COS 460 / 540 Computer Networks

Fall 2019
University of Southern Maine

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Course Details

- Objectives

- Textbook and Resources

- Schedule

- Projects, exams, and grades

On the paper provided write down one thing you hope to learn by taking this course.

"At the end of the semester it would be great if I knew…"

2:30

Hand your paper forward when done.

Objectives

What is a network?

The basics of computer networks and networking

- Computer networks as a _layered architecture_

- _ISO Model_ of computer networks

- _TCP/IP Model_ of computer networks

Objectives

What is a network?

How networks are connected together to send data from host to host

Connecting Networks

- Layers are fun

- Switching and Bridging

- Routers and Routing

- End to End Data communication

Objectives

What is a network?	Applications that run over the network and what their data looks like
Connecting Networks	• Things that make the network work
	• Presentation of data to applications
Network Applications	• Multimedia Data
	• Encryption, privacy, and security

Objectives

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What is a network?	Writing code for network servers, applications, and services
Connecting Networks	• Client-server applications
Network Applications	• Peer to Peer applications
	• Distributed services
Writing the code	

"Fairy tales are more than true: not because they tell us that dragons exist, but because they tell us that dragons can be eaten."

–Neil Gaiman

Computer Networks
A Systems Approach
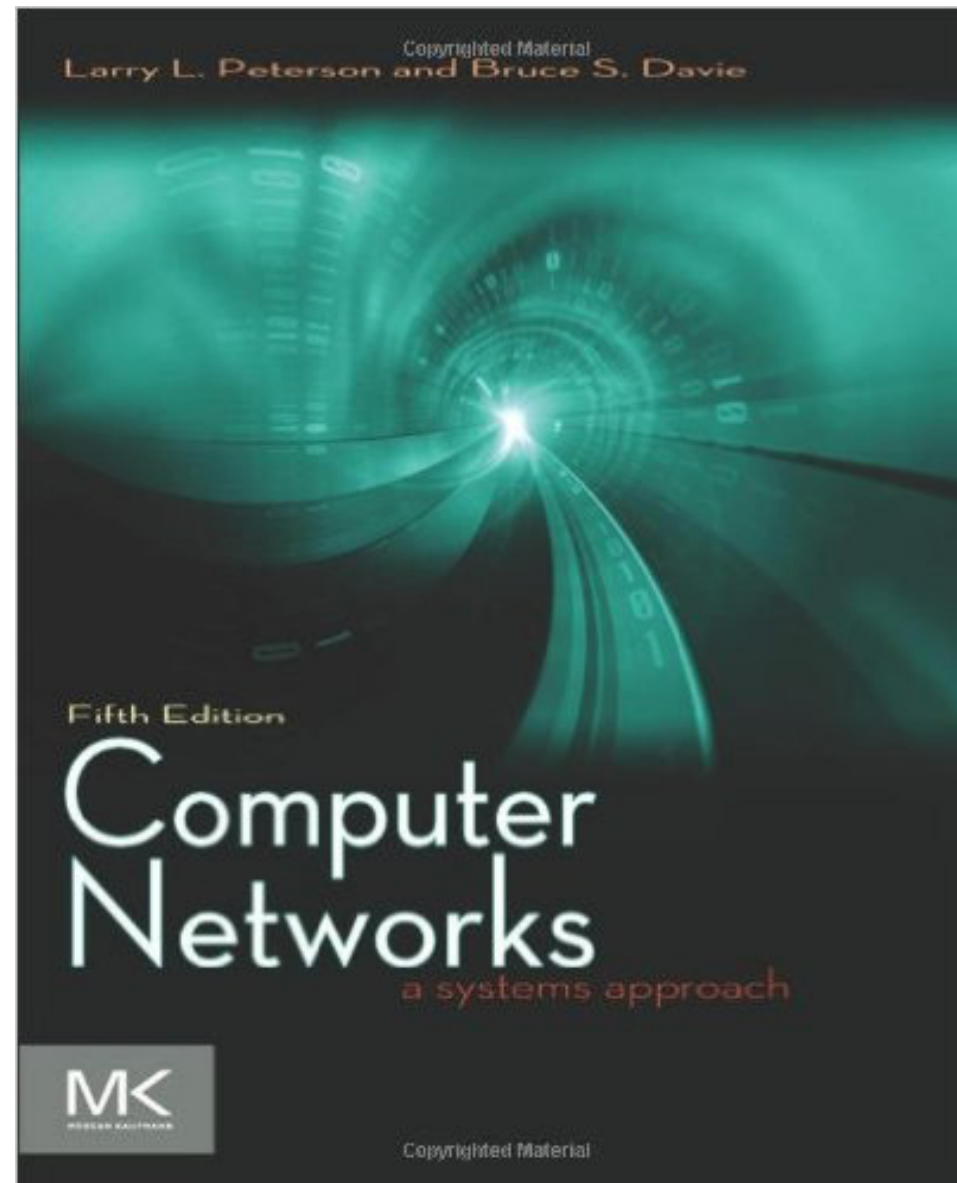
Petersen & Davie
5th Edition

The book is ***FREE*** — http://book/systemsapproach.org

Where's the Stuff?

- Blackboard: project links, exams, grades

  https://bb.courses.maine.edu

- GitHub Course Site: project submission, documents

  https://usm-cos460.github.io

Schedule*

- Foundations & Direct Networks
  ~4 weeks

- Inter-networks & End-to-End Data
  ~6 weeks

- Data & Applications
  ~5 weeks

Typical Class Meeting	
5:35	Lecture & Discussion
5:45	
6:00	
6:15	Break
6:30	Lecture & Discussion
6:45	
7:00	
7:15	Break
7:30	Project Discussion
7:45	
8:05	

* The course site as a more detailed schedule

Projects and Exams

Projects

$$50 + 100 + 75 + 100 = 325 \text{ points}$$

- 4 programming assignments

  - Choose your own language

- Progressively more difficult

- Project 3 and 4 is a two part project we will design in class

Projects and Exams

Projects
  - **GitHub**

You will be using git and GitHub.

- You will *start* from the Projects section in Blackboard

- You will *finish* by `git push` to GitHub

You will need a GitHub account if you don't have one already.

All you work will be in *private* repositories.

Projects and Exams

Projects
  - GitHub

Reading

- Shown on the course schedule

- Sections from the text book

- Linked topical readings (articles)

- Be prepared to discuss in class, you will get called on!

Projects and Exams

Projects
   - GitHub

100 + 100 + 125 = 325 points

Reading

• 3 Exams in Blackboard

Exams

• Based on three sections of the course

• Final exam is *comprehensive**

* ~25 points from prior course material

Projects and Exams

Projects
  - GitHub

50 + 50 = 100 additional points

Reading

- Research Paper (5-10 pages)

Exams

- Research Presentation (10-15 minutes)

Graduate Students

- NOT FOR UNDERGRADUATE STUDENTS

Projects and Exams

Projects
 - GitHub

Reading

Exams

Graduate
Students

**Grade
Totals**

Undergraduate Students (COS 460)

650 points maximum

Graduate Students (COS 540)

750 points maximum

Questions?

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Course Introduction
COS 460 - Computer Networks