intellectual advantage obtained by violating specific standards. Anyone cheating in this course - each party involved - the first time through will receive zero points for the assignment. Anyone cheating in the course - the second time through - all parties involved will receive an F for the course. Withdrawal is not an option. It does not matter if you are the provider of the information or the recipient of the information. All parties involved will be treated equally. Penalties for cheating or copying someone elses work may include expulsion from the class and/or the university.

For a complete description of Southeastern's policies regarding academic misconduct, visit

http://homepages.se.edu/student-life/files/2009/10/
SOUTHEASTERN_OKLAHOMA_STATE_UNIVERSITY_STUDENT_HANDBOOK.pdf#4

We reserve the right to change any policies as we see fit to ensure that you are indeed receiving the best possible education that can be given to you in the subject matter at hand. If we feel a certain aspect of the course does not appear to be effective in its method, we will attempt to change it (for the better I hope).

Important Dates for Fall 2014

- 2014.08.18 - Classes begin
- 2014.08.22 - Last day to enroll in or add classes
- 2014.08.22 - Last day to drop a class with no grade record
- 2014.08.22 - Last day to drop a class with refund/no charges
- 2014.10.15 - Last day to drop a class with automatic W
- 2014.10.31 - Last day to complete final application for graduation
- 2014.11.14 - Last day to drop a class
- 2014.12.12 - Final Exam from 14:00-16:00
- 2014.12.12 - Classes end

Special Accommodations

Any student needing special accommodations due to a disability should contact the Coordinator for Disability Services, GDJ Student Union, Suite 328 or call (580) 745 – 2392 (TDD# 745 – 2704). It is the responsibility of each student to make an official request for accommodations to the Coordinator.

At-Risk Students

Any student experiencing mental or emotional issues who desires free, confidential, clinical counseling is encouraged to contact the SE Counseling Center at (580) 745 – 2988 to schedule an appointment during normal working hours Monday – Friday, 8:00 AM to 5:00 PM. For after hours mental health emergencies, please call SE Campus Police at (580) 745 – 2911 or the Mental Health Crisis Hotline at 1 – (800) – 522 – 1090.