

# Capital University of Economics and Business

## Overseas Chinese College

### Course Syllabus

<b>Year and Semester</b>	2024 Fall					
<b>Course Name</b>	Computer Networking					
<b>Course Code</b>	MIS225					
<b>Course Type</b>	<input type="checkbox"/> General Education (Required)		<input type="checkbox"/> General Education (Elective)		<input checked="" type="checkbox"/> Professional Course (Required)	
	<input type="checkbox"/> Basic Disciplinary Course		<input checked="" type="checkbox"/> Professional Course (Required)		<input type="checkbox"/> Professional Course (Expanded)	
	<input type="checkbox"/> Professional Course (Elective)		<input type="checkbox"/> Professional Course (Expanded)		<input type="checkbox"/> Professional Course (Advanced)	
<b>Course Credits</b>	3					
<b>Course Hours</b>	Total Class Hours	48	Lecture Hours	30	Experiment (Computer) Hours	18
<b>Applicable object</b>	<input type="checkbox"/> Freshman <input checked="" type="checkbox"/> Sophomore <input type="checkbox"/> Junior <input type="checkbox"/> Senior					
<b>Prerequisites</b>	MIS110					
<b>Instructor</b>	Xin Zhang					
<b>Contact Information</b>	Office: Office: C217					
	Tele: (010)83951082					
	Email: zhangxin@cueb.edu.cn					
<b>Office Hour</b>	T: 9:55—12:20, F: 13:30—16:10					
<b>Learning Centre</b>	W: 8:00—9:35, TH: 18:00—20:00 (online)					
<b>Grade/Section</b>	2023IT & 2023CFA					
<b>Course Time/Place</b>	IT: W 9:55-12:20 / B308 CFA: F 9:55-12:20 / B212					
<b>Textbook</b>	Kurose & Ross, Computer Networking A top-down approach, 7th edition; ISBN: 9780134312804					

#### Reference Book

#### Course Description

This course is an introductory course on computer networks. This course introduces the underlying concepts and principles of modern computer networks with emphasis on protocols, architectures, and implementation issues. The main goal of this course is to understand layering in computer networks, understand different protocol stacks (OSI), understand functions and protocols within a layer, understand how layers fit together and finally understand how the network works.

#### Student Learning Objectives

On successful completion of this course, candidates should be able to:

Knowledge	<ul style="list-style-type: none"> <li>◆ Explain the network terminology (protocol stack, host, delay, packet, route, DNS, ISP, Dos)</li> <li>◆ Identify five layers in internet protocol stack</li> <li>◆ Understand the popular protocols and working principles in each layer</li> <li>◆ Analyze the packets data information which cached by Wireshark</li> </ul>
Capability	<ul style="list-style-type: none"> <li>◆ Recommend a security plan to protect computer networking from attacking</li> <li>◆ Develop an allocation plan according enterprise's requirements (number of departments, number of employees in each department, subnets, hosts)</li> <li>◆ Conduct effective professional communication skills in computer networking area</li> </ul>
Mindset	<ul style="list-style-type: none"> <li>◆ Establish the objectivity in computer networking workplace</li> <li>◆ Develop systematical and logical mind through learning protocol stack</li> <li>◆ Apply critical thinking in the process of capturing and analyzing packets</li> </ul>

### Website Source

[https://wps.pearsoned.com/ecs\\_kurose\\_compnetw\\_6/216/55463/14198700.cw/index.html](https://wps.pearsoned.com/ecs_kurose_compnetw_6/216/55463/14198700.cw/index.html)

### Teaching Methods

This course contains lectures, group discussions, group work (Wireshark Labs), homework, quizzes, presentation and exams. Textbook content will be introduced first. Then real case and practice questions will be delivered to students as a way to test their understanding of the knowledge. This will require individual or group assignment in class.

