EE3315
Internet Technology

Lecturer

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Timetable

- Lecture + Tutorial: Friday (4:00pm – 6:50pm) YEUNG LT-6
- Laboratory:
  - Location: Computer Networking Laboratory (LI 5012)
  - Time: (Starting from Week 5/6) face to face
    - Wednesday (3:00pm– 5:50pm): L01 (Week 5,7,9,12)
    - Thursday (12:00pm – 2:50pm): L02 (Week 5,7,9,12)
    - Wednesday (3:00pm– 5:50pm): L03 (Week 6,8,10,13)
    - Thursday (12:00pm – 2:50pm): L04 (Week 6,8,10,13)

* Before attending tutorial sessions, please read tutorial questions and try to do them yourself first.

Course Aim

- This course aims to provide students with the knowledge of key protocols in the TCP/IP protocol suite.
- It will look at technologies which transform the Internet from its data-only roots to a true multi-service network that can handle voice, video and multimedia with comparable quality and reliability.

Course Intended Learning Outcomes

CILO1: Recognize the design principles and the implementation issues of IP routing protocols and SDN (software-defined networking) control plane

CILO2: Demonstrate the understanding of the principles for TCP and apply them to solve problems analytically

CILO3: Recognize the design principles for multimedia networking, e.g., audio and video streaming

CILO4: Demonstrate the understanding of the principles for various application protocols

CILO5: Demonstrate the understanding of IP routing protocols through hands-on tasks in laboratory exercise

Assessment

- **Course Work 50%**
  - Tests 30~40% (Test 1: Week 7/8; Test 2: Week 12/13)
  - Laboratory 5~10% (at least 75% laboratory attendance to be eligible for a pass)
  - Assignments 5~10%
    - for submitting assignments
- **Examination 50%**
  - For a student to pass the course, at least 30% of the maximum mark for **both** course work and examination must be obtained

Lab Regulations

- Attendance >= 75%
- Sign in when arrive the lab.
- Late for more than one hour is regarded as absence and no marks counted for that lab session.
- Late for less than an hour will be accumulated. Accumulated late for one hour is also counted as one session absence.
- Download and print the lab manual before lab session.
- Check sheet (per group) submitted at the end of that session. Later submission is not accepted.
- Grouping – normally 2~3 students in a group.

Mitigation Requests

- For course assessment (such as test, assignment, etc.) **make-up assessment for illness or other circumstances will not be provided** to students. The students will score "zero" for the assessment work concerned.

* Further information about academic regulations pertaining to students' mitigation requests due to illness or other circumstances affecting assessment can be referred to ARRO website or SGS website.

Academic Honesty

- Cheating in Test / Exam:
  - receive zero mark in Test / Exam
  - report to the Department (may cause to fail in the course)
- Be honest!
- Don't copy your classmates' work!
- Don't let your classmates to copy your work!

Syllabus

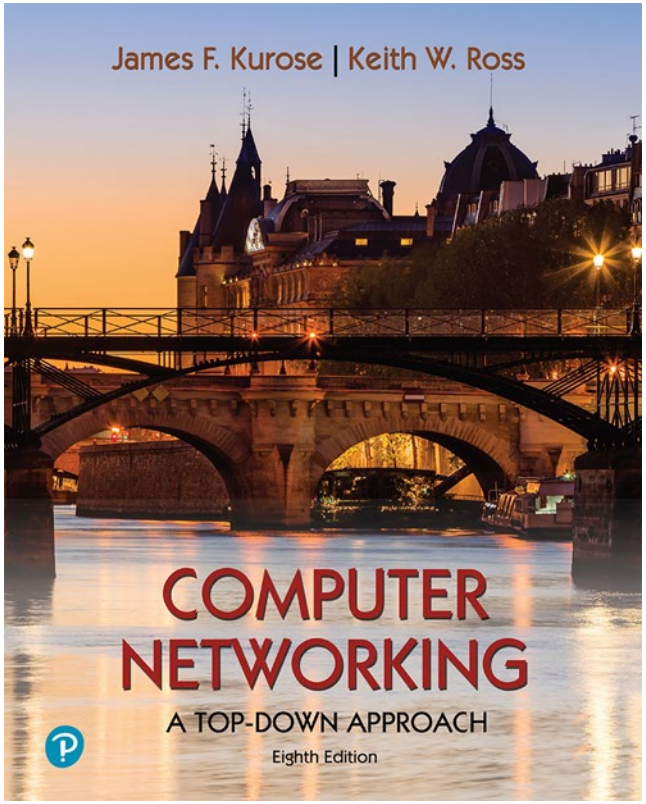
- Internet Routing Protocols and SDN control plane
- Transport Protocols
- Application Protocols
- Multimedia Networking

