

EL 6383: High Speed Networks

2020 Spring

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Course Content

Lecture	Date	Contents	Lab
1	1/30	Introduction	
2	2/6	Backbone Networks and SONET + Lab1 lecture	Lab 1
3	2/13	Multi-Protocol Label Switching (MPLS) + Lab2 lecture	Lab 2
4	2/20	IP Routing	
5	2/27	Active Queue Management	
6	3/5	Packet Scheduling I	
7	3/12	Packet Scheduling II + Lab3 lecture	Lab 3
8	3/26	Midterm Exam	
9	4/2	Software Defined Networks	
10	4/9	Network Function Virtualization I	
11	4/16	Network Function Virtualization II + Lab4 lecture	Lab 4
12	4/23	Resilient Networks	
13	4/30	Advanced Flow and Congestion Control	
14	5/7	Load Balancing in Core and Mobile Edge Computing	
15	5/14	Final Exam	

Instructor

□ H. Jonathan Chao

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

□ Office hour: Tuesday. 2:00pm - 3:00pm
or email me for an appointment

□ 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

Exam

- Two exams
- Close book
- A letter-size, double-sided reference sheet is allowed
- T/F, short answers, calculations, designs

Labs

- ❑ Lab 1: Tutorial of Python
- ❑ Lab 2: Mininet and Bufferbloat
- ❑ Lab 3: Network Function Virtualization with DPDK
- ❑ Lab 4: OSPF with Fast Re-Routing and Docker

- ❑ Lab Lectures:
 - Lab 1: 15 mins
 - Lab 2- Lab 4: 20 mins each.
- ❑ Lab Hours
 - Two Sessions, each with 2 hours per week (You have to choose one session to attend)
 - TBD
- ❑ Lab Location
 - LC 001

TA

□ TBD

Grading

- Lab: 25%
 - Lab 1: 3%
 - Lab 2: 6%
 - Lab 3: 8%
 - Lab 4: 8%
- Homework: 5%
- Quiz: 10%
- Midterm Exam: 30%
- Final Exam: 30%

- Important: For fairness, no late turn-in will be accepted, no make-up exams, no misconduct

POLICIES AND PROCEDURES ON ACADEMIC MISCONDUCT

- Please refer to the content in the following link:

<http://engineering.nyu.edu/academics/code-of-conduct/>

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