### Grade Criterion

Component	Weight	Description
Final Exam	20%	A cumulative final examination will be given based on all the contents of the class. The exam paper may be composed of multiple-choice questions, short answer questions, essay questions and practice problems. Students should rely primarily on homework assignments and class exercise as reference for exams.
Mid-Term Test	20%	A cumulative midterm test will be given based on all the contents that have been taught in class. The test paper may be mainly composed of multiple-choice questions and short answer questions. It should be completed within 50 minutes in class.
Homework	15%	Most of the assigned homework is taken from the Exercises in the textbook. Assignments will be collected at the clearly stated date. Late assignments will not be accepted. In general, each assignment should be complete in appropriate software and submit by Xuexitong App. The graded will be published on the app.
Quizzes	15%	There will be at least 2 quizzes during the semester. It may also be used to

		check the attendance. Quizzes will test your theoretical knowledge and application ability.
Presentation	10%	The students will be divided into several groups to prepare a presentation. Each student is required to be involved in the presentation. Each member of the group will receive the group grade with certain weight of his/her contribution. Each group need to finish a PPT or report of the project, which is given and hand in the related resources to the teacher before the presentation.
Participation	10%	Individuals will be asked to participate individually in question and answer at least 5 times during the semester. The performances should be counted in their participation.
Attendance	10%	Refer to attendance policy listed below
<b>Total</b>	100%	

### **Detailed Grade Computation**

	Before Midterm	After Midterm
Attendance	5%	5%
Participation	5%	5%
Homework	5%	10%
Quizzes	5%	10%
Presentation		10%
Mid-Term Test	20%	
Final exam		20%
Total	40%	60%

### **Assessment of Student Performance**

#### ***☛ Self-Study and Reading ability Practice***

Instructor will give out the chapters or the reference books to read and use class hours to have discussion; students should be able to show a proactive attitude and ability for self-study and reading. Knowledge and oral English will be elements of homework or presentation score.

#### ***☛ Homework***

Students should finish their homework by themselves. Copying from others will be treated as cheating and the homework scores will be lowered. Students should hand in all assignments on time. Late assignments will be accepted at the discretion of the instructor (i.e., when the student was ill or had an excused absence). Late assignments without reasonable proof will be reduced in score by 50%.

#### ***☛ Attendance***

Because the course covers a great deal of material, attending every class session is very important for performing well.

- ◆ Being late for 15 minutes or more is considered an absence.
- ◆ Five hours or above of unexcused absences will result in the lower level of the final grade by one grade band (e.g. from C – to D +). Any excused absence must be discussed directly with the teacher.
- ◆ Absence which is more than 1/3 of the total teaching hours will cause an F (a failing grade) directly.

but students are welcome to continue attending classes.

- ♦ An incomplete grade (I) will be considered in case of medical or family emergencies.

### ☞ *Participation*

- ♦ Students should participate in classes actively. Half of participation grade is determined by their presentation in class. They are encouraged to ask questions relevant to the subject and express their own opinions. Every student should respect the ideas, opinions, and questions of their classmates.
- ♦ Students should also use office hours to ask questions or talk with the instructor for good communication and effective learning.
- ♦ Frequent visiting the instructor and chatting in English during office hours is highly recommended.
- ♦ Any misbehavior and non-class related activities in class will result in the lower level of the participation grade, including ringing cell phones.
- ♦ All above behaviors will be solely evaluated by the instructor for scoring.

### ☞ *Textbook*

Students must bring the textbook to class.