Tentative Teaching Schedule

Week 1: Introduction of the Course + IP Routing
Week 2: IP Routing
Week 3 IP Routing
Week 4: IP Routing + SDN
Week 5: Transport Protocols
Week 6: Transport Protocols
Week 7: Test 1 (or in Week 8: TBC)
Week 8: Transport Protocols
Week 9: Application protocols
Week 10: Multimedia Networking
Week 11: Holiday
Week 12: Test 2 (or in Week 13: TBC)
Week 13: Review

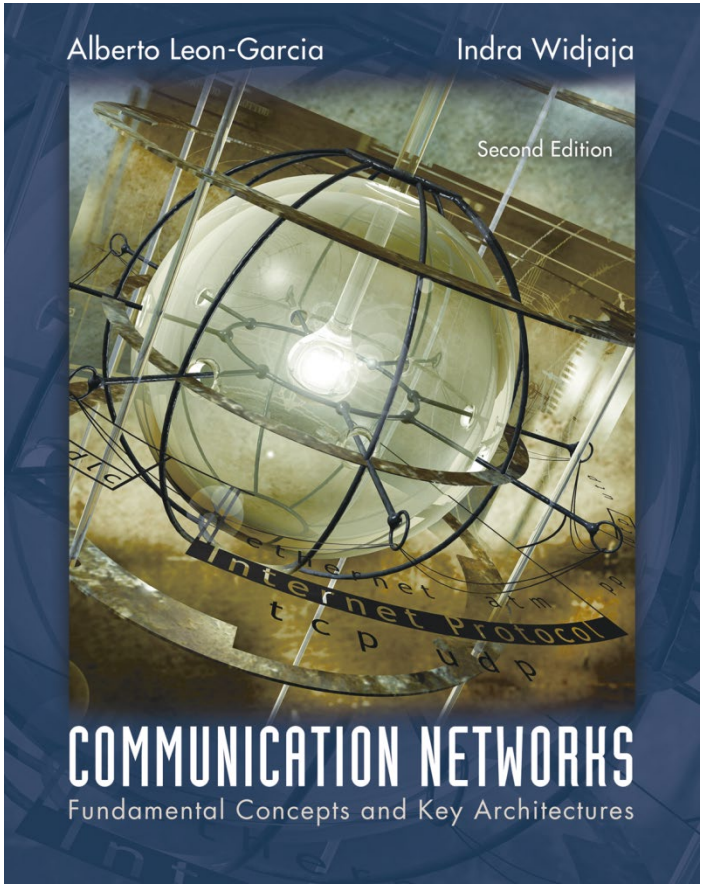
Textbook

- James F. Kurose and Keith W. Ross
  Computer Networking: A Top-Down Approach
  8th edition, Pearson, 2020.



