

The University of Alabama in Huntsville - ECE Department
CPE348: Introduction to Computer Networks

Students must have a computer or laptop, a web-cam and a reliable source of internet access. If you do not have one or more of these, you should not take this class this Spring.

Course Objectives:

Introduction to the basic computer network concepts and underlying technologies including Local Area Networks (LANs), Ethernet, Internet, TCP/IP and Application Layer Protocols, Socket Programming, Data Compression and Network Security.

Required Textbook:

Computer Networks: A System Approach, 5th Edition. L.L. Peterson and B.S. Davie, Morgan Kaufman Publishers, INC., 2012.

Class Time & Location:

Online: Monday & Wednesday 2:40 – 4:00PM on ZOOM
Course video is recorded on Panopto

Course Prerequisites:

- CPE112/CPE211 (Introduction to programming in Engineering)
- CPE/EE 221 (Computer Organization)

Instructor: Dr. Jianqing Liu

Office: ENG 217-I, **Phone:** 256-824-6258, **Email:** **through Canvas** (You can expect to receive my response in no more than 48 hrs)

Office Hours: Monday & Wednesday 4:30 - 6:00pm Online. My ZOOM meeting room ID is **596-759-0587**.

TA: Mr. Siddharth Sankar Das, **Email:** sd0064@uah.edu

Final Exam:

Online: Wednesday, April 28, 3:00 PM – 5:30 PM
Content: **The final exam will be comprehensive**

Midterm Exam Dates:

Online Midterm Exam #1: Monday 03/01, 2:40 – 4:00PM
Online Midterm Exam #2: Wednesday 03/31, 2:40 – 4:00PM

Course Web Page:

- Canvas course management software will be used to assist in course administration. Students may access Canvas via the URL listed below.

<https://Canvas.uah.edu/default.asp>

- Each student is responsible for checking the course Canvas page for assignment updates, assignment due dates and other course related announcements.

Policies for Online Instruction:

Every student is expected to follow these guidelines when interacting with the instructor and classmates online in our class. Failure to do so will result in a warning. Ignoring the warning will result in zero (0) points on assignments.

- Be respectful of the instructor and fellow students. Be careful with your language.
- Do not share inappropriate material or material not related to the topic
- Be careful with the use of emojis - they are a friendly and informal style of communication that is easily misinterpreted
- Be forgiving - assume initially others are not trying to disobey the rules or offend

Course Grade Computation:

		<u>Course Letter Grade Scale</u>	
Homework	10%	> 90%	A
Projects	20%	80-90%	B
Hour Exams (2 @ 20% each)	40%	70-80%	C
Final Exam	30%	60-70%	D
-----		< 60%	F
Total	100%		

- Students may track their progress by examining their grades on Canvas
- Grade discrepancies need to be reported to the instructor as soon as possible.

Academic Honesty:

Students enrolled in this course are expected to conform to the UAH policies concerning academic misconduct as outlined in the UAH Student Handbook at <http://www.uah.edu/student-support/student-conduct/handbook>

- Collaboration on exams or assignments will not be permitted and will be considered cheating. All work submitted for a grade must be entirely your own, including the project assignments.
- Students who cheat will be reported to the University Judicial Officer and will receive no credit (0) for that exam or assignment.**

Students who commit certain academic misconduct will not be allowed to withdraw the course.

Exam Policies:

- Exam questions may be drawn from information presented during the class lectures, homework, past exams, or handouts in the class.
- All written exams are closed book / closed notes.** No reference materials of any kind will be permitted. Collaboration on exams is not permitted.

Makeup Exam Policies:

- There will be no makeup exams given without a **written excuse** from your doctor, your employer, or the UAH Office of Student Affairs. → No exceptions will be made. ←
- If you qualify for a makeup exam, you must schedule and complete the makeup exam within one week of the original in-class exam; otherwise, you will receive **no credit (0)**.
- The instructor decides the format of all makeup exams.
- No makeup exams will be given for the Final Exam – UAH Policy**

Assignment Policy:

No late homework and project assignments will be accepted. You can expect to receive the graded homework/project/midterm exams in no more than 2 weeks.

Disability Accommodations (www.uah.edu/health-and-wellness/disability-support):

- The University of Alabama in Huntsville will make reasonable accommodations for students with documented disabilities. If you need support or assistance because of a disability, you may be eligible for academic accommodations.
- Students should identify themselves to the Disability Support Services Office (256.824.1997 or 317 Wilson Hall) and their instructor as soon as possible to coordinate accommodations.

Detailed Schedule:

The schedule may be subject to change under unexpected circumstances like campus closure, instructor's sick leave, etc.

Week #	Date	Topics	Readings/Slides
1	01/13	Basics of computer networks	Intro 0_1
2	01/18	Martin Luther King Day, No Class	
	01/20	Syllabus explanation, OSI model	Intro 0_1, Chapter 1_1
3	01/25	OSI model, network metrics	Chapter 1_1, 1_2
	01/27	Link, encoding, framing	Chapter 2_1, 2_2
4	02/01	Error detection, stop and wait	Chapter 2_2, 2_3
	02/03	Sliding window protocol (SWP)	Chapter 2_3
5	02/08	SWP, Ethernet	Chapter 2_4
	02/10	Wireless, 802.11	Chapter 2_5
6	02/15	Switching and forwarding	Chapter 3_1, 3_2
	02/17	Virtual circuit, Bridges	Chapter 3_2, 3_3
7	02/22	IP address	Chapter 3_3
	02/24	IP subnetting, CIDR, IP tunneling	Chapter 3_4
8	03/01	1 st Midterm Exam	Chapter 1-3
	03/03	IP routing	Chapter 3_5
9	03/08	IP routing, BGP	Chapter 3_5, 4_1
	03/10	IP multicast	Chapter 4_2
10	03/15	IP multicast, mobile IP	Chapter 4_2
	03/17	TCP/UDP, TCP segment	Chapter 5_1
11	03/22	TCP sliding window protocol	Chapter 5_2
	03/24	TCP congestion control	Chapter 6
12	03/29	TCP congestion control	Chapter 6
	03/31	2 nd Midterm Exam	Chapter 3-6
13	04/05	Resource allocation, queueing	Chapter 6_1, 6_2
	04/07	Queueing, QoS	Chapter 6_2, 6_3
14	04/12	Cryptography primitives	Chapter 8
	04/14	Network security protocols	Chapter 8
15	04/19	Midterm exams and HW review	All
	04/21	Final exam review	All
16	04/26	Exam Week, No Class	
	04/28	Final Exam, 3:00 – 5:30PM	