COMP445 – Winter 2013 / 2014
Data Communications & Computer Networks
Course Outline

Instructor

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Office Hours: Monday, 12:00 – 13:00 or by appointment

Lectures

Monday and Wednesday 13h15 – 14h30 @ SGW H-403

Lab Instructors & Markers

Please see the website for information on lab instructors/tutors/markers, as well as lab/tutorials times and locations

Objectives

The main objectives of this course are:
1. Introduce the basics of Data Communication, Information, Coding, and Transmission.
2. Understand the ISO OSI model and the role of layered protocols.
3. Understand and appreciate Networks, Protocols, Network-interconnection and Internet.

Generally, the course targets the coverage of the particulars related to the above subjects, which includes: Top-down view of Network applications, Internet, LAN/WAN architecture, OSI model, Bottom-up view of transmission, Analog and digital encoding, Transmission models, Interface standards, Multiplexing, Physical layer, Datalink layer, Error detection and correction methods (i.e. Parity checking, CRC, and Hamming codes, Protocols, Local Area Networks, Ethernet, Token ring, LAN interconnections, Network layer, Routing, Dijkstra's and Belman-Ford algorithms, Transport layer protocols, TCP/IP and Application protocols: Telnet, SSH, FTP, SMTP and ISDN.

Textbook and Syllabus

Computer Networking; A Top-Down Approach by Jim Kurose and Keith Ross, Pearson Higher Education, 6th Edition, 2013.
ISBN-10: 0-13-285620-4
ISBN-13: 978-0-13-285620-1

Course Organization:

There is an effort to cover most of the materials included in the book during the semester. Therefore, uncovered and/or omitted sections of the books will be declared in the class as we progress in the course.

Workload and Grading

1. **Theory assignments:** There will be a total of 5 to 7 theoretical assignments. These assignments will not be marked (or only selected questions may be marked) and hence may not evaluate to any load of the course. The main purpose behind these assignments is to provide you with good preparation for the final. Although these assignments may not represent any load after all, failing to submit any of these assignments will cost you some marks.

2. **Lab assignments:** 20%: You will be required to develop some protocol software. There will be a total of 3 lab assignments. You must submit, and pass, at least 2 of these 3 assignments in order to pass the course. Please note that all assignments will be placed on the website (see below); no hardcopies of the assignments will be distributed in class. All assignments (theoretical and programming) must be submitted electronically at https://fis.encs.concordia.ca/eas.

3. **Quizzes:** 10%: These will be three mini exams (quizzes), which will take place at specific dates that will be announced in class. These quizzes will be 25-45 minutes. Other rules and regulations that apply to any examination also apply to quizzes. There is **no substitution** for a missed quiz.

4. **Mid-term exam:** 25%: The exam is a closed-book exam, and will be conducted on a date determined by the instructor. You will need to bring your own ENCS calculator; the same rule also applies to the final exam. As a general rule for exams, you need to show all your work (just the final result is not enough). There is no substitution for a missed exam.

5. **Final exam:** 45%: The exam is a closed-book exam. The final exam date will be set by the University Administration. The exam will cover material from the entire semester, including lectures, textbook, and assignments. Passing the final exam is necessary for passing the course. There is no substitution for a missed final exam.

Grading Scheme:

The grading of the course will be done based on the relative percentages assigned to the assignments and the exams. For reasons of fairness, we may choose to scale up/down the marks in a particular exam, or assignment to ensure that all aspects of the course receive a fair weight. Any such "fine-tuning" will be made known to you before the final grades are assessed. Finally, there are no pre-set cutoff points for the final grades; the cutoff points will be decided based on an assessment of difficulty level, class performance, fairness, and instructor's wisdom from teaching and grading the course in the past. That is, there is no definite rule for translation of number grades to letter grades.

Important Lecture Guideline

Laptops, tablet computers and other communications devices, such as cellular phones and text/video messaging devices are **STRICTLY PROHIBITED.** The usage of any of these materials during the class will result in you being asked to immediately leave the class.

Website and other Resources

A mailing list will be established for the course. You should register to this mailing list ASAP. To register, please link to: https://mail.encs.concordia.ca:444/mailman/listinfo/comp445-f12.

The webpage for the course is http://concordia.soujeri.org. In addition, some materials and links to the course materials may be available at the coordinator's webpage: www.aimanhanna.com (follow Concordia links afterwards). We encourage you to check both pages regularly. The web pages will contain announcements related to the class, pointers to documents, class notes, your theory and lab assignments, etc.

In addition, the faculty web pages have a wealth of information pertaining to our computer systems and software, which includes simple user guides, and answers to many standard questions. You are encouraged to explore these help pages. Begin your exploration from the URL: http://www.encs.concordia.ca/helpdesk/faq/faq.php

Please note: In the event of extraordinary circumstances beyond the University's control, the content and/or evaluation scheme in this course is subject to change.