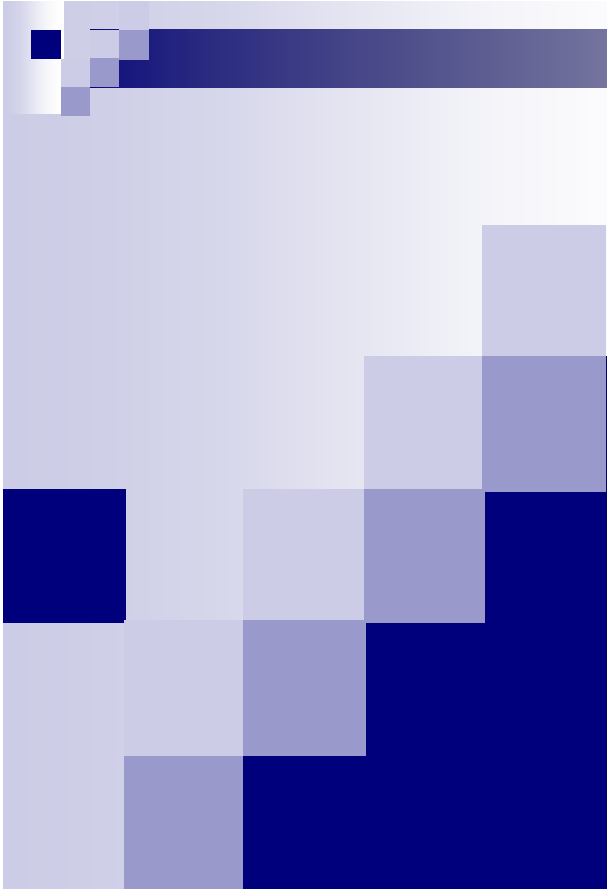




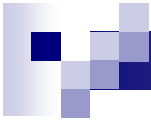
Broadband Mobile Communications

Syllabus



Logistics

- Instructor: Jung-Chun Kao (高榮駿)
 - Email: jungchuk@cs.nthu.edu.tw
 - Office hour: Tue. 5:30 – 6:30pm (台達館 609)
- TAs: See the class webpage for
 - TAs' names, office hours, and contact information
- Meeting times
 - Tuesdays 3:30 – 5:20pm (台達館106)
 - Thursdays 3:30 – 4:20pm (台達館106)
- Class web page
 - **ee**class (<https://eecclass.nthu.edu.tw>)
 - My personal homepage (<http://www.cs.nthu.edu.tw/~jungchuk>)



Textbook and reference

- My handouts

- ☐ No textbook

- References

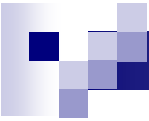
- ☐ A. Kumar, D. Manjunath, