

CMPE 344 Computer Networks (Spring 2008)

Instructors:	(Gr 01 & 02) Asst. Prof. Dr. Doğu Arifler (coordinator) (Gr 03 & 04) Asst. Prof. Dr. Muhammed Salamah
Course Web Site:	http://cmpe.emu.edu.tr/cmpe344
Office Hours:	TBA. Please refer to the course Web site.
Textbook:	L. L. Peterson and B. S. Davie, <i>Computer Networks: A Systems Approach</i> , 4th ed., Morgan Kaufmann, 2007.
Reference:	<i>Internetworking Technologies Handbook</i> , 4th ed., Cisco Press, 2003.

Course Description: Introduction to fundamental concepts of computer networks. Basic performance and engineering trade-offs in the design and implementation of computer networks. Network hardware/software, protocols and layers, OSI and TCP/IP reference models. Data link layer design issues including encoding, framing, error detection, reliable delivery, and multiple access. Multiplexing, switching, and routing. LANs, wireless LANs, cellular networks. TCP/IP protocol family. Network applications. New trends in computer-communication networks. (Pre-requisite: CMPE 343)

Important Dates: Midterms: 4–12 April 2008, Finals: 27 May–14 June 2008.

Grading Policy: Midterm 30%, Final 40%, 2 Quizzes 15%, Labs 10%, Attendance 5%

There will be two quizzes which will take place on 19 March 2008 and 7 May 2008 at 4:30 PM. Each quiz counts 7.5% of the total grade.

Lab Policy: There are **no** exemptions from labs. Consult the course Web site for lab assignments and other lab policies.

Make-Up Policy: Only one **comprehensive** make-up examination will be given to those who miss any of the exams. There are **no** make-ups for missed labs. The make-up exam will be given to only those who provide a valid excuse in writing within the next three working days following the missed exam. This rule is a University by-law, and we **will** enforce it. Students who miss an exam due to a serious medical condition are required to provide official documentation (doctor's report approved by the Student Health Center). However, eligibility to take the make-up exam will still be **subject to the approval of the course coordinator**.

Academic Dishonesty: Any conduct that attempts to gain unfair academic advantage is considered academic dishonesty. Copying labs and assignments, cheating during exams, substituting for another person are some examples of academic dishonesty. Cases of academic dishonesty **will not** be tolerated and will be punished according to EMU's disciplinary policies.

Tentative outline: Below is a tentative outline for this course. We reserve the right to adjust the pace and topics of the class as the semester progresses.

Week 1	Foundations (Ch. 1)
Week 2	Network performance (Ch. 1)
Week 3	Link layer services (Ch. 2)
Week 4	Ethernet: physical properties, multiple access (Ch. 2)
Week 5	Wireless technologies: Bluetooth, Wi-Fi, WiMAX, cellular (Ch. 2)
Week 6	Packet switching concepts, bridges and LAN switches (Ch. 3)
Week 7	ATM networks (Ch. 3)
Week 8	Midterm Week
Weeks 9, 10	Internetworking with IP (Ch. 4)
Weeks 11, 12	End-to-end protocols: UDP and TCP (Ch. 5)
Week 13	A brief overview of the application layer (Ch. 9)
Week 14	Review and concluding remarks

Reading the textbook is a **must** for success in this course. Please schedule your reading according to the tentative outline given above.

Topics and related reading assignments from the textbook:

- **Chapter 1:** Applications of computer networks, network hardware/software, resource sharing, reference models, performance (Read: §1.1-1.5)
- **Chapter 2:** Direct link networks, reliable transmission, Ethernet, wireless networks (Bluetooth, Wi-Fi, WiMAX, cellular), multiple access (Read: §2.1, 2.5-2.6, 2.8)
- **Chapter 3:** Packet switching, bridges and LAN switches, ATM networks (Read: §3.1-3.3)
- **Chapter 4:** Internetworking with IP, addressing, address translation, subnetting, classless addressing (Read: §4.1, 4.3)
- **Chapter 5:** End-to-end protocols: UDP and TCP. (Read: §5.1, 5.2.1-5.2.3)
- **Chapter 9:** A brief overview of traditional applications: e-mail, WWW, DNS, SNMP (Read: §9.1)