ECE 6383: High Speed Networks

2020 Fall

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Course Content

Lecture	Date	Contents
1	9/8 (Tue)	Introduction
2	9/15	Backbone Networks and MPLS
3 + Quiz	9/22	IP Routing
4	9/29	Software Defined Networks
5 + Quiz	10/6	Packet Switching
6 + Quiz	10/13	Buffer Management
7 + Quiz	10/20	Packet Scheduling
8	10/27	Midterm Exam (8:30-10:30 PM)
9	11/3	Datacenter Network
10 + Quiz	11/10	Network Function Virtualization I
11	11/17	Network Function Virtualization II
12 + Quiz	11/24	Resilient Networks
13 + Quiz	12/1	Advanced Flow and Congestion Control
14 + Quiz	12/8	Load Balancing in Core and Mobile Edge Computing
15	12/15	Final Exam (8:30-10:30 PM)

Instructor

- H. Jonathan Chao
  - Office: 370 Jay St, Room: 955
  - Tel: 646-997-3302
  - Email: chao@nyu.edu

- Office hour: Tue 8:30-9:30 PM
- When sending me an email, please
  - Include the course # (or it could be falsely classified as trash),

Pre-Requisites

- EE136, EL5373, or equivalent
- Familiar with at least one programming language (C, C++, Java, Python, PHP, …)

Books & Materials

- No recommended textbook
- Slides, lab materials and reading materials will be uploaded to NYU Classes
- Reference book:
  - Quality of Service Control in High-Speed Networks
    Authors: H. Jonathan Chao and Xiaolei Guo
    ISBN: 0-471-00397-2
    Publisher: John Wiley & Sons, November 2001

Quiz and Exam

- ❑ 8 quizzes
  - Dates are shown on slide #2, at 8:30-8:40 PM
  - Open books, open notes
  - Ture/false questions
- ❑ 2 exams
  - 10/27, 12/15 at 8:30-10:30 PM (online)
  - Open books, open notes
  - Multiple-choice questions, and short answer questions

Lab Schedules

	Topics	Dates Session 1	Dates Session 2
Lab 1	Basic Tools	9/15	9/16
Lab 2	Mininet	9/22, 9/29, 10/6*	9/23, 9/30, 10/7 *
Lab 3	Bufferbloat	10/13, 10/20*	10/14, 10/21*
Lab 4	OVS and NFV	11/3, 11/10, 11/17*	11/4, 11/11, 11/18*
Lab 5	Fast Re-Routing and Docker	11/24, 12/1, 12/8*	11/25, 12/2, 12/9*

- ❑ Lab Hours
  - Two Sessions, each with 2 hours per week (You can choose either one to attend)
  - Session 1: Tue 5:00-7:00 PM
  - Session 2: Wed 8:30-10:30 AM
  - * indicates the dates for lab demon of your lab assignment
- ❑ Labs are conducted online

Lab Assistants

☐ Peixuan Gao
- Email: pg1540@nyu.edu

☐ Minghao Ye
- Email: my1706@nyu.edu

Grading

- Lab: 25%
  - Lab 1: 3%
  - Lab 2: 6%
  - Lab 3: 4%
  - Lab 4: 6%
  - Lab 5: 6%
- Quiz: 20%
- Midterm Exam: 25%
- Final Exam: 30%

- Important: For fairness, no make-up exams, no misconduct

LATE SUMISSION POLICY AND ACADEMIC MISCONDUCT

□ 1-day late: 30% off; 2-day late: 70%off; 3 or more days: no grade

❑ Students are encouraged to discuss the labs, reports and homework with each other. However, except for team projects, your written submission, lab reports and exam papers, must be your own work. The first violation of this policy will result in zero point on that assignment and a reduction in your final grade (for example, from B+ to B). A second violation will result in an F grade. For additional information see school's Student Code of Conduct.

Moses Center Statement of Disability

□ If you are student with a disability who is requesting accommodations, please contact New York University's Moses Center for Students with Disabilities (CSD) at 212-998-4980 or mosescsd@nyu.edu. You must be registered with CSD to receive accommodations. Information about the Moses Center can be found at www.nyu.edu/csd. The Moses Center is located at 726 Broadway on the 2nd floor.