CS 6314
Computer Networks

Instructor
Dr. Erdogan Dogdu
Guest Lecturer: Dr. Reza Hassanpour
Email: hassanpour.reza@gmail.com

Course Information

Course Description
Modern computer networks with emphasis on protocols, architectures and implementation issues in the internet. The course covers emerging technologies in computer networks, network architectures and protocols.

Prerequisite Courses
None

Course Goals
The goal of this course is to introduce the advanced technologies in computer networks, networking systems and their architectures, and their applications in different areas.

Student Learning Outcomes
When you complete this course, you should be able to:
- Understand the emerging topics in computer networks
- Describe the differences between network architectures
- Understand the role of each network protocol parameter
- Design and implement application specific network architectures

Course Delivery
This course is online. The lectures will be given through Blackboard and the course material will be available on the course website.

How Does It Work?

When you are not in the physical class, you will attend live remote sessions at the same time as our scheduled course. You will also be expected to complete coursework via Blackboard.[1] Study and reading materials will be provided on Bb.

Recommended Textbooks and Materials
- **Computer Networks: A Top-down Approach**, Behrouz A. Forouzan, Firouz Mosharraf, McGraw-Hill, ISBN: 0071315152, 9780071315159.
- **Computer Networks,** Tanenbaum A, Wetherall D. Pearson; ISBN-13 : 978-0132126953

Technology Requirements

You do not need anything beyond the open textbooks and a computer to complete the course. We will be using C/C++ for socket programming, Wireshark and CISCO Packet tracer for practical exercises. You can use computers in ASU computer labs but it will almost certainly be helpful to have a computer that you can use of your own. C/C++ and its related tools are available on the Windows, Mac, and Linux operating systems and thus everybody that has a computer outside of class should be able to practice with their own installation on it.

Blackboard: You are required to follow the posts and study all material posted on Blackboard.
Respondus Lockdown Browser: Exams will be taken on this browser. You need to install on your computer if you are taking the exams remotely.
Computer: You must have access to an adequate computer and Internet connectivity to participate fully in the class. A table describing supported browsers can be viewed on Blackboard's support site[2].

Communication

You are responsible for checking your ASU email account and Blackboard throughout the duration of this course. I will generally respond to email and/or telephone messages within 24 hours.

Written communication via email: All private communication will be done exclusively through your ASU email address. Check frequently for announcements and policy changes. In your emails to faculty, include the course name and section number in your subject line in the form of "**[CS 6314] subject matter**".

Virtual communication: Office hours and/or advising may be done with the assistance of the telephone, Collaborate, Skype, etc.

Grading

Evaluation and Grades

ASU employs a letter grade system. Grades in this course are determined on a percentage scale:

Activity	Percentage
Final Exam	35%
Project	30%
Weekly Assignments	35%

Grade	Percentage
A	90 – 100
B	80 – 89
C	70 – 79
D	60 – 69
F	0 – 59

Assignment and Activity Descriptions

Practice – You will be given reading assignments from the textbook or published papers. The reading assignments will be discussed in the class.

Assignments – You will be given coding and simulation assignments after covering each chapter. You need to submit them before deadlines. No late assignment is accepted unless a reasonable excuse is provided.

Final Exam – A final exam will be given on Bb to be completed by the given deadline.

Course Schedule (subject to change)

Week	Date	Topics	Weekly
1	Aug. 23-27	Introduction A review of computer network protocols TCP/IP The Internet	Review exercises
2	Aug. 30-Sep. 3	Application layer paradigms Electronic mail Domain Name System (DNS)	Review exercises Socket Interface in C
3	Sep. 6-10	Transport layer protocols TCP and UDP	Review exercises Simulation
4	Sep. 13-17	Addressing and routing IPv4 and IPv6, Subnetting, Network Address Translation	Review exercises Simulation
5	Sep. 20-24	Network layer protocols IPv4, IPv6, ICMP, DHCP	Review exercises Simulation
6	Sep. 27-Oct. 1	Wireless LANs, Mobile IP	Review exercises Simulation
7	Oct. 4-8	Datalink layer protocols, Ethernet, IEEE802.11, Switching networks	Review exercises Simulation
8	Oct. 11-15	Review and problem solving	Review exercises

General Policies Related to This Course

All students are required to follow the policies and procedures presented in these documents:

- Angelo State University Student Handbook[3]
- Angelo State University Catalog[4]

Academic Integrity

Students are expected to maintain complete honesty and integrity in all work. Any student found guilty of any form of dishonesty in academic work is subject of disciplinary action and possible expulsion from ASU.

The College of Science and Engineering adheres to the university's Statement of Academic Integrity.[5]

Accommodations for Students with Disabilities

ASU is committed to the principle that no qualified individual with a disability shall, on the basis of disability, be excluded from participation in or be denied the benefits of the services, programs or activities of the university, or be subjected to discrimination by the university, as provided by the Americans with Disabilities Act of 1990 (ADA), the Americans with Disabilities Act Amendments of 2008 (ADAAA) and subsequent legislation.

