

Clayton State University
College of Information and Mathematical Sciences

ITFN 2511-01: Intermediate Networking & Security
Course Syllabus
Fall 2011

Course Description:

Course Title: Intermediate Networking & Security
Course Number: ITFN 2511 (CRN: 87107)
Section Number: 01
Credit Hours: 3.0
Weekly Contact Hours: 4.0 (lecture and lab)

Course Description: This course is an intermediate course in terminology, concepts and applications of data communications technology including network topologies, network devices, standards and protocol analysis. The course will emphasize network LAN and WAN concepts with data network components: wireless concepts, data security and threat analysis, access control, security models, TCP/IP, OSI model, data communications hardware, software, facilities, and media.

Course Date: Tuesday, August 16, 2011 through Monday, December 01, 2011 (last day of class for this course)
Location: Room U313 - James M. Baker University Center (both Lecture and Lab)
Meeting Day(s): Lecture: TR; Lab: T only
Meeting Time(s): 12:45 pm - 2:00 pm (Lecture); 2:00 pm - 2:50 pm (Lab) on Tuesdays only.

Prerequisite(s): ITFN 1501 with a minimum US grade of C.

Course objectives and Learning outcomes: Students are expected to achieve mastery of computer network with emphasis on LAN and WAN concepts with data network components. They will also be able to understand network traffic through protocol analysis of packets. At the conclusion of this course, the successful (passing) students will:

- understand the terminology and concepts of data communications including network topologies and standards.
- be familiar with network devices and data communications hardware, software, facilities, and media.
- be able to setup and configure a small-scale LAN consisting of basic services such as name/address resolution and network configuration services.
- understand the fundamental concepts in IP Addressing and routing in the internet.
- understand the underlying concepts of protocols in TCP/IP protocol suit and be able to capture and analyze various data packets in a network.
- understand the concepts and protocols of wireless data networks and be able to design and evaluate wireless networks.
- be familiar with the WAN concepts and protocols, e.g., ATM, Frame Relay, and HDLC.
- be able to perform security threat analysis of a network and apply fundamental concepts, practices, and methods of system and network security to mitigate those threats.

Instructor Information:

Instructor Name: Muhammad Asadur Rahman, Ph.D.
Email: mrahman@clayton.edu
Office Location: UC 337
Office Hours: M 6:00pm-6:30pm; TR 9:30am-11:30am; 6:00pm-6:30pm
Other times available by appointment.
Phone: 678-466-4446

Text and Other Resources:

Textbook: Forouzan, Behrouz A. "[TCP/IP Protocol Suite](#)," 4th Edition, ©2010, ISBN-13 9780073376042

Software: Protocol Analyzer Software - Wireshark release 1.2.5 (or later), free download from: <http://www.wireshark.org/>; Colasoft Packet Builder 1.0 (or later), free download from: http://www.colasoft.com/download/products/download_packet_builder.php; and Cisco Packet Tracer (SW will be provided).

Course Policy:

Grading: There will be a midterm and a final exam in this course along with a number of quizzes. No makeup exam or makeup assignments will be allowed in this course. If you fail to take the final exam you may be given a grade of I (incomplete). No extra-credit or bonus points will be given in this course. Your grade in this course will be determined based on the percent of total points earned at the end of the term with the following weight given to each type of assessment:

Assessment Type	% of Total Grade
Final Exam:	30%
Midterm Exam:	20%
Homework and Lab Exercises	30%
Quizzes:	20%

The final letter grades will be assigned based on the following scale:

Letter Grade	% of Total Points Obtained
A	90-100%
B	80-89%
C	70-79%
D	60-69%
F	below 60%

Assignments: All assignments must be submitted via GeorgiaView. Absolutely no email submissions, please! Any assignment submitted as hardcopy or via email will be not be graded and will simply be ignored. If you submit wrong assignment you can take it back and resubmit before the submission deadline. Once the submission deadline has passed no resubmission will be allowed and you will be graded based on what you submitted. It is your responsibility to ensure that your submission via GeorgiaView is the correct submission for the assignment given. All quizzes and exams will be announced and will be based on the topics covered. You are expected to complete and submit the assignments in a timely manner within the given submission deadline. Late submission if allowed, will carry a penalty of upto 20% per day and no submission will be accepted after a cutoff date.

Email Policy: You must use your Clayton State provided email account when contacting the instructor. Any email sent from non-CSU email address will simply be ignored. Please note that email should only be used in case of emergency or to set up appointments or if you are asked to send email by the instructor.

Makeup Policy: There is no make up in this course. If you miss the final exam you may request an incomplete via email. If you do not request an incomplete within the same day of the missed final exam then you will receive a grade of zero in the final exam.

Midterm Grade Reporting: The mid-term grade in this course, which will be issued on October 04, will reflect less than half of the entire course grade. Based on this grade, students may choose to withdraw from the course and receive a grade of "W." Students pursuing this option must fill out an official withdrawal form, available in the Registrar's Office, by mid-term, which occurs on October 07.

