



## **CSCI 434 01E Computer Networks**

COURSE SYLLABUS: Spring 2025

### **INSTRUCTOR INFORMATION**

Instructor: Kathiravan Natarajan  
Office Location: JOUR 209  
Office Hours: Monday, 11 AM to 2 PM  
Office Phone: N/A  
Office Fax: N/A  
University Email Address: Kathiravan.Natarajan@tamuc.edu  
Preferred Form of Communication: Email with the subject CSCI 434 01E  
Communication Response Time: 1 day to 3 days

### **COURSE INFORMATION**

Materials – Textbooks, Readings, Supplementary Readings

#### **Textbook(s) Required**

COMPUTER NETWORKING  
Author: KUROSE  
Edition: 8TH  
Published Date: 2021  
ISBN: 9780135928615  
Publisher: PEARSON

Course contents will be shared on the course web page. A textbook is beneficial but not mandatory.

#### **Software Required**

It will be communicated on the course page.

#### **Optional Texts or Materials**

Course materials should suffice in achieving the educational goals of this course.

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## Course Description

**Student Learning Outcomes** (Should be measurable; observable; use action verbs)

1. To understand the basic terms of computer networks and understand the network infrastructure, switches, routers, and VLANs
2. To understand the network protocols and standards such as DNS, DHCP, and web
3. To plan the networks by understanding the LANs, WANs, server and virtualization architectures, and storage architectures such as RAID
4. To understand the concepts of network hardware, wireless networks, windows clients, Mac networks, and VPNs
5. To implement virtualization in Hyper-V, VMWare, desktop, and some cloud platforms such as AWS, GCP, and Azure.
6. To achieve hands-on experience in implementing networks in Linux and Windows platforms
7. To understand and visualize the network administration in a real-time setting along with the explanation of industry-recognized certifications

## COURSE REQUIREMENTS

### Minimal Technical Skills Needed

No prerequisites needed

### Instructional Methods

In-person lectures in the assigned classroom. The instructor will share the course materials on the course web page as well.

### Student Responsibilities or Tips for Success in the Course

- Keep up-to-date with the weekly quizzes
- Practice command line commands discussed in the classroom
- Complete the homework on time and
- Reach out to instruction for any questions and clarifications

## GRADING

Final grades in this course will be based on the following scale:

A = 90%-100%

B = 80%-89%

C = 70%-79%

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D = 60%-69%

F = 59% or Below

Total points corresponding to the final letter grades

A = 451- 500 Points

B = 401- 450 Points

C = 351- 400 Points

D = 301- 350 Points

F = 300 & > Points

Weights of the assessments in the calculation of the final letter grade.

Example:

Weekly Quizzes	25%
Assignment	25%
Two Midterm Exams	30%
Final Exam	20%
TOTAL	100%

### **Assessments**

The assessments, including the two midterm exams, the final exam, and the project, will be in-person or online.

## **TECHNOLOGY REQUIREMENTS**

### **LMS**

All course sections offered by Texas A&M University-Commerce have a corresponding course shell in the myLeo Online Learning Management System (LMS). Below are technical requirements

LMS Requirements:

<https://community.brightspace.com/s/article/Brightspace-Platform-Requirements>

LMS Browser Support:

[https://documentation.brightspace.com/EN/brightspace/requirements/all/browser\\_support.htm](https://documentation.brightspace.com/EN/brightspace/requirements/all/browser_support.htm)

Zoom Video Conferencing Tool

[https://inside.tamuc.edu/campuslife/CampusServices/CITESupportCenter/Zoom\\_Account.aspx?source=universalmenu](https://inside.tamuc.edu/campuslife/CampusServices/CITESupportCenter/Zoom_Account.aspx?source=universalmenu)

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## **ACCESS AND NAVIGATION**

You will need your campus-wide ID (CWID) and password to log into the course. If you do not know your CWID or have forgotten your password, contact the Center for IT Excellence (CITE) at 903.468.6000 or [helpdesk@tamuc.edu](mailto:helpdesk@tamuc.edu).

**Note:** Personal computer and internet connection problems do not excuse the requirement to complete all course work in a timely and satisfactory manner. Each student needs to have a backup method to deal with these inevitable problems. These methods might include the availability of a backup PC at home or work, the temporary use of a computer at a friend's home, the local library, office service companies, Starbucks, a TAMUC campus open computer lab, etc.

## **COMMUNICATION AND SUPPORT**

If you have any questions or are having difficulties with the course material, please contact your Instructor.

