CENG435 DATA COMMUNICATIONS AND NETWORKING
Tentative Syllabus, 2017-2018 Fall

Instructors:
• Section 1: Hande Alemdar, alemdar@metu.edu.tr, 5591, B106
  Office Hour: Fridays 09:30-10:30 and by appointment
• Section 2: Ertan Onur, eronur@metu.edu.tr, 5534, B211
  Office Hour: Fridays 09:30-10:30 and by appointment

Assistants:
• Alperen Eroglu, alperen@ceng.metu.edu.tr, 5533, Z019
• M. Levent Eksert, eksert@ceng.metu.edu.tr, 5586, A205

Schedule:
• Section 1: Wednesdays, BMB1, 11:40-12:30 and Fridays, BMB1, 10:40-12:30
• Section 2: Wednesdays, BMB3, 11:40-12:30 and Fridays, BMB4, 10:40-12:30

Communication: http://odtuclass.metu.edu.tr and http://cow.ceng.metu.edu.tr


Course Objectives: At the end of this course, you will be able to:
1. Understand the basic principles of communication protocols in the context of the Internet.
2. Explain the operation and architecture of the Internet including the software and hardware components to provide Internet services.
3. Compare and contrast various application layer protocols such as HTTP, SMTP, DNS; connection-oriented communication protocols such as TCP and connectionless communication protocols such as UDP at transport layer; virtual-circuit and packet switching at network layer; link-state and distance-vector routing at network layer; and multiple access techniques at link layer.
4. Devise protocols for reliable data transfer over unreliable channels, congestion control or flow control either in the user or kernel space of operating systems at the transport layer.
5. Design and implement networking protocols at any layer of the OSI communication stack above the physical layer using socket programming interface.

Textbook:

References:

Prerequisites: Mastering a programming language and knowledge on operating systems are required.

Grading: Catalog grading will be employed.

Hello to GENI Platform .......................................................... 1%
Wireshark assignments (WSA) ........................................... 3 × 5%
Term Project (two deadlines) ............................................... 19%
Midterm exam I ................................................................. 13%
Midterm exam II ............................................................... 17%
Final .................................................................................. 35%

NA grade policy: You will get an NA grade if you have
• not attended at least 1 midterm or
• not submitted at least 2 wireshark assignments or
• not submitted both reports of the term project.
Empty/dummy assignment/project submissions will not be considered as a valid submission.
**Makeup policy:** The makeup policy applies if and only if you have an officially documented excuse such as medical, or family emergency. You have to inform the instructor about your situation as soon as possible and provide the official documentation. There will be a single make-up examination that will be scheduled after the final for all officially excused exams.

**Assignments:** The programming assignments/projects must be well documented and complete with test runs conforming to software engineering principles. Any work you submit must be your own.

**Late delivery:** Late delivery will be accepted for assignments and term projects. Your submission will be assessed out of 100 if it is delivered until the deadline. Late delivery will only be possible for **two days** after the deadlines. Your grade will be assessed out of 90 points on the first day of late delivery and out of 80 points on the second day. Beyond two days, your submission will not be counted as a valid submission and the NA policy will be applied.

**Academic honesty:** There will be no tolerance to cheating in the exam, to plagiarism (copying someone else’s work as if it is yours) and to taking advantage in group assignments and projects. The student who cheats will fail the course and be punished according to METU regulations.

**Tentative Course Outline:**

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