

## Computer Networks

CNT5106C Sections 11021 and 24965

**Class Periods:** Tuesday, Periods 8-9, 3-4:55pm; Thursday, Period 9, 4:05-4:55pm

**Location:** Weimer Hall 1064

**Academic Term:** Spring 2023

### **Instructor:**

Shigang Chen

[sgchen@ufl.edu](mailto:sgchen@ufl.edu)

352 214 9215

Office Hours: Thursday, 11am – 1pm, CSE Room 452

### **Teaching Assistants:**

TA Haibo Wang, [wanghaibo@ufl.edu](mailto:wanghaibo@ufl.edu), office hours: TBA

TA Dimitri Melissourgios, [dmelissourgios@ufl.edu](mailto:dmelissourgios@ufl.edu), office hours: TBA

TA Yifan Wang, [wangyifan@ufl.edu](mailto:wangyifan@ufl.edu), office hours: TBA

### **Course Description**

3 Credits

Grading Scheme: Letter Grade

Design, implementation, and internals of networks. Routing, congestion control, internetworking, TCP/IP, optimization, and proxy services..

### **Course Pre-Requisites / Co-Requisites**

Programming, OS, data structures

### **Course Objectives**

There are three objectives in this course. The first objective is to learn the concepts and fundamental design principles that have contributed to the global Internet's scalability and robustness. The second objective is to study networking technologies, application/transport/network/data-link layer protocols, congestion/flow/error control mechanisms, routing algorithms, addressing schemes, internetworking, wireless access, network security, etc. The third objective is to acquire basic skills for network programming.

### **Materials and Supply Fees**

N/A

### **Required Textbooks and Software**

Computer Networking: A Top-Down Approach Featuring the Internet, 8th Edition by James F. Kurose & Keith W. Ross, published by Addison Wesley.

### **Recommended Materials**

N/A

## ***Course Schedule***

### ***Subject to adjustment***

- Week 1: Chapter 1 Computer Networks and the Internet
- Week 2: Chapter 1 Computer Networks and the Internet  
Homework 1 out, due a week later  
Project 1 out, due three weeks later
- Week 3: Chapter 2 Application Layer
- Week 4: Chapter 2 Application Layer
- Week 5: Chapter 2 Application Layer  
Homework 2 out, due a week later
- Week 6: Chapter 3 Transport Layer
- Week 7: Chapter 3 Transport Layer  
Homework 3 out  
Midterm Exam (on Tuesday 2/28 in class)
- Week 8: Chapter 4 Network Layer: Data Plane  
Project 2 out, due in three weeks
- Week 9: Chapter 4 Network Layer: Data Plane  
Homework 4 out, due a week later
- Week 10: Chapter 5 Network Layer: Control Plane  
Project 3 out, due by reading days
- Week 11: Chapter 5 Network Layer: Control Plane
- Week 12: Chapter 5 Network Layer: Control Plane  
Homework 5 out, due a week later
- Week 13: Chapter 6 Link Layer
- Week 14: Chapter 6 Link Layer  
Homework 6 out  
Final Exam 5/5/2023 @ 12:30 PM - 2:30 PM in the same classroom

## ***Attendance Policy, Class Expectations, and Make-Up Policy***

Students are required to attend the class. Sign-on sheets will be handed out in 6 randomly selected class meetings. You will receive the full 5% attendance grade if you sign on for five out of the six. Each additional missing class costs 1%. Excused absences must be approved by the instructor ahead of time and in compliance with university policies in the Graduate Catalog (<http://gradcatalog.ufl.edu/content.php?catoid=10&navoid=2020#attendance>) and require appropriate documentation.

## ***Evaluation of Grades***

<b>Assignment</b>	<b>Percentage of Final Grade</b>
Sign-in	6%
Homework Sets (6)	18% (3% each)
Projects (3)	24% (5%, 5%, 14%)
Midterm Exam	26%
Final Exam	26%
	100%

## ***Grading Policy***

The following is given as an example only.

<b>Percent</b>	<b>Grade</b>	<b>Grade Points</b>
90 or above	A	4.00
86-89.9	A-	3.67
82-85.9	B+	3.33
78-81.9	B	3.00
74-77.9	B-	2.67
70-73.9	C+	2.33
66-69.9	C	2.00
62-65.9	C-	1.67
58-61.9	D+	1.33
54-57.9	D	1.00
50-53.9	D-	0.67
Below 50	E	0.00

### **Exams:**

There will be two exams. Each exam is two hours long. These close-book exams will account for 52% of the final grade. The first exam will happen after the first three chapters. The second exam will happen at the end of the semester, covering the remaining chapters.

### **Homework Policy:**

There will be 6 open-book assignments over the course of the semester. The due day of a homework assignment is a week after the homework is given. No late submissions will be accepted without the approval of the instructor. The answers will be given after due days. Each homework accounts for 3% of the final grade. You receive full points if you submit the homework by the due date.

