

# **CSCI 434 INTRODUCTION TO COMPUTER NETWORKS (SPRING 2018)**

*(Last updated: January 7, 2018)*

## **INSTRUCTOR**

Instructor: Jinoh Kim, Ph.D.

Office: JOUR 217

Office hours: M 10AM-12PM, W 10AM-12PM, W 1PM-3PM, or by appointment

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## **CLASS MEETING**

Location: BA248 (0SB and 7RB)

Time: MW 3:30PM–4:45PM (3 credits)

## **COURSE DESCRIPTION**

This course covers the basic principles and operations of the modern computer networks. Topics include basic data communications, the layered architecture and reference model, protocols and topologies, and network service models and applications. TCP/IP networking and protocols are covered to understand the Internet core functions. In addition, students will have the opportunity to gain practical experience with the installation and administration of networking platforms.

## **EXPECTED STUDENT LEARNING OUTCOMES**

- To define basic terms and concepts associated with Data Communications and Computer Networks
- To understand the basic principles of network applications and protocols such as Web and DNS
- To state transport services and the underlying functions of the standard TCP/UDP protocols
- To gain the concepts and practical experience with subnetting, the use of IP addresses, and the fundamentals of IP routing
- To understand the principles behind link layer services and the standard local area network technologies

## **PREREQUISITES**

CSCI 241 – Machine Language and Computer Organization;

CSCI 270 – Data Structures, or instructor's permission required

## **COURSE MATERIAL**

- **[KR] Computer Networking: A Top-Down Approach**, 6<sup>th</sup> edition, James Kurose and Keith Ross, ISBN: 0132856204, Addison-Wesley, 2012 (required).

## GRADING (TENTATIVE)

Quizzes/Participation	20%	A: 90 or above
Homework	30%	B: 80 – 89.x
(Two) Midterm Exams	30%	C: 70 – 79.x
Final Exam	20%	D: 60 – 69.x
		F: Below 60

## CLASS ATTENDANCE POLICY

Class attendance is mandatory. Student is tardy if one enters the class late or leaves before the class is dismissed, and three tardies are considered as one absence. Absence from class more than three times may result in a failing grade.

For more information about the attendance policy please visit the Attendance webpage and Procedure 13.99.99.R0.01.

<http://www.tamuc.edu/admissions/registrar/generalInformation/attendance.aspx>

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/academic/13.99.99.R0.01.pdf>

## LATE POLICY

The deadline for any assignment can be extended with a 15% penalty per day. No deadline can be extended by more than two days. Assignments will NOT be accepted 48 hours after the due date.

## MAKEUP POLICY

There will be no makeup exams/assignments in general. Makeup chances may be given to students under extreme circumstances, such as hospitalization, serious injury, death in the family, etc, with prior notification and valid documents. No makeup allowed for other than exams and assignments.

## COLLABORATION POLICY

Students are encouraged to talk to each other, to the instructor, or to anyone else about any of the assignments. Any assistance, though, must be limited to discussion of the problem and sketching general approaches to a solution. *Each student must write out his or her own solutions to the homework.* Consulting another student's or group's solution is prohibited, and submitted solutions may not be copied from any source. These and any other form of collaboration on assignments constitute cheating. If you have any question about whether some activity would constitute cheating, please feel free to ask.

## ACADEMIC INTEGRITY

Students at Texas A&M University-Commerce are expected to maintain high standards of integrity and honesty in all of their scholastic work. For more details and the definition of academic dishonesty see the following procedures:

Undergraduate Academic Dishonesty 13.99.99.R0.03

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/undergraduates/13.99.99.R0.03UndergraduateAcademicDishonesty.pdf>

Graduate Student Academic Dishonesty 13.99.99.R0.10

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/13students/graduate/13.99.99.R0.10GraduateStudentAcademicDishonesty.pdf>

Anyone cheating will receive a zero on the work they are doing, and subsequent cheating will result in a failing grade.

### **STUDENTS WITH DISABILITIES**

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you have a disability requiring an accommodation, please contact:

Office of Student Disability Resources and Services

Texas A&M University-Commerce

Gee Library, Room 132

Phone (903) 886-5150 or (903) 886-5835

Fax (903) 468-8148

Email: [Rebecca.Tuerk@tamuc.edu](mailto:Rebecca.Tuerk@tamuc.edu)

Website: Office of Student Disability Resources and Services

<http://www.tamuc.edu/campusLife/campusServices/studentDisabilityResourcesAndServices/>

### **BASIC TENETS OF COMMON DECENCY**

All students enrolled at the University shall follow the tenets of common decency and acceptable behavior conducive to a positive learning environment. The Code of Student Conduct is described in detail in the Student Guidebook.

<http://www.tamuc.edu/admissions/registrar/documents/studentGuidebook.pdf>

The syllabus/schedule are subject to change.

Students should also consult the Rules of Netiquette for more information regarding how to interact with students in an online forum: Netiquette

<http://www.albion.com/netiquette/corerules.html>

### **SMOKE, VAPOR & TOBACCO FREE ENVIRONMENT**

University Procedure 34.05.99.R1 now prohibits the use of vapor/electronic cigarettes, smokeless tobacco, snuff and chewing tobacco inside and adjacent to any building owned, leased, or operated by A&M – Commerce.

### **NONDISCRIMINATION NOTICE**

Texas A&M University-Commerce will comply in the classroom, and in online courses, with all federal and state laws prohibiting discrimination and related retaliation on the basis of race, color, religion, sex, national origin, disability, age, genetic information or veteran status. Further, an environment free from discrimination on the basis of sexual orientation, gender identity, or gender expression will be maintained.

### **CAMPUS CONCEALED CARRY**

Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in Texas A&M University-Commerce buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and A&M-Commerce Rule 34.06.02.R1, license holders may not carry a concealed handgun in restricted

locations. For a list of locations, please refer to ((<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.RI.pdf>) and/or consult your event organizer). Pursuant to PC 46.035, the open carrying of handguns is prohibited on all A&M-Commerce campuses. Report violations to the University Police Department at 903-886-5868 or 9-1-1.

#### **DISCLAIMER**

This syllabus is meant to provide general guidance of what to expect from this course. The instructor reserves the right to make changes as appropriate based on the progress of the class. All changes made to this syllabus during the semester will be announced. This document has been posted electronically. If you print a copy of it, please be sure to consult the last modified date of the online version to verify that your printed copy is current.

## SCHEDULE (TENTATIVE)

WEEK NO.	CONTENT	READING
1	Course introduction and overview Basic terms	Syllabus Hand-outs
2	Access networks Internet structure	[KR] Ch1.1-1.3
3	Network performance, layered architecture Network security	[KR] Ch1.4-1.6
4	Application layer services HTTP	[KR] Ch2.1-2.2
5	DNS <b>Midterm Exam 1</b>	[KR] Ch2.5
6	Transport layer services UDP	[KR] Ch3.1-3.3
7	Reliable data transfer TCP	[KR] Ch3.4-3.5
8	Socket programming	[KR] Ch2.7
9	Network layer services, Error detection and correction	[KR] Ch4.1-4.2
10	Spring break (no class)	
11	Router architecture IP addressing	[KR] Ch4.3-4.4
12	IP subnetting <b>Midterm Exam 2</b>	[KR] Ch4.4
13	Routing algorithms Routing protocols	[KR] Ch4.6
14	Link layer services Error detection and correction	[KR] Ch5.1-5.2
15	Multiple access protocols CSMA/CD	[KR] Ch5.3
16	Addressing and APRs Switched LANs, VLANs	[KR] Ch5.4
17	<b>Final Exam</b>	--