

Course Information

This handout succinctly describes important information about the course. All updates to the information below will be posted on the course website only.

§ Course Essentials

Course Website: <http://www.cs.uiuc.edu/class/fa10/cs425/>

All updates/announcements will be posted on the website. Please check the website periodically.

Lecture: Tuesday and Thursday, 2:00 PM - 3:15 PM, 1105 SC (Siebel Center).

Prerequisites: CS 241 (Systems Programming) or ECE 391, or equivalent course on Operating Systems or Networking (approval of instructor required for latter).

Credits: 3 hours.

Main Textbook: Coulouris, G., Dollimore, J., and Kindberg, T., *Distributed Systems: Concepts and Design*, Addison-Wesley, Fourth Edition, 2005, ISBN: 0321263545. [Recommended purchase – copies available at Illini Book Store. On reserve at Grainger Library]. *The third edition ought to suffice for most of our material, but we will refer to chapter, section, and problem numbers ONLY in the Fourth Edition. Correct interpretation/translation of these numbers in the 3rd edition is solely the students' responsibility (no excuses).*

Supplementary books are listed at the end of this handout. We may also read some research papers. All supplementary material outside the main textbook will be provided to you.

Course Staff Information:

Professor

Dr. Indranil Gupta (Indy)
3112 Siebel Center
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265-5517

Teaching Assistant

Imranul Hoque
TBD Siebel Center
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Administrative Help

Donna Coleman
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Office Hours (tentative):

Professor - Indy Gupta Tue 3.30 PM - 5.00 PM and Thu 3.30 PM - 5.00 PM, 3112 Siebel Center.
TA - Imranul Hoque Mon 2 PM - 3.30 PM and Wed 10.30 AM - 12.00 PM, TBD Siebel Center.

Communicating with the Course Staff:

You have three options:

1. Post messages in the newsgroup: class.fa10.cs425
2. e-mail the instructor or TA.
3. Visit the instructor or TA during their posted office hours.

Please use the newsgroup for questions/discussion on homeworks and programming assignments - however, if you post a solution (code or write-up) to the newsgroup, you will lose all points for that particular assignment. Use email only when you cannot use the newsgroup, e.g., if you have an urgent question, or if you have a personal matter to ask/discuss.

§ Course Overview (or – What Will I Learn from this Course?)

This course focuses on basic concepts underlying the design, implementation, and management of distributed systems. It covers fundamental topics in distributed systems, including but not limited to synchronization, failure detectors, election, distributed agreement, inter-process communication, concurrency control, replication, security, probabilistic protocols, self-stabilization, measurements, etc. These are discussed in the context of real-life and deployed systems such as clouds and datacenters, databases, peer to peer systems, clusters, etc. This course does not deal with the details of computer networking (e.g., details of different routing protocols in the Internet), except as applied to topics listed above. Students interested in the latter topics are recommended to take CS 438.

§ Course Participation

Assignments:

1. There will be five to six homework sets, with about 1-2 weeks turnaround time per homework. **Your homework solution submissions are required to be typed** (you may use any of your favorite word processors). We will not accept handwritten solutions. Figures and equations (if any) may be drawn by hand. Homeworks will be **due at the beginning of class on the day of the deadline**.
2. Three to four programming assignments will be given throughout the semester, each requiring 2-4 weeks of effort. **You may choose to work in groups of up to THREE students for each of the projects**. Although you can change groupings from one assignment to the next, we highly recommend you do not switch groups.

Grading (tentative):

- Homework sets 20%
- Programming Assignments 30%
- Midterm Exam 15%
- Final Exam 35%

Also note: (i) Grading for undergraduate and graduate students will be separated; (ii) Grades will be assigned on a curve (relative grading); (iii) Homeworks and programming assignments are as valuable as exams - it is in your best interest to not ignore any of these. Grading will be on a curve. The fraction of students receiving A's is not fixed a priori, and depends on the class' performance.

Lecture Participation: Attending the lectures is important. To facilitate better understanding of the material from different perspectives, you are expected to have **read the relevant chapters from the main textbook for a lecture before the lecture**. These readings will be specified at the end of the previous class.

§ Course Policies

Academic Integrity Policy We adhere by the CS academic integrity policies outlined at the webpage <https://agora.cs.illinois.edu/display/undergradProg/Honor+Code>. It is the course policy that all of the work you submit for grading, or in support of graded material, as an individual or project group, shall be your own product, from inception to completion. The only resources you can avail of in your HWs and MPs are the provided course materials (slides, textbooks, etc.), and communication with instructor/TA via newsgroup and email. Please do not reveal solutions on any of these fora. Exams are closed-book, closed-notes, unless otherwise specified.

Violations of this academic integrity policy will be treated seriously.

Policy on Late Submission: Unless otherwise specified, **all MP assignments**, or components thereof, that are to be electronically submitted are **due at 11:59 PM** on the due date. Similarly, **homework sets**, or components thereof, that must be submitted by other means are **due at the beginning of class** on the due date.

All MP and HW submission deadlines are hard and will not be extended. No late homework sets or MPs will be accepted except under extremely rare non-academic circumstances (which usually require approval from the Dean's office).

§ Supplementary Textbooks

The following textbooks may be used for supplementary course material. You are not required to own these books. They are on reserve at the Grainger Library (if available). You *may* be able to use a prior

edition of the textbook if you own one. We will also be using research papers - these will be handed out to you in class.

1. "Distributed Systems: An Algorithmic Approach," Sukumar Ghosh, CRC Press, 2006, ISBN: 1584885645.
2. "Distributed systems: principles and paradigms," A. Tanenbaum and M. Steen, Prentice Hall, Second Edition, 2005, ISBN: 0132392275.

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