22C: 166 Distributed Systems and Algorithms
Fall 2009

Course webpage
http://www.cs.uiowa.edu/~ghosh/16609.html
Also check on ICON (http://icon.uiowa.edu)
This course (22C:166 EXW) is also being offered via the World Wide Web

Instructor
Sukumar Ghosh, 201P Maclean Hall, 319-335-0738, ghosh@cs.uiowa.edu
Class meeting time: Tuesdays and Thursdays 10:55 AM-12:10 PM, 201 CEF
Office hours: Tuesdays and Thursdays 9:30-10:30 AM, or by appointment.

Department
Department of Computer Science (DEO: Professor Jim Cremer), 14 MLH, 335-0713

Teaching Assistant
Andrew Berns, adberns@cs.uiowa.edu, Office hours to be announced

Textbook

Reference books

You need not buy the reference books. These books will be on reserve in the Mathematical Sciences Library (in MacLean Hall) from the second week of the course.

Prerequisites
Some knowledge of Operating Systems and/or Networking, Algorithms, and interest in Distributed Computing

Tests and Assignments
There will be two midterms and a final examination. The examinations will account for 70% of the grades, and the assignments will be worth 30% of the grades. Homework will be posted on ICON, and students will submit their work through ICON. However, everyone is required to take the exams in person on campus per the following schedule:

EXAM 1: Thursday, October 2, 5:30-7:30 PM, Room 113 MLH
EXAM 2: Thursday, November 13, 5:30-7:30 PM, Room 113 MLH
FINAL: Tuesday, December 16, 7:30-9:30 AM, Room 201 CEF

Tentative scale for letter grade distribution

A+ = 95-100   B+ = 80-84   C+ = 65-69   D+ = 50-54   F = 0-39
A  = 90-94    B  = 75-79   C  = 60-64   D  = 45-49
A- = 85-89    B- = 70-74   C- = 55-59   D- = 40-44

The instructor reserves the right to make minor modifications in the above grading scale.
Course Outline

Introduction
Models and Proof
Time and Clocks
Distributed Mutual Exclusion
Distributed Snapshot and Global States
Distributed Algorithms for Graphs
Faults and Fault-tolerance
Distributed Transactions
Distributed Consensus
Group Communication
Replicated data management
Self-stabilization
Applications: P2P networks

(Course policies are governed by the College of Liberal Arts).

This class is being recorded. Whenever you ask a question or make a comment, speak clearly, so that everyone can follow it, and the answers become meaningful to the students taking the course through the web. There are microphones around the classroom to catch your voice. Cut down unnecessary conversations during the class period.

General policies

For each semester hour credit in the course, students should expect to spend approximately two hours per week preparing for class sessions.

I would like to hear from anyone who has a disability that may require some modification of seating, testing, or other class requirements so that appropriate arrangements may be made. Please contact me during my office hours.

The College of Liberal Arts and Sciences considers academic fraud, dishonesty, and cheating serious academic misconduct. If you are unclear about the proper use and citation of sources, or the details and guidelines for any assignment, you should discuss the assignment and your questions with the instructor. All forms of plagiarism and any other activities that result in a student presenting work that is not really his or her own are considered academic fraud. This includes submitting material created/written by someone else as one’s own, including purchased term/research papers, or downloading and submitting work from electronic databases without citation. Academic fraud will not be tolerated. For further information, please check http://www.clas.uiowa.edu/students/academic_handbook/ix.shtml#1

Discrepancies in grades or exam/assignment scores should be brought to the notice of the instructor within a week from the date the grade is assigned.

A student who has a complaint should attempt to resolve the matter with the instructor first. If the matter is not satisfactorily resolved, then the student can contact the DEO of the department. The full policy for complaint resolution can be found http://www.clas.uiowa.edu/students/academic_handbook/ix.shtml#4

Public health authorities have recommended that people with flu-like illnesses stay home and not return to public spaces until 24 hours after they have no fever. In order to prevent the spread of disease, please do not come to class, meet with other groups of students, attend office hours, or contact offices in person while you are ill. Based on this recommendation, I will not require you to report to a doctor or to Student Health to verify a flu-like illness if you are ill, please complete an illness-absence form (http://www.registrar.uiowa.edu/forms/H1N1_absence_form.pdf) when you are well enough to do so. Your grade will not be penalized for absences if you are following the recommendations of health authorities.