Attendance Policy: All students are expected to attend the scheduled class meetings. If you miss a class do not email the instructor asking what was covered. Contact a classmate to find out what you missed and what announcements were made. You are responsible for finding out the material covered and announcements made during such meetings.

Academic Standard and Conduct Expectations: Clayton State University does not condone cheating, plagiarism, or other forms of academic dishonesty. The student handbook contains further information and guidelines. Students are expected to uphold the school's standard of conduct relating to academic honesty and assume full responsibility for the content and integrity of the academic work they submit. The guiding principle of academic integrity shall be that a student's submitted work, examinations, reports, and projects must be that of the student's own work. Students shall be guilty of violating the honor code if they:

- Represent the work of others as their own.
- Use or obtain unauthorized assistance in any academic work.
- Give unauthorized assistance to other students.
- Modify, without instructor approval, an examination, paper, record, or report for the purpose of obtaining additional credit.
- Misrepresent the content of submitted work.
- Any student violating the honor code is subject to receive a failing grade for the course and will be reported to the Office of Student Affairs. If a student is unclear about whether a particular situation may constitute an honor code violation, the student should meet with the instructor to discuss the situation.

Tentative Course Schedule:

The following is the tentative weekly schedule for this course and it is subject to change:

Date/Week	Session Topics / Reading Assignment	Book Chapters	Assignments
Week.01	Course overview; OSI Model and TCP/IP Protocol Suite	<i>Chapter.1 & 2</i>	
Week.02	Wireless LANS, WANS and other Underlying Technologies	<i>Chapter.3 & 4</i>	Quiz 1 and Lab 1
Week.03	IPv4 Addresses	<i>Chapter.5</i>	HW 1
Week.04	IPv4 Addresses	<i>Chapter.5</i>	Quiz 2 and Lab 2
Week.05	Delivery and Forwarding, of IP Packets	<i>Chapter.6</i>	HW 2
Week.06	Delivery and Forwarding, of IP Packets	<i>Chapter.6</i>	Quiz 3
Week.07	Midterm Exam (09/27/2011)	-	Midterm Exam
Week.08	IPv4, ARP, and ICMPv4	<i>Chapter.7-9</i>	Lab 3
Week.09	IPv4, ARP, and ICMPv4	<i>Chapter.7-9</i>	-
Week.10	IPv4, ARP, and ICMPv4	<i>Chapter.7-9</i>	Quiz 4 and Lab 4
Week.11	Unicast and Multicast Routing Protocols	<i>Chapter.11 & 12</i>	HW3
Week.12	Unicast and Multicast Routing Protocols	<i>Chapter.11 & 12</i>	Quiz 5 and Lab 5
Week.13	UDP and TCP	<i>Chapter.14 & 15</i>	
Week.14	Host Configuration and Domain Name System	<i>Chapter.18 & 19</i>	Quiz 6, HW4 and Lab 6
Week.15	Remote Login and FTP, HTTP, SMTP, and SNMP	<i>Chapter.20 - 24</i>	Lab 7
Week.16	Cryptography and Internet Security	<i>Chapter.29 & 30</i>	
Week.17	Final Exam (TBA)	-	Final Exam-

Note that the above schedule will be adjusted based on actual progress in the class. However, this syllabus will not be updated to reflect the actual coverage in the class.

Additional Information:

- ITP Choice:** All students enrolled at Clayton State University are required to have on-demand access to a notebook computer that meets the recommended hardware/software specifications that have been established by Clayton State faculty. Academic penalties may be incurred for not meeting this requirement. Refer to the ITP Choice website for specifications and FAQs: <http://itpchoice.clayton.edu/>. Also, each student is responsible for monitoring the Clayton State issued email address on a regular basis for official communications from faculty and administrators. Students must use Clayton State issued email address when communicating with faculty and administrators. Communications originating from non-CSU email address may be ignored.
- Disability Services:** Students with disabilities who wish to obtain this document in an alternative format or would like to request reasonable accommodations must contact the Disability Services Coordinator at 678-466-5445 or disabilityservices@clayton.edu. If you are already registered with Disability Services and are seeking accommodations for this course, please make an appointment with your instructor to discuss your specific accommodation needs and provide your accommodations letter.
- Operation Study:** At Clayton State University, we expect and support high motivation and academic achievement. Look for Operation Study activities and programs this semester that are designed to enhance your academic success such as study sessions, study breaks, workshops, and opportunities to earn Study Bucks (for use in the University Bookstore) and other items.
- Note:** This syllabus is subject to change and the instructor reserves the right to change any course policy or its implementation if need arises during the semester. The course schedule presented in this syllabus is tentative and most likely will change throughout the semester. The students are responsible for finding out about missed announcements or material covered in the class.

Last update: 11 August 2011.