

# Computer Networks

@CS.NCTU

0: Syllabus

Instructor: Kate Ching-Ju Lin (林靖茹)

2019.09.10 (Tue)

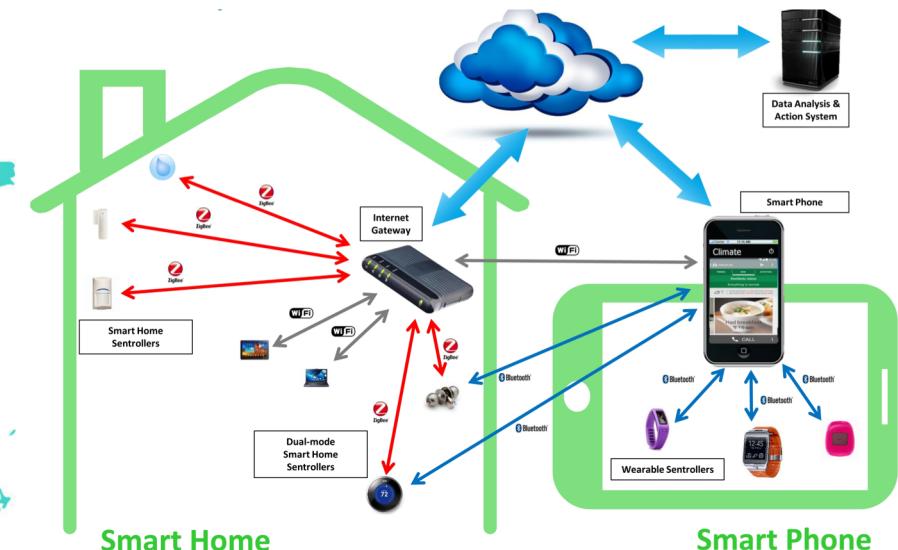
# Instructor

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- Kate Lin (林靖茹)
- Research:
  - *Wireless systems* (MIMO systems, full-duplex communications, mmWave Systems, WLANs)
  - *Software defined networking for deep learning* (service chaining, network function virtualization, SDN infrastructure design for DL training and testing)
  - *Mobile computing* (visible light communications, localization, RF-based sensing, mobile HCI)

# What is Networking?

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



# General Information

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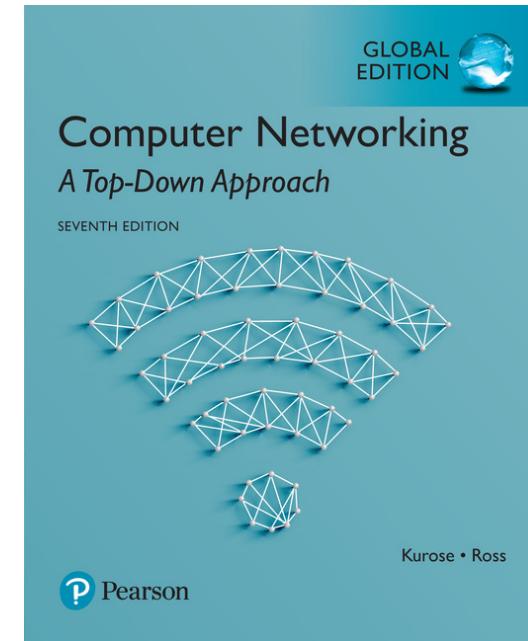
- Schedule
  - 2EF5B@EC022
- Instructor
  - Kate Ching-Ju Lin (林靖茹), EC-538
  - Office hours: Fri. 12:00pm – 2:00pm
- TA
  - 李陳洋 licg4210.cs07g@nctu.edu.tw
  - 劉又瑄 ay0756532.cs07g@nctu.edu.tw
  - Office hours: 4EF@EC-635



# Course Details

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- Textbook
  - James F. Kurose and Keith W. Ross, "Computer Networking: A Top-Down Approach," 7<sup>th</sup> edition, Pearson 2017
  - Online version?
- Prerequisite
  - Heavy internet users
- What you should self-learn?
  - Python
  - Basic Linux commands



Jim Kurose (黒瀬)

# What Will be Covered?

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- 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

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- Four Labs (32%)
  - Lab 0: git/python practice (2%)
  - Lab 1: generate packets using Scapy
  - Lab 2: *Mininet* topology generation
  - Lab 3: SDN controller
- Two homework assignments (15%)
- Mid-term (25%)
- Final exam (25%)
- Participation (Quiz) (3%)
  - Every week has a quiz
  - Each quiz is 1 point
  - Get up to 3 points

# Grading Policy

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- Late policy for homework assignments
  - $(\text{Your score}) * 0.8^D$ , 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

