EETS 7304: Internet Protocols – Fall 2009
Course Syllabus (Tentative)
Last Update: Aug. 26

Time:	M 6:30 – 9:20PM CDT
On-Campus:	Junkins Building 0113
Instructor:	Dr. Hakki Candan Cankaya
Office:	SIC 312
Phone:	469 467 6015
Email:	candan@lyle.smu.edu
Office Hours:	M 9:20-10:00PM CDT & Tu 9:20-10:00PM CDT or by appointment

TEXT BOOK:

- **Computer Networks and Internets, 5th Edition**
  by Douglas E. Comer
  Publisher: Pearson/Prentice Hall **ISBN-13:** 978-0-13-606127-4

TENTATIVE GRADE DISTRIBUTION:

- **Homeworks : 20% (Total)**
  Homeworks are expected to be turned in on their due dates by 5:00 pm without any delay.

- **Midterm Exams: 40%**
  There will be two midterm exams for the course. Dates are **October 5** and **November 16**.

- **Term Paper/Project : 20% (with presentation)**
  Each student will prepare a term paper on a topic related to Internet Protocols and make an in-class presentation. Students are strongly encouraged to come up with their own topics of interest for the term paper. Term paper is an opportunity for a student to investigate a topic of interest in greater detail than the the course may cover during the semester. A successful term paper may include following features: (1) timeliness, the topic should be current; (2) correctness, the content should be correct; (3) depth, the topic should be focused and detailed; (4) satisfactory citation, should include reliable references. An incomplete list of potential topics may be provided and discussed by the instructor. Alternatively, a hands on implementaion can be done instead of a term paper. An interested student should propose his/her project. The project will be evaluated for: (1) completeness, should cover all or most of the parts in the propoal; (2) correctness, should be correct and reliable; (3) comprehensiveness, should not be very trivial; (4) documentation, should have a good user friendly documentation. Term paper and project proposals will be submitted on **September 21** by students and they

become committed to the topic/project after the instructor's approval. Instructor may choose to ask to modify the proposal or change to some other subject/implementation. All term papers/projects and their presentation slide sets/demos are due by **November 23, 5:00 pm.**

- **Final Exam : 20%**
  Final exam will be a comprehensive exam for the entire course and will take place on the announced official final exam day and time.

POLICIES:

- Handouts will be posted on the Blackboard tool. In case of access problems, please contact Ms. Debra McDowell (debrmcd@engr.smu.edu, 214-768-3080) to get copies of the handouts.
- Even though office hours are provided, the students may contact the instructor via email or meet him by an appointment.
- Deadlines are hard deadlines. Delay may cause reduction in grading. Delays without notice may cause rejection of the submission.

OBJECTIVE:

The objective of this course is to introduce students to the protocol architecture of the Internet by following a bottom-up approach for protocol layers. It will provide an understanding of internetworking concepts in preparation for higher level networking courses. The first part covers basic networking technologies such as local area networks (LANs), packet switching, network protocols, and routing strategies. The following part focuses on supporting protocols (IP/ICMP, etc.) and transport protocols (TCP/ UDP/ RTP). The last part of the course gives an overview of important application protocols such as client/server computing, HTTP, SMTP, FTP, SNMP, voice over IP, and video over IP.

TENTATIVE COURSE SCHEDULE:

- Week 1: Introduction to the course and quick review of basics
- Week 2: Data communication overview
- Week 3: LANs, packet Switching, and data link layer
- Week 4: Wireless n/w's, repeaters, bridges, switches
- Week 5: WAN's, Internetworking concepts and architectures, IP addressing
- Week 6: Data Forwarding, IP Fragmantation and reassembly
- Week 7: Supporting protocols, ICMP, DHCP, NAT, Ipv6 protocols
- Week 8: Transport protocols, UDP, TCP
- Week 9: Internet routing mechanisms,
- Week 10: Domain Name System, application protocols: SMTP, SNMP
- Week 11: VoIP, QoS
- Week 12: Network security, new trends
- Week 13: Student presentations
- Week 14: Student presentations

INCOMPLETE LIST OF RELATED ORGANIZATIONS:

- ACM – SIGCOMM: Special Interest Group on Data Communications
  http://www.sigcomm.org/
- ACM – SIGMOBILE: Special Interest Group on Mobility of Systems, Users, Data, and Computing
  http://www.sigmobile.org/about/
- IEEE – Communications Society: Standards, Technical Committees on Networking, etc.
  http://www.comsoc.org/
- IEEE – Computer Society:
  http://www.computer.org/portal/site/ieeecs/index.jsp
- IETF: Internet Engineering Task Force
  http://www.ietf.org
  - Internet Drafts
  - Internet RFCs
- ITU: International Telecommunication Union
  http://www.itu.int/net/home/index.aspx
- MEF: Metro Ethernet Forum
  http://www.metroethernetforum.org/
  - Working Group Documents

