CSC435 Distributed Systems Syllabus -- Elliott

Winter 2015/2016

Logistics:
Class meets: Thursdays 5:45 Loop Campus, CDM 226
Professor: Dr. Clark Elliott
Class website: http://condor.depaul.edu/~elliott/435
email: elliott AATT cdm depaul edu.
   [Include "435: " prefix in subject line and MEANINGFUL mail header!]
Grader email: elliottgrading AATT gmail com. (Administration of submissions only)
Course Management: d2l.depaul.edu

Textbooks:
Required text: Tanenbaum, Andrew S., and van Steen, Maarten (2007), "Distributed Systems, Principles and Paradigms, 2nd Edition," Upper Saddle River, NJ: Prentice Hall.
www.prenhall.com/tanenbaum.

Recommended background text: Kurose, James F., and Ross, Keith W. (2007 --) "Computer Networking: A Top-Down Approach Featuring the Internet, [any] Edition," Boston: Addison Wesley. (2012 is the 6th edition, but any version from 2007 on will contain the bulk of the background material if you want to save money.)

Grading:
Exams 45%
Assignments 55%


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Grading Scale:
                95%             A
                90%             A-
                86,83,80        B+,B,B-
                78,74,70        C+,C,C-
                65,60           D+,D
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I reserve the right to raise the grade of a student that has demonstrated exceptional contributions in some particular portion of the class (forum participation, programming, research/study log, etc.).

Topics:
We will follow the chapter outline in the textbook "Distributed Systems: Principles and Paradigms" by Andrew S. Tanenbaum and Maarten van Steen, though some material from the book will not be covered. We will have additional material in the lectures taken from others sources. We will cover many aspects of distributed systems dealing with system structure, models of time, client/server protocols, state maintenance, security, distributed process coordination, and so on. These topics are foundational in almost every contemporary area of computer science.

Class structure:
This is primarily a lecture and reading class. However, there is a significant programming component to help solidify the concepts.

Discussion forum participation is *strongly encouraged*.

Maintaining a written research/study log is *required.* You MUST use your own words or risk failing the class.

Class will be challenging. Students are expected to do the reading without prompting from the instructor. Some topics will be covered in the lectures, but because time is short a number of topics will be covered only in the reading, and will appear on exams.

Java or C++ programming background is required. However if you program well in other similar languages you can probably pick up enough java to pass the class. The programming assignments are used only to guarantee deep understanding of the material. Thus we will not be assessing programming style as long as the programs achieve the results. Programming tips may be discussed, but programming will not be taught.

Learning Goals:
At the end of class you will:

- Have a broad understanding of the central problems in distributed systems.
- Have a good understanding of the compromises—the choices—that must be made when designing a distributed solution to IT problems.
- Have a good understanding of algorithmic approaches to distributed systems solutions.
- Know how to write basic programs that address certain challenging distributed systems problems.
- Have taken part in high-level discussions of distributed system problems of interest.
- Demonstrated master's-level knowledge of the course materials on exams.

Office hours for the course are available from my faculty link at cdm.depaul.edu

All assignments, the assignment schedule, and the course materials, are available online at either d2l.depaul.edu or the class website. D2L Dropbox is used for all assignments.

The specific readings are available at the class website but in general will follow the text, chapters 1-4 and 6, with much additional lecture material.

Submission File Formats:
All submissions to D2L MUST BE IN THE SPECIFIED FORMAT or they will not be accepted for credit. No other formats will be graded. Often this means in STANDARD ZIP FORMAT, including submissions of a single file for programming assignments. No 7zip files, no rar files. No exceptions. Contained within the ZIP archive, all text submissions must be made in Microsoft Word format, or in plain HTML, or plain text. NO PDF FILES. (Free programs are available to produce each of these formats.) Java files should be submitted in plain text form, within a ZIP file, suitable for command-line compile.

In some cases zip files are prohibited. Follow the instructions for each assignment.

Students are responsible for downloading their assignments after uploading, to make sure that files have not been corrupted. Corrupted files will not be graded.

NO LATE ASSIGNMENTS will be accepted for credit, unless otherwise noted. No exceptions.

Academic Integrity:
Cheating, plagiarism, and unethical conduct are not allowed, and will be sanctioned, including referral to the dean's office, and failure in the class. Please refer to the academic handbook by which rules you are expected to abide.

Violations include, but are not limited to: making claims on any checklist for work that has not been done; including ANY un-cited work of others in any documents you turn in; turning in work, including any program, that has been authored by someone other than yourself; and in some cases including *any* work of others, whether cited or not–see the rules for each assignment.