### Topical Course Outline (original)

Week	Topics	Platform	Homework
1	<ul style="list-style-type: none"> <li>● Course Introduction and Syllabus</li> <li>● Chapter 1               <ul style="list-style-type: none"> <li>1.1 What Is the Network</li> <li>1.2 The Network Edge</li> <li>1.3 The Network Core</li> <li>1.4 Delay, Loss, and Throughput in Packet-Switched Networks</li> <li>1.5 Protocol Layers and Their Service Models</li> <li>1.6 Networks Under Attack</li> </ul> </li> <li>● EXE</li> </ul>	Tencent Meeting & Xuexitong	Homework for CH1
2	<ul style="list-style-type: none"> <li>● Chapter 2               <ul style="list-style-type: none"> <li>2.1 Principles of Network Applications</li> <li>2.2 The Web and HTTP</li> <li>2.3 Electronic Mail in the Internet</li> <li>2.4 DNS- The Internet's Directory Service</li> </ul> </li> <li>● EXE</li> </ul>	Tencent Meeting & Xuexitong	
3	<ul style="list-style-type: none"> <li>● Chapter 2 Lab</li> </ul>	Tencent Meeting & Xuexitong	Homework for CH2
4	<ul style="list-style-type: none"> <li>● Chapter 3               <ul style="list-style-type: none"> <li>3.1 Introduction and Transport-Layer Services</li> <li>3.2 Multiplexing and Demultiplexing</li> <li>3.3 Connectionless Transport: UDP</li> </ul> </li> </ul>	Classroom & Xuexitong	
5	<ul style="list-style-type: none"> <li>● National Day</li> </ul>	Classroom & Xuexitong	
6	<ul style="list-style-type: none"> <li>● Chapter 3               <ul style="list-style-type: none"> <li>3.5 Connection-Oriented Transport: TCP</li> <li>3.7 TCP Congestion Control</li> </ul> </li> <li>● EXE</li> </ul>	Classroom & Xuexitong	
7	<ul style="list-style-type: none"> <li>● Chapter 3 Lab</li> </ul>	Classroom & Xuexitong	Homework for CH3

8	● Lab Review & Quiz1	Classroom & Xuexitong	
9	● Mid-Term Test	Classroom & Xuexitong	
10	● Chapter 4 4.1 Overview of Network Layer ● 4.2 What's Inside a Router?	Classroom & Xuexitong	
11	● Chapter 4 4.3 The Internet Protocol (IP): IPv4, Addressing, IPv6 ● EXE	Classroom & Xuexitong	Homework for CH4
12	● Chapter 5 5.1 Introduction 5.2 Routing Algorithms 5.3 Intra-AS Routing in the Internet: OSPF 5.6 ICMP: The Internet Control Message Protocol ● EXE	Classroom & Xuexitong	Homework for CH5
13	● Chapter 6 6.1 Introduction to the Link Layer 6.2 Error-Detection and -Correction Techniques	Classroom & Xuexitong	
14	● Chapter 6 6.3 Multiple Access Links and Protocols 6.4 Switched Local Area Networks ● EXE	Classroom & Xuexitong	Homework for CH6
15	● Presentation	Classroom & Xuexitong	—
16	● Presentation & Quiz 2	Classroom & Xuexitong	—
17	● Final Review	Classroom & Xuexitong	—
18-19	● Review & Final Exam		

*Note: In the first three weeks, Tencent Meeting, Mosoteach and the Wechat group will be used as the main teaching methods. The Wechat group will be mainly used to inform the students daily study activities and tasks. Tencent Meeting and Mosoteach will be used as the main study platform to teach and organize the study activities. When classes change back to school, Tencent Meeting will be stopped to use. Mosoteach will be mainly used to upload PPTS and release some learning materials.*

*Some chapters or sections may leave for self-study, this is the students' duty to learn and understand, they may also be included in the quizzes or exams. A review in Chinese may be held during L.C. and O.H. in the semester.*

### **Teacher's Office Hour**

- ◆ The instructor's office hour is shown in the front of the office door.
- ◆ Students are suggested to use the instructor's office hour and learning center to ask questions or talk with the instructor once at least per week for good communication and effective learning, which is recorded in the students' participation.
- ◆ The time can be scheduled by instructors or students, or both.

### **Cheating and Plagiarism**

Cheating is not tolerated. Any student caught cheating on a quiz; test or exam will be given a mark of zero (0) for the particular work. At the beginning of the semester the definition of plagiarism will be carefully explained, when any thoughts or writings of another person are used, they must be clearly identified (usually one uses quotation marks) and the source notes. **If any student is caught cheating on any homework assignment, the highest score the student can earn in that course is a "C".**

### **Important Dates**

<b>Midterm Test</b>	<b>Week 9 or 10</b>
<b>Final Exam</b>	<b>Week 18 or 19 (Refer to the notice of the Academic Affairs Office)</b>

*Note: This syllabus is tentative and may be changed or modified throughout the semester. All students will be notified and a new syllabus will be given.*

**Instructor:** XinZhang

**Department Head:** JingningLi

