



# Computer Networks

## CS3611

### Course Overview

Haiming Jin

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# Course Logistics

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- **Timing:** Monday, 12:55–15:40, week 1–16
- **Location:** 中院411
- **Instructor:** Haiming Jin
- **Office Hours:**
  - Timing: Wednesday, 18:00–19:00, week 1–16
  - Location: 软件学院专家楼, 1108-2
- **Email:** [jinhaiming@sjtu.edu.cn](mailto:jinhaiming@sjtu.edu.cn)
- **Course URL** (to distribute slides, homework questions, lab instructions, etc.):
  - <http://cs.sjtu.edu.cn/~jinhaiming/cs3611sp24/>
- **Canvas** (to submit homework & labs, make announcements, Q&A, etc.):
  - <https://oc.sjtu.edu.cn/courses/64340/>

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**Aug 2021-Present**  
**Associate Professor**

June 2018-Aug 2021  
**Assistant Professor**

SJTU

June 2017-June 2018  
**Post-doctoral Research Associate**  
CSL@UIUC

## Research Interests

Internet of Things

- Wireless Sensing
- RF Computing

## Personal Webpage

<http://cs.sjtu.edu.cn/~jinhaiming/>



Aug. 2012-May 2017

**Ph.D.**

CS@UIUC

Advisor: Prof. Klara Nahrstedt

Sep. 2008-July 2012

**B.S.**

EE@SJTU

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## ■ TAs:

- Beichen Yu (polarisybc@sjtu.edu.cn)
- Rong Ding (dingrong@sjtu.edu.cn)
- Xinyue Fu (fuxinyue@sjtu.edu.cn)

## ■ TA office hours:

- Timing: Wednesday, 17:00–18:00, week 1–16
- Location: 软件学院专家楼, 1119

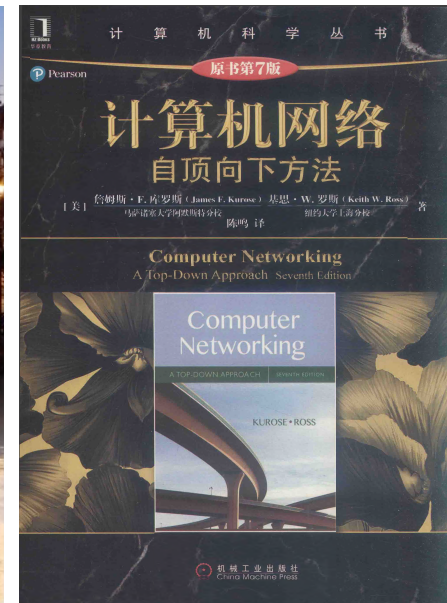
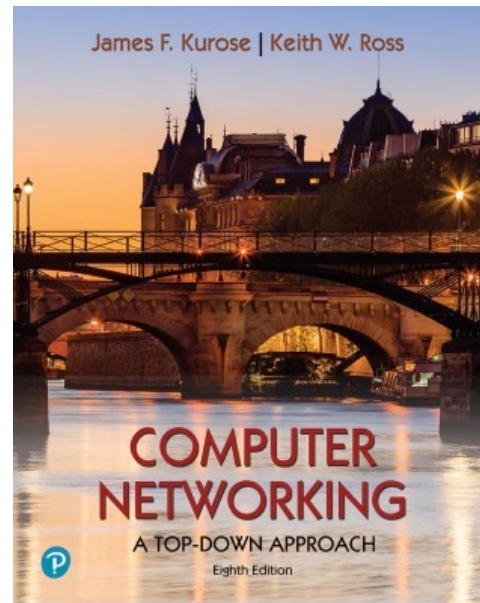
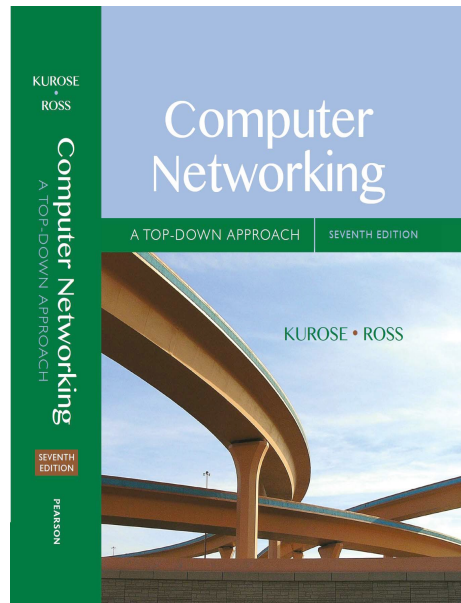
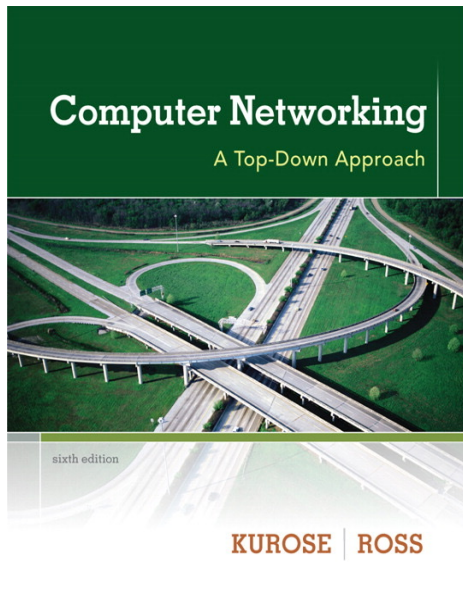
## ■ Prerequisites:

