

Youngstown State University  
Department of Computer Science & Information Systems  
CSIS 3723 – Networking Concepts and Administration  
**Syllabus**  
Fall 2013, M & W 8:00pm – 9:15pm Meshel Hall Room 103

**Instructor:** Mark Welton

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**Web Site:** <http://people.ysu.edu/~mawelton>

**Office Hours:**

Before & After Class  
or By Appointment

**Text:** *Computer Networking A Top-Down Approach*, 6th Edition, James Kurose and Keith Ross. Addison Wesley ISBN: 978-0132856201

Other course material will be available online or in class during the semester.

**Prerequisites:** Survey of Computer Science and Information Science (CSIS 1590)

**Course Objective:** This course is an overview of electronic communications concepts and technologies, with an emphasis on Local Area Networks, Network topologies, design, administration, installed applications, and performance monitoring, privacy, ethical, and legal concerns. This course includes an introduction to the design and analysis of computer networks. It covers a breadth of topics including computer communications architecture and protocols, application-level protocols, local and wide area networks, IP networks, bridging and routing, network management, computer network security, and other current topics.

Upon completion of this course, the student should:

1. Become familiar with layered communication architectures (OSI and TCP/IP).
2. Understand the client/server model and key application layer protocols.
3. Understand the concepts of reliable data transfer and how TCP implements these concepts.
4. Know the principles of congestion control and trade-offs in fairness and efficiency.
5. Learn the principles of routing and the semantics and syntax of IP.
6. Understand the basics of error detection including parity, checksum, and CRC.
7. Know the key protocols for multimedia networking including IntServ and DiffServ for IP.
8. Understanding the basics of security including symmetric and public key cryptosystems.
9. Learn the basic principles of network management.

**Assignments, Projects & Examinations:** The student is responsible for all assigned readings and class lectures. Assignments will be due at the beginning of class on the dates established. Assignments must be handed in on time. No assignments will be accepted after it is due. There will be two exams. All the exams will be over all material covered up to that point. Material for exams will be drawn from class discussions, assigned readings, assignments, and in class handouts.

<b>Grading:</b>	Wireshark Assignments	35%	A = 100% - 90%
	Chapter Review Question	10%	B = 89% - 80%
	Midterm	25%	C = 79% - 70%
	Final Exam	30%	D = 69% - 60%
			F = 59% and below

Class Participation will be used when a student's final grade borders a higher-grade letter.

**Attendance Policy:** Attendance is required, expected, and will be taken. Three (3) unexcused absences will result in the lowering of your final course grade by 5%. Excusable absences include extenuating circumstances such as a death in the family or verifiable illness. *You must provide evidence for your absence to be excused. If such situation should occur, please contact me before the class absence.*

**Preparation and Participation:** This course involves significant in-class discussion of the reading and related problems. Each student is expected to possess the required textbook, to have completed all reading prior to class, and to have thought about the issues. Each student is expected to have reflected on the meaning of the reading and have attempted to apply the knowledge and be ready to discuss them during the class period.

**Cell Phone Policy:** To avoid disruption to the class, all cell phones, pagers, and other electronic communications devices must be turned off or silenced while class is in session. If you must answer a call during class please do so outside the classroom.

**Academic Honesty:** Students are reminded of the University's policy on Academic Honesty. This provides, in part as follows:

*An instructor may give a failing grade and/or refer for disciplinary action any student who participates in acts of academic dishonesty. The failing grade may be either for the test or paper on which the cheating or plagiarism occurred, or for the entire course.*

**Disabilities:** In accordance with University procedures, if you have a documented disability and require accommodation to obtain equal access in this course; please contact me privately to discuss your specific needs. You must be registered with CSP Disability Services, and provide a letter of accommodation to verify your disability. You can contact CSP Disability Services at 330-941-1372

**Projects:** Projects are to be done individually unless otherwise specified by the instructor. You are free to give general help to others in the course; however you are not allow to work together on the projects. Turning in identical work (or work that is substantially similar) will result in a zero grade for the assignment. Multiple offenses will result in a zero for the course.

**Schedule Subject to Change:** This schedule is tentative and subject to change.

**Tentative Weekly Schedule:**  
**Schedule is Subject to Change as Appropriate**

Week #	Week Begins	Topics	Assignments/Exams	Textbook Chapters
1	Aug 21	Computer Networks and the Internet		Chapter 1
2	Aug 26	Computer Networks and the Internet	Wireshark Intro	Chapter 2
3	Sep 2	Computer Networks and the Internet / Application Layer <b>Sep 2 Labor Day – No Class</b>		
4	Sep 9	Application Layer	Wireshark HTTP and DNS	Chapter 3
5	Sep 16	Transport Layer		
6	Sep 23	Transport Layer	Wireshark TCP and UDP	Chapter 4
7	Sep 30	Network Layer		
8	Oct 7	Network Layer	Wireshark IP ICMP and DHCP	Chapter 5
9	Oct 14	Link Layer and Local Area Networks	Midterm Exam	
10	Oct 21	Link Layer and Local Area Networks	Wireshark Ethernet ARP	Chapter 6
11	Oct 28	Wireless and Mobile Networks	Wireshark NAT and 802.11	Chapter 7
12	Nov 4	Multimedia Networking		
13	Nov 11	Multimedia Networking / Security in Computer Networks <b>Nov 11 Veterans Day – No Class</b>		Chapter 8
14	Nov 18	Security in Computer Networks	Wireshark SSL	Chapter 9
15	Nov 25	Network Management		
	Dec 2	Network Management		
<b>16</b>	<b>Dec 9</b>	<b>Final Exam (20:00-22:00)</b>	Final Exam	