Student Disability Services is located in the Office of Student Affairs, and is the designated campus department charged with the responsibility of reviewing and authorizing requests for reasonable accommodations based on a disability. It is the student's responsibility to initiate such a request by contacting an employee of the Office of Student Affairs, in the Houston Harte University Center, Room 112, or contacting the department via email at ADA@angelo.edu. For more information about the application process and requirements, visit the Student Disability Services website.[6] The employee charged with the responsibility of reviewing and authorizing accommodation requests is:

Dallas Swafford
Director of Student Disability Services
Office of Student Affairs
325-942-2047
dallas.swafford@angelo.edu
Houston Harte University Center, Room 112

Incomplete Grade Policy

It is policy that incomplete grades be reserved for student illness or personal misfortune. Please contact faculty if you have serious illness or a personal misfortune that would keep you from completing course work. Documentation may be required. See ASU Operating Policy 10.11 Grading Procedures[7] for more information.

Plagiarism

Plagiarism is a serious topic covered in ASU's Academic Integrity policy[8] in the Student Handbook. Plagiarism is the action or practice of taking someone else's work, idea, etc., and passing it off as one's own. Plagiarism is literary theft.

In your discussions and/or your papers, it is unacceptable to copy word-for-word without quotation marks and the source of the quotation. It is expected that you will summarize or paraphrase ideas giving appropriate credit to the source both in the body of your paper and the reference list.

Papers are subject to be evaluated for originality. Resources to help you understand this policy better are available at the ASU Writing Center.[9]

Student Absence for Observance of Religious Holy Days

A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. See ASU Operating Policy 10.19 Student Absence for Observance of Religious Holy Day[10] for more information.

Title IX at Angelo State University

The University prohibits discrimination based on sex, which includes pregnancy, sexual orientation, gender identity, and other types of Sexual Misconduct. Sexual Misconduct is a broad term encompassing all forms of gender-based harassment or discrimination including: sexual assault, sex-based discrimination, sexual exploitation, sexual harassment, public indecency, interpersonal violence (domestic violence and/or dating violence), and stalking. As a faculty member, I am a Responsible Employee meaning that I am obligated by law and ASU policy to report any allegations I am notified of to the Office of Title IX Compliance.

Students are encouraged to report any incidents of sexual misconduct directly to ASU's Office of Title IX Compliance and the Director of Title IX Compliance/Title IX Coordinator at:

Michelle Boone, J.D.
Director of Title IX Compliance/Title IX Coordinator
Mayer Administration Building, Room 210
325-942-2022
michelle.boone@angelo.edu

You may also file a report online 24/7 at www.angelo.edu/incident-form.

If you are wishing to speak to someone about an incident in confidence you may contact the University Health Clinic and Counseling Center at 325-942-2173 or the ASU Crisis Helpline at 325-486-6345.

For more information about Title IX in general you may visit www.angelo.edu/title-ix.

Required Use of Masks/Facial Coverings by Students

As a member of the Texas Tech University System, Angelo State University has adopted the mandatory Facial Covering Policy[11] to ensure a safe and healthy classroom experience. Current research on the COVID-19 virus suggests there is a significant reduction in the potential for transmission of the virus from person to person by wearing a mask/facial covering that covers the nose and mouth areas. Therefore, in compliance with the university policy students in this class are required to wear a mask/facial covering before, during, and after class. Faculty members may also ask you to display your daily screening badge as a prerequisite to enter the classroom. You are also asked to maintain safe distancing practices to the best of your ability. For the safety of everyone, any student not appropriately wearing a mask/facial covering will be asked to leave the classroom immediately. The student will be responsible to make up any missed class content or work. Continued non-compliance with the Texas Tech University System Policy may result in disciplinary action through the Office of Student Conduct.

Modifications to the Syllabus

This syllabus, including grade evaluation and course schedule, is subject to modification. In particular, the COVID-19 pandemic may require significant changes in course delivery and content on potentially short notice.

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[1] https://blackboard.angelo.edu/
[2] https://help.blackboard.com/Learn/Student/Getting_Started/Browser_Support
[3] https://www.angelo.edu/student-handbook/
[4] https://www.angelo.edu/catalogs/
[5] https://www.angelo.edu/student-handbook/community-policies/academic-integrity.php
[6] https://www.angelo.edu/services/disability-services/
[7] https://www.angelo.edu/content/files/14197-op-1011-grading-procedures
[8] https://www.angelo.edu/student-handbook/community-policies/academic-integrity.php
[9] https://www.angelo.edu/dept/writing_center/academic_honesty.php
[10] https://www.angelo.edu/content/files/14206-op-1019-student-absence-for-observance-of
[11] http://www.texastech.edu/downloads/ttus-policy-face-coverings.pdf