Computer Networks
@CS.NCTU

0: Syllabus

Instructor: Kate Ching-Ju Lin (林靖茹)

2021.09.14 (Tue)

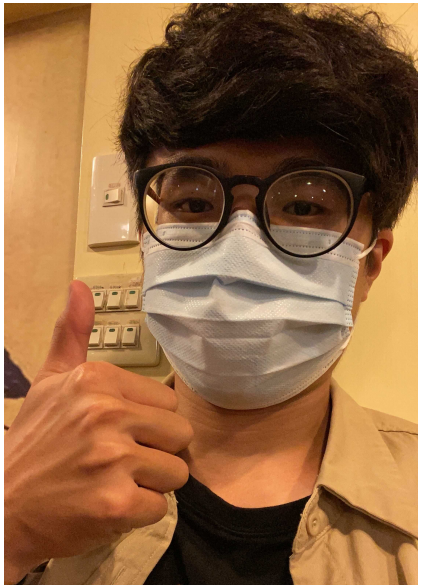
Instructor

- Kate Lin (林靖茹)
- Office: EC-538
- E-mail: katelin@nycu.edu.tw

- Research:
  - Software defined networking for deep learning (service chaining, network function virtualization, SDN infrastructure design for DL training and testing)
  - Wireless systems (MIMO systems, full-duplex communications, mmWave Systems, WLANs)

General Information

- Schedule
  - 2EF5B@EC122
- Instructor
  - Kate Ching-Ju Lin (林靖茹), EC-538
  - Office hours: By appointment
- TA
  - 呂韋德 luwade12345@gmail.com
  - 張哲銓 ryanchang168@gmail.com
  - Office hours: 2GH@EC-635



呂韋德

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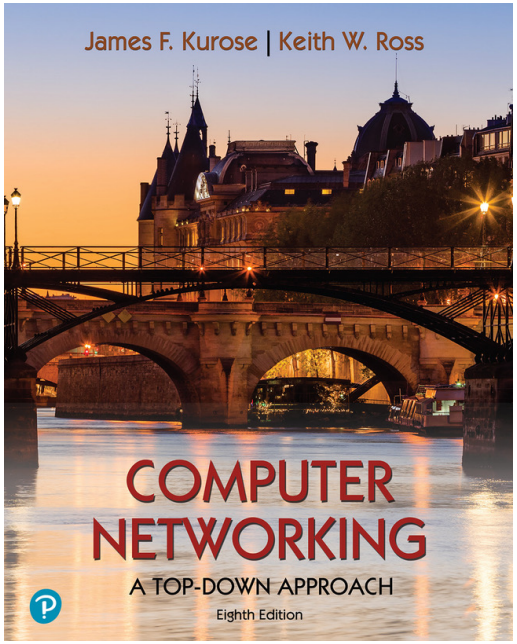
Course Details

- Textbook
  - James F. Kurose and Keith W. Ross, "Computer Networking: A Top-Down Approach," 8th edition, Pearson 2021
  - Online version?
- Prerequisite
  - Heavy internet users
- What you should self-learn?
  - Python
  - Basic Linux commands



Jim Kurose (黑瀨)

English Teaching

- 5-10 minute Chinese
- Uniformly distributed in the class
- Welcome to ask questions in Chinese
- Homework/exam can be written in Eng/Ch

What Will be Covered?

- Overview and Introduction (Ch1)
- Network Application (Ch2)
  - HTTP, SMTP, DNS, DASH, P2P file sharing, etc.
- Transport services (Ch3)
  - TCP, UDP
- Network layer (Ch4-5)
  - IP, switching, routing, ICMP, SDN
- Link layer and wireless access (CH6)
  - LANs, error detection/correction, WLAN (WiFi)

Grading Policy

- Four Labs (32%)
  - Lab 0: git/python practice (2%)
  - Lab 1: Mininet topology and Wireshark
  - Lab 2: Ryu controller
  - Lab 3: Load balancing
- Two homework assignments (20%)
- Mid-term (25%)
- Final exam (25%)
- Participation (Quiz) (3%)
  - Get 1 point by asking or answering questions in each lecture
  - Get up to 3 points

normalize to 0-100

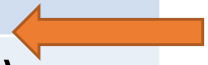
Grading Policy

- Late policy for homework assignments
  - (Your score) * 0.8^{D}, where D is the number of days over due
- Cheating Policy
  - Academic integrity
  - Exams must be your own
  - Homework must be your own – cheaters share the score
  - Both the cheaters and the students who aided the cheater will be held responsible for the cheating

Schedule

week	Lecture
1-2	Introduction
3-4	Network applications
5-7	Transport services
8	**Mid-term (2020/11/2)**
9-11	Network layer (Data Plane)
11-13	Network layer (Control Plane)
14-15	Link layer and wireless
16	**Final exam (2021/12/28)**

Lab1

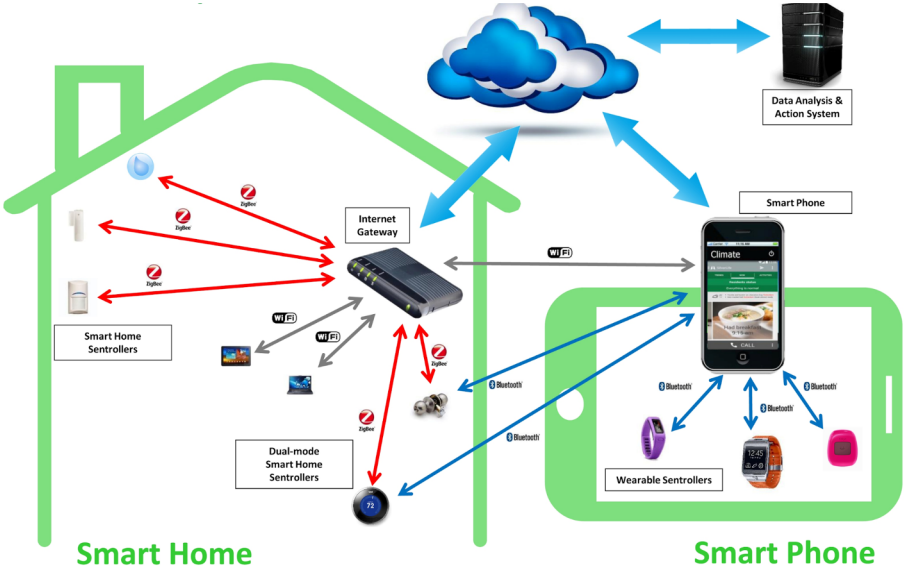


Lab 2

Lab 3

What is Networking?

- Devices connected by communication channels for
  - Information sharing: WWW, Facebook, Youtube
  - Resource sharing: Cloud computing (Amazon, Dropbox)



Permission Policy for Waiting List

1. International students
2. CS students, from senior to freshman
3. Cross-discipline students, from senior to freshman
4. Students who have ever took any programming class in CS, from senior to freshman

In each class: rank by random process

TODO

- Join Google Classroom
  - https://classroom.google.com/c/MzcyNDUxMTI0NDEy?cjc=pfj7k54
  - Online lecture will be recorded
  - Can only comment (Will start a stream for every lecture, HW, lab and assignment)
- Send personal info.
  - https://classroom.google.com/c/MzcyNDUxMTI0NDEy/a/MzIwNzUwOTA4MDMz/details
- Lab0: due 9/24 23:59