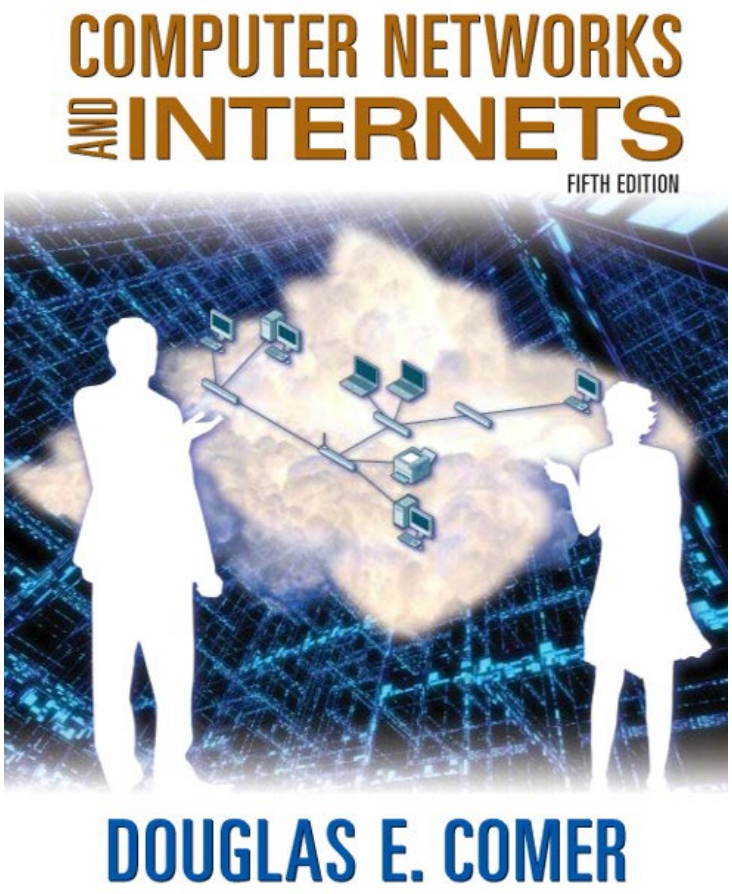
Reference book

- Alberto Leon-Garcia and Indra Widjaja, *Communication Networks*, 2nd edition, McGraw-Hill, 2004.



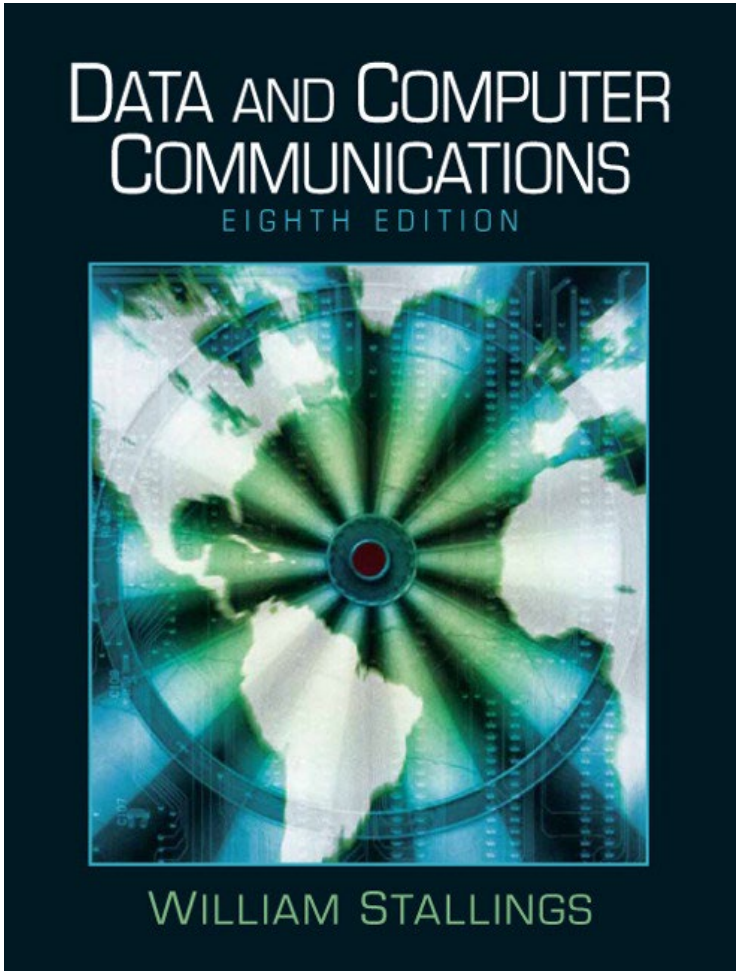
Reference book

- Douglas E. Comer, *Computer Networks and Internets*, 5th edition, Prentice Hall, 2008.



Reference book

- William Stallings, *Data and Computer Communications*, 8th edition, Prentice Hall, 2007.



EE3315 vs. EE3009 (Data Communications and Networking)

EE3009:

1. Focus on fundamentals of computer networks (mainly covering physical and data link layers)
2. Describe how internetworking works and explain the principles of packet forwarding by routers

EE3315:

1. Focus on IP/TCP technologies and protocols (mainly covering network and transport layers) and related advanced topics (e.g., SDN and QoS for multimedia networking)
2. Describe how and why the way IP routing works on the Internet.
3. Explain the principles of transport layer protocols (e.g., flow control and congestion control) and why they work the ways they are now
4. Explain the principles of application layer protocols (e.g., HTTP, FTP)
5. Provide hands-on experience in IP routing protocols

Q & A