IERG 6154: Network Information Theory

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Lectures

The course will be given by **Chandra NAIR**.

Venue details

- **Mondays** from 15:30 to 17:15, in SHB 801 & Zoom
- **Wednesdays** from 13:30 to 15:15 , in SHB 801 & Zoom

ZOOM:
https://cuhk.zoom.us/j/95192247570?pwd=OHJNMXBpbWhyd0RTV01PWTE0TGZoZz09
Meeting ID: 951 9224 7570
Passcode: 7s630x

My office hours for this class (SHB 811)

- **Tuesdays** from 2:00 pm to 3:00 pm

Course material

- Class Notes
- Reference: Network Information Theory
    - By Abbas El Gamal and Young-Han Kim
    - Cambridge University Press
    - Highly recommended

Course Outline

1 Introduction
2 Review of basic information theory
3 Point-to-Point Information Theory
4 Multiple Access channels
5 Degraded broadcast channels
6 Interference channel
7 Channels with State
8 General broadcast channel
9 Gaussian vector channels
10 Distributed lossless source coding

Online resources

Direct your browser to

<p style="text-align:center"><code>http://elearn.cuhk.edu.hk/</code></p>

and login using your CUHK Computing ID and CWEM password.

Main communication channel between teacher and students

- PIAZZA - all discussions will be hosted there
  - Signup link: piazza.com/cuhk.edu.hk/spring2021/ierg6154
  - Class link: piazza.com/cuhk.edu.hk/spring2021/ierg6154/home

Percentages

The final mark will be a weighted sum of three items

- Homeworks   20%
- Written examination (take home)   40% - third week of April !!
- Project   40%

Written examination

Examination details

- Take home, multi day examination
    - Give-out: Wednesday, Hand-in: Monday
- Please refrain from using internet
- No collaboration

Projects

- List of topics handed out in late-February
- Self-suggested topics also welcome
- We will reserve a day for project presentations
- You are welcome to talk to me

Academic Honesty

- Please read: https://www.cuhk.edu.hk/policy/academichonesty/