- Basic concepts and principles of data communication will be helpful.
- Basic concepts about how computer works with binary data.
- Comfortable with C/C++ programming.
- Probability.
- Basic concepts of operating systems.

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## ■ Primary references:

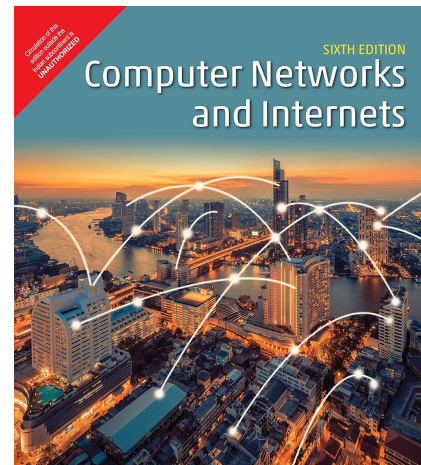
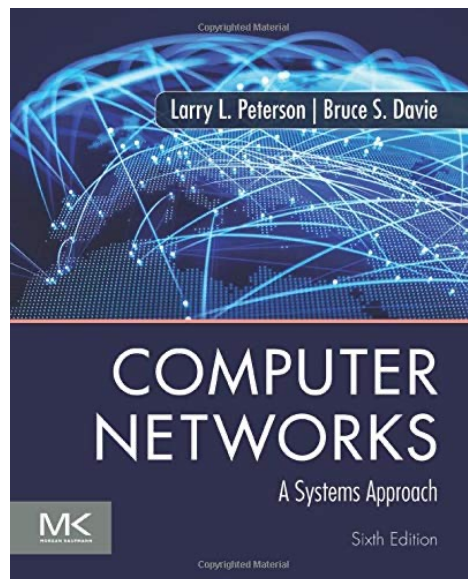
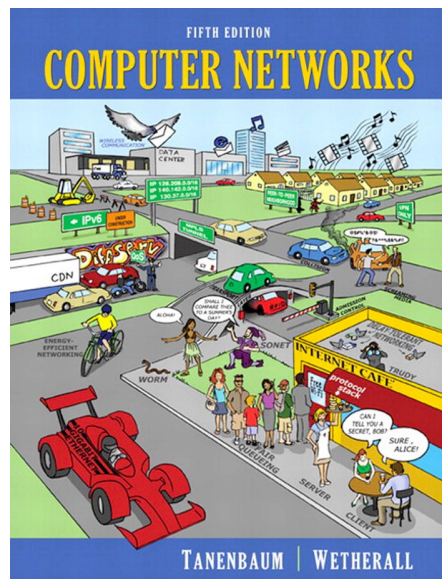
- Jim Kurose and Keith Ross, "Computer Networking: A Top-Down Approach", Pearson. (6th/7th/8th Edition)
- “计算机网络：自顶向下方法”，机械工业出版社，译者：陈鸣。(原书第6/7/8版)