SIMULATION TOOLS:

- OPNET
  http://www.opnet.com/
- ns2 (network simulator)
  http://www.isi.edu/nsnam/ns/

OTHER REFERENCES:

- L. Peterson, B. Davie, *Computer Networks: A Systems Approach*, Morgan Kaufmann.
- A. Tanenbaum, *Computer Networks*, Prentice Hall.
- W. Stallings, *Data and Computer Communications,* Prentice Hall.
- J. Kurose, K. Ross, *Computer Networks: A Top-Down Approach*, Addison Wesley.
- Krishna M. Sivalingham, Suresh Subramaniam **,** *Emerging Optical Network Technologies,* Springer.

IMPORTANT INFORMATION:

Disability Accomodations: Students needing academic accommodations for a disability must first contact Ms. Rebecca Marin, Coordinator, Services for Students with Disabilities (214-768-4557) to verify the disability and establish eligibility for accommodations. They should then schedule an appointment with the professor to make appropriate arrangements. (See University Policy No. 2.4.)

Religious Observance: Religiously observant students wishing to be absent on holidays that require missing class should notify their professors in writing at the beginning of the

semester, and should discuss with them, in advance, acceptable ways of making up any work missed because of the absence. (See University Policy No. 1.9.)

Excused Absences for University Extracurricular Activities: Students participating in an officially sanctioned, scheduled University extracurricular activity should be given the opportunity to make up class assignments or other graded assignments missed as a result of their participation. It is the responsibility of the student to make arrangements with the instructor prior to any missed scheduled examination or other missed assignment for making up the work. (University Undergraduate Catalogue).

SMU Statement Regarding Academic Honesty: Academic dishonesty may be defined broadly as a student' misrepresentation of his or her academic work or of the circumstances under which the work is done. This includes plagiarism in all papers, projects, take-home exams, or any other assignments in which the student represents work as being his or her own. It also includes cheating on examinations, unauthorized access to test materials, and aiding another student to cheat or participate in an act of academic dishonesty. Failure to prevent cheating by another may be considered as participation in the dishonest act.

English Course Syllabus. Bachelorâ€™s Programme â€œHSE and University of London Double Degree Programme in Data Science and Business Analyticsâ€. Faculty of Computer Science, National Research University Higher School of Economics. Instructors: Ovchinnikova, Anna Email: aovchinnikova@gmail.com.Â This course is optional and aimed at developing the English language competence among students majoring in Data Science and Business Analytics. That involves improving studentsâ€™ reading, listening, writing, and speaking skills, expanding their grammar and vocabulary range as well as deepening their knowledge of the English-speaking culture and preparing them for further studies and research on the University of London double degree programme. Tentative (slight modifications are possible): Tentative (slight modifications are possible): â€“ â€“Individual assignments 12% â€“ â€“Team project 40% â€“ â€“Midterm test 14% â€“ â€“Final exam (comprehensive) 28% â€“ â€“Class participation 6% ïƒ˜ ïƒ˜ TOTAL 100% Note that there are no make-up tests or homework in this course Poor class participation will impact significantly your grade, beyond 6% Poor class participation will impact significantly your gradeÂ The 7 parts of Ian Sommervilleâ€™s textbook on Software Engineering (8 th edition): The 7 parts of Ian Sommervilleâ€™s textbook on Software Engineering (8 th edition): â€“Overview â€“Requirements â€“Design â€“Development â€“Verification and Validation â€“Managing People â€“Emerging Technologies. 19 19.A Look Ahead: tentative scheduleâ€¦. TTU Math 5399-004 Scientific Computing in C++ and UNIX Fall 2009. Code. Course Topics (tentative). Previous Announcements. Useful Links. Useful Links. Sitemap. TTU Math 5399-004 Scientific Computing in C++ and UNIX Fall 2009â€Ž > â€Ž. Course Topics (tentative). Linux basics: Logging on. Department of Electrical Engineering. Telecommunications (EETS) Course Descriptions". Error: Download Document.Â Prerequisite: EETS Internet Telephony A comprehensive introduction to the background, protocols, standards and issues related to Internet telephony. Describes the changing telecommunications environment that motivates the transition from today s telephone network to voice over IP and strategies being used by companies and individuals to implement VoIP.