### **Technical Support**

If you are having technical difficulty with any part of Brightspace, please contact Brightspace Technical Support at 1-877-325-7778. Other support options can be found here:

<https://community.brightspace.com/support/s/contactsupport>

### **Interaction with Instructor Statement**

## **COURSE AND UNIVERSITY PROCEDURES/POLICIES**

### **Course Specific Procedures/Policies**

#### **Syllabus Change Policy**

The syllabus is a guide. Circumstances and events, such as student progress, may make it necessary for the instructor to modify the syllabus during the semester. Any changes made to the syllabus will be announced in advance.

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## University Specific Procedures

### Student Conduct

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/oneStopShop/undergraduateAdmissions/studentGuidebook.aspx>

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

<https://www.britannica.com/topic/netiquette>

### TAMUC Attendance

For more information about the attendance policy please visit the [Attendance](#) webpage and [Procedures 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>

### 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](#)

[Undergraduate Student Academic Dishonesty Form](#)

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/documents/13.99.99.R0.03UndergraduateStudentAcademicDishonestyForm.pdf>

[Graduate Student Academic Dishonesty Form](#)

<http://www.tamuc.edu/academics/graduateschool/faculty/GraduateStudentAcademicDishonestyFormold.pdf>

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

### Students with Disabilities-- ADA Statement

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

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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

Velma K. Waters Library Rm 162

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

Fax (903) 468-8148

Email: [studentdisabilityservices@tamuc.edu](mailto:studentdisabilityservices@tamuc.edu)

Website: [Office of Student Disability Resources and Services](#)

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

### **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 Statement**

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 the [Carrying Concealed Handguns On Campus](#) document and/or consult your event organizer.

Web url:

<http://www.tamuc.edu/aboutUs/policiesProceduresStandardsStatements/rulesProcedures/34SafetyOfEmployeesAndStudents/34.06.02.R1.pdf>

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.

### **A&M-Commerce Supports Students' Mental Health**

The Counseling Center at A&M-Commerce, located in the Halladay Building, Room 203, offers counseling services, educational programming, and connection to

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community resources for students. Students have 24/7 access to the Counseling Center's crisis assessment services by calling 903-886-5145. For more information regarding Counseling Center events and confidential services, please visit [www.tamuc.edu/counsel](http://www.tamuc.edu/counsel)

### **AI use policy [Draft 2, May 25, 2023]**

**Texas A&M University-Commerce acknowledges that there are legitimate uses of Artificial Intelligence, ChatBots, or other software that has the capacity to generate text, or suggest replacements for text beyond individual words, as determined by the instructor of the course.**

**Any use of such software must be documented. Any undocumented use of such software constitutes an instance of academic dishonesty (plagiarism).**

**Individual instructors may disallow entirely the use of such software for individual assignments or for the entire course. Students should be aware of such requirements and follow their instructors' guidelines. If no instructions are provided the student should assume that the use of such software is disallowed.**

**In any case, students are fully responsible for the content of any assignment they submit, regardless of whether they used an AI, in any way. This specifically includes cases in which the AI plagiarized another text or misrepresented sources.**

**13.99.99.R0.03 Undergraduate Academic Dishonesty**

**13.99.99.R0.10 Graduate Student Academic Dishonesty**

**Department or Accrediting Agency Required Content**

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## COURSE OUTLINE / CALENDAR

Week	CONTENT	Quizzes and Assignments
W1 (01/13)	Course Intro, Network Infrastructure, Internet, Packet and Circuit switching, loss, throughput	
W2 (01/20)	Conceptual models and network devices	Quiz 1 and Assignment 1
W3 (01/27)	Application Layer – Networking applications, HTTP, FTP	
W4 (02/03)	Application Layer – SMTP, DNS, Socket programming in Python, Python overview	Quiz 2 and Assignment 2
W5 (02/10)	Transport layer – multiplexing/demultiplexing, TCP, UDP	
W6 (02/17)	Transport layer – TCP congestion control	Quiz 3 and Assignment 3
W7 (02/24)	Midterm Test 1	
W8 (03/03)	Network Layer – IPv4, IPv6	Quiz 4 and Assignment 4
W9 (03/10)	Spring Break	
W10 (03/17)	Network Layer – Routing Algorithms, ICMP	Quiz 5 and Assignment 5
W11 (03/24)	Link Layer – Error Detection and correction techniques	
W12 (03/31)	LANs – Switched LANs, VLANs, Data Center Networking	Quiz 6 and Assignment 6
W13 (04/07)	Midterm Test 2	
W14 (04/14)	Network Security (Intrusion detection) and Cryptography	Quiz 7 and Assignment 7
W15 (04/21)	Final Preparation Week	
W16 (05/05)	Final Exam	

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