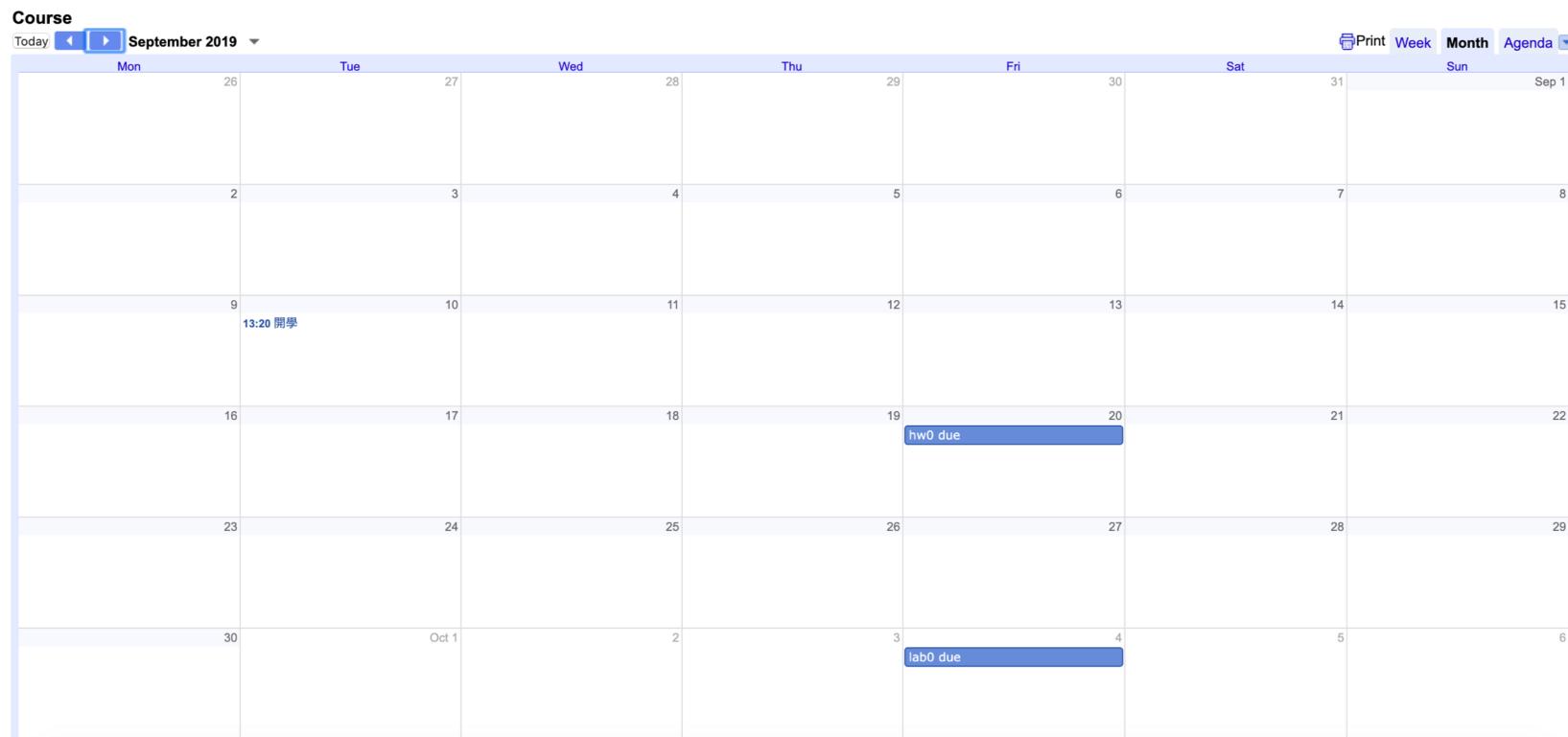
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week	Lecture	
1-2	Introduction	 <b>Lab 1</b>
3-5	Network applications	 <b>Lab 2</b>
6-8	Transport services	 <b>Lab 3</b>
10	<b>Mid-term (2019/11/12)</b>	
9-11	Network layer (Data Plane)	
12-14	Network layer (Control Plane)	
15-17	Link layer and wireless	
18	<b>Final exam (2020/01/06)</b>	

# Google Calendar

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- <https://calendar.google.com/calendar/embed?src=djbg14760dihf6t12sqfl7bul0%40group.calendar.google.com&ctz=Asia%2FTaipei>



# My Travel

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- 9/16-9/20: No class
  - Makeup: 9/26 (Thu.) 18:00-20:30
- 10/22 (Tue)
  - Introduction to Mininet and Ryu SDN controller
- 11/15 (Fri)
  - Mid-term, no class
- 11/22 (Fri)
  - Move to 5A (8:10-9:00)
- 11/29 (Fri)
  - Do 2XEF on 11/26

# Online Tools

- Other information
  - Facebook group: NCTU CN
- Grading on gradescope
  - url: <https://www.gradescope.com/>
  - Code: 96KYV6
  - tutorial: [https://www.gradescope.com/get\\_started](https://www.gradescope.com/get_started)
  - Homework assignments and exams
  - Fair and easy to grade
  - Will announce how we grade

The screenshot shows the Gradescope dashboard for course 1249, Fall 2019. The left sidebar includes links for Dashboard, Assignments, Roster, Course Settings, and Instructor (Kate Lin). The main area displays course details (1249, Fall 2019, Entry Code: 96KYV6), a description field (Edit your course description on the [Course Settings](#) page.), and a 'THINGS TO DO' section (Add students or staff to your course from the [Roster](#) page.). Below is a table of active assignments:

ACTIVE ASSIGNMENTS	RELEASED	DUE (CST)	SUBMISSIONS	% GRADED	PUBLISHED	REGRADES
Lab0: git/python exercises	SEP 10	SEP 25 AT 12:00AM	0	0%	<input type="radio"/>	ON
hw0: gradescope exercise	SEP 10	SEP 21 AT 12:00AM	0	0%	<input type="radio"/>	ON

# English Teaching

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- How many of you pick this as your first priority?
- How many of you pick this as your last priority?
- How many of you cannot speak any Chinese?
- How many of you are not good at both English and Chinese?

# English Teaching

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

# Permission Policy for Waiting List

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1. CS students, from senior to freshman
2. EE/ECE students, from senior to freshman
3. Students who have ever took any language class in CS, from senior to freshman
4. Students who have ever took any class in CS, from senior to freshman
5. Students from IMF or Math, from senior to freshman
6. Others, from senior to freshman

# TODO

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- Join Facebook group
- Signup for gradescope
- HW0: due 9/20
- Lab0: due 9/27