Point Breakdowns for CSC435 (1,000 points)
450 points, Exams:

1. 200 points. Midterm
2. 250 points Final

550 points, Programs and assignments:

1. 20 points -- class contract, and bio posted to newsgroup
2. 10 points -- InetServer (Graded with JokeServer)
3. 100 points -- JokeServer
4. 100 points -- MyWebserver

5. 100 points -- Network labs
6. 100 points -- Mimer
7. 20 points -- HostServer
8. 100 points -- Written Research / Study Log

Note that I reserve the right to raise the grade of a student that has demonstrated exceptional contributions in any of these areas.

All grades are subject to [Academic Integrity Sanctions](). See the class website and the student handbook for further discussion.

"Minor points" notation:
From time to time I use the point box as a communication vehicle in two specific ways, and I reserve the right to add minor points for this purpose:

- One point extra: I am tipping my hat to you for particularly fine work. That is, if you get 101 points on a 100 point programming assignment, I may be saying, "Hey, I noticed the five extra modules your wrote, and that you used SSL instead of sockets! Good job!"
- Two points extra: If you receive two extra points, I am acknowledging an *exceptional* contribution beyond expectations, so 102 points on a 100 point assignment is something to feel really good about, and is a rare compliment.
- Grade of "1": used as a placeholder to let a student know that I have reviewed an assignment, and am waiting for further information or work as per correspondence. A "1" will *always* be resolved to a different grade.
- Grade of "2": a serious warning that you need to communicate with me about possible plagiarism or some other irregularity that is being investigated.

More Policies

Changes to Syllabus

This syllabus is subject to change as necessary during the quarter. If a change occurs, it will be addressed during class, posted in D2L, and sent via email.

Online Course Evaluations

Evaluations are a way for students to provide valuable feedback regarding their instructor and the course. Detailed feedback will enable the instructor to continuously tailor teaching methods and course content to meet the learning goals of the course and the academic needs of the students. They are a requirement of the course and are key to continue to provide you with the highest quality of teaching. The evaluations are anonymous; the instructor and administration do not track who entered what responses. A program is used to check if the student completed the evaluations, but the evaluation is completely separate from the student's identity. Since 100% participation is our goal, students are sent periodic reminders over three weeks. Students do not receive reminders once they complete the evaluation. Students complete the evaluation online in CampusConnect.

Academic Integrity and Plagiarism

This course will be subject to the university's academic integrity policy. More information can be found at http://academicintegrity.depaul.edu/. If you have any questions be sure to consult with your professor. There is NO CHEATING OF ANY KIND in this class!

Academic Policies

All students are required to manage their class schedules each term in accordance with the deadlines for enrolling and withdrawing as indicated in the University Academic Calendar. Information on enrollment, withdrawal, grading and incompletes can be found at: cdm.depaul.edu/enrollment.

Students with Disabilities

Students who feel they may need an accommodation based on the impact of a disability should contact the instructor privately to discuss their specific needs. All discussions will remain confidential.
To ensure that you receive the most appropriate accommodation based on your needs, contact the instructor as early as possible in the quarter (preferably within the first week of class), and make sure that you have contacted the Center for Students with Disabilities (CSD) at: csd@depaul.edu.

Lewis Center 1420, 25 East Jackson Blvd.
Phone number: (312)362-8002
Fax: (312)362-6544
TTY: (773)325.7296

Other Course Policies

Attendance: Students are expected to attend each class, or view the class online, typically during the week the lecture is presented. Attendance will not be formally taken beyond the start of the quarter, but unless otherwise noted ALL the course material presented in the lectures is suitable for exams. I will sometimes ask questions of named students not present in the classroom, to be viewed online, and answered at the forums. All students matter to me.

Class Discussion: Student participation in class discussions is expected, and this will take place in class for local students, and online for all students.

Attitude: A professional and academic attitude is expected throughout this course. Measurable examples of non-academic or unprofessional attitude include but are not limited to: talking to others when the instructor is speaking, mocking another's opinion, cell phones ringing, emailing, texting or using the internet whether on a phone or computer. If any issues arise a student may be asked to leave the classroom.

Cell phones / laptops in class: If you need to use your cell phone for any reason, or your laptop for any reason other than following the class slides, and taking notes, *leave the room.* You may quietly leave and re-enter as often as necessary unless I note otherwise. Your peers devote many hours out of their busy lives, and hundreds of dollars, to come to class. They deserve a vibrant, focused, environment. If you have a special case, discuss it with the instructor ahead of time. NO TEXTING, EMAIL, FACEBOOK, etc. in the classroom.

Civil Discourse: DePaul University is a community that thrives on open discourse that challenges students, both intellectually and personally, to be [Socially Responsible Leaders](). It is the expectation that all dialogue in this course is civil and respectful of the dignity of each student. Any instances of disrespect or hostility can jeopardize a student's ability to be successful in the course.