### **Project Policy:**

There will be two individual projects and one team project. Each team consists of two students (or one student upon approval). Students are expected to set up a demo time with the TA during a designated week for demo.

More information on UF grading policy may be found at:

[UF Graduate Catalog](#)  
[Grades and Grading Policies](#)

### ***Students Requiring Accommodations***

Students with disabilities who experience learning barriers and would like to request academic accommodations should connect with the disability Resource Center by visiting <https://disability.ufl.edu/students/get-started/>. It is important for students to share their accommodation letter with their instructor and discuss their access needs, as early as possible in the semester.

### ***Course Evaluation***

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at <https://gatorevals.aa.ufl.edu/students/>. Students will be notified when the evaluation period opens, and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via <https://ufl.bluera.com/ufl/>. Summaries of course evaluation results are available to students at <https://gatorevals.aa.ufl.edu/public-results/>.

### ***In-Class Recording***

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A “class lecture” is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To “publish” means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040 Student Honor Code and Student Conduct Code.

### ***University Honesty Policy***

UF students are bound by The Honor Pledge which states, “We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: “On my honor, I have neither given nor received unauthorized aid in doing this assignment.” The Honor Code (<https://sccr.dso.ufl.edu/process/student-conduct-code/>) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor or TAs in this class.

### ***Commitment to a Safe and Inclusive Learning Environment***

The Herbert Wertheim College of Engineering values broad diversity within our community and is committed to individual and group empowerment, inclusion, and the elimination of discrimination. It is expected that every person in this class will treat one another with dignity and respect regardless of gender, sexuality, disability, age, socioeconomic status, ethnicity, race, and culture.

If you feel like your performance in class is being impacted by discrimination or harassment of any kind, please contact your instructor or any of the following:

- Your academic advisor or Graduate Program Coordinator
- Jennifer Nappo, Director of Human Resources, 352-392-0904, [jpennacc@ufl.edu](mailto:jpennacc@ufl.edu)
- Curtis Taylor, Associate Dean of Student Affairs, 352-392-2177, [taylor@eng.ufl.edu](mailto:taylor@eng.ufl.edu)
- Toshikazu Nishida, Associate Dean of Academic Affairs, 352-392-0943, [nishida@eng.ufl.edu](mailto:nishida@eng.ufl.edu)

### ***Software Use***

All faculty, staff, and students of the University are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. We, the members of the University of Florida community, pledge to uphold ourselves and our peers to the highest standards of honesty and integrity.

### ***Student Privacy***

There are federal laws protecting your privacy with regards to grades earned in courses and on individual assignments. For more information, please see: <https://registrar.ufl.edu/ferpa.html>

### ***Campus Resources:***

#### ***Health and Wellness***

##### **U Matter, We Care:**

Your well-being is important to the University of Florida. The U Matter, We Care initiative is committed to creating a culture of care on our campus by encouraging members of our community to look out for one another and to reach out for help if a member of our community is in need. If you or a friend is in distress, please contact [umatter@ufl.edu](mailto:umatter@ufl.edu) so that the U Matter, We Care Team can reach out to the student in distress. A nighttime and weekend crisis counselor is available by phone at 352-392-1575. The U Matter, We Care Team can help connect students to the many other helping resources available including, but not limited to, Victim Advocates, Housing staff, and the Counseling and Wellness Center. Please remember that asking for help is a sign of strength. In case of emergency, call 9-1-1.

**Counseling and Wellness Center:** <https://counseling.ufl.edu>, and 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

##### **Sexual Discrimination, Harassment, Assault, or Violence**

If you or a friend has been subjected to sexual discrimination, sexual harassment, sexual assault, or violence contact the **Office of Title IX Compliance**, located at Yon Hall Room 427, 1908 Stadium Road, (352) 273-1094, [title-ix@ufl.edu](mailto:title-ix@ufl.edu)

##### **Sexual Assault Recovery Services (SARS)**

Student Health Care Center, 392-1161.

**University Police Department** at 392-1111 (or 9-1-1 for emergencies), or <http://www.police.ufl.edu/>.

### ***Academic Resources***

**E-learning technical support**, 352-392-4357 (select option 2) or e-mail to Learning-support@ufl.edu.  
<https://lss.at.ufl.edu/help.shtml>.

**Career Connections Center**, Reitz Union, 392-1601. Career assistance and counseling; <https://career.ufl.edu>.

**Library Support**, <http://cms.uflib.ufl.edu/ask>. Various ways to receive assistance with respect to using the libraries or finding resources.

**Teaching Center**, Broward Hall, 392-2010 or 392-6420. General study skills and tutoring.  
<https://teachingcenter.ufl.edu/>.

**Writing Studio, 302 Tigert Hall**, 846-1138. Help brainstorming, formatting, and writing papers.  
<https://writing.ufl.edu/writing-studio/>.

**Student Complaints Campus**: <https://sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/>; <https://care.dso.ufl.edu>.

**On-Line Students Complaints**: <https://distance.ufl.edu/state-authorization-status/#student-complaint>.