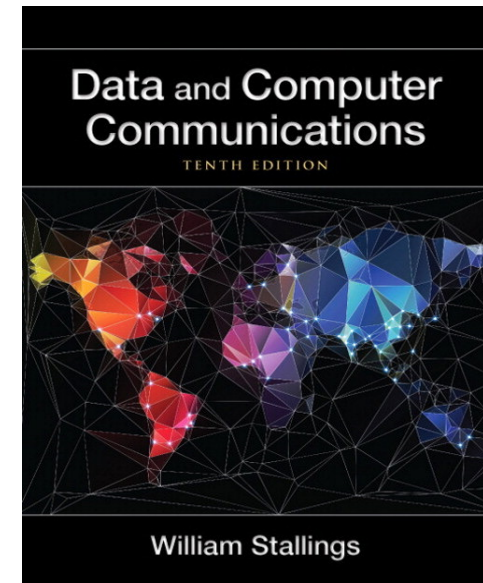
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## ■ Other references:

- Computer Networks, Andrew S. Tanenbaum ,PRENTICE HALL
- Computer Networks: A Systems Approach, Peterson and Davie, MORGAN-KAUFMAN
- Computer Networks and Internets, Douglas E. Comer, PRENTICE HALL
- Data and Computer Communication, William Stallings, PRENTICE HALL



Douglas E. Comer



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## ■ Grading (tentative):

- Homework & quizzes: 40%
- Labs assignments : 30%
- Final exam: 30%

## ■ Policies:

- Quizzes will happen randomly during the semester without announcements beforehand.
  - 补充说明：如果无法来上课，需要在课前跟我请假。如有quiz，会给课前请假的同学补交quiz的机会，否则不能补交quiz。
- Please do all the assignments by yourself.
- Late submission will not be accepted.
- Any form of cheating will be reported to and subjected to the university policy.



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# **Course Summary (Very Briefly)**

# What is this course about?

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- *Introductory* (first) course in computer networking
  - For undergrads
- learn **principles** of computer networking
- learn **practice** of computer networking
- Internet architecture/protocols as case study
- Glimpses into the future of networking
- learn via hands-on experiments

# Course information

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- ❑ By the time you are finished ...
  - ❑ You understand variety of factoids and concepts
  
  - ❑ Propagation delay, transmit time, queueing, ...
  - ❑ Internet layered architecture, HTTP, DNS, P2P, ...
  - ❑ Sockets, Ports, ...
  - ❑ Congestion Control, Flow Control, TCP, ...
  - ❑ Routing, Basic Graphs, Djikstra's Algorithm, IP, BGP, OSPF, ...
  - ❑ DSL Vs Cable, Aloha, CSMA, TDMA, Token, ...
  - ❑ Cellular Network architecture, handoff, roaming, Mobile IP, ...
  - ❑ Wireless Networks (WiFi)
  - ❑ Security, RSA, Digital certificates, MIM attacks, ...
  - ❑ ...

# What this Course Does Not Cover

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## ■ Does not cover

- Device drivers, SDNs, cloud computing ...
- Network theory, graph theory, proofs
- Radio hardware, embedded systems, scheduling
- Modulation schemes, transmitter/receiver design

## ■ Not a “communications” course

## ■ This is course on

- Understanding, analyzing, and (perhaps) designing protocols and algorithms in networking systems (with case studies in wired and wireless networks)

# What's the difference between

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Communications  
And  
Networking

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Hello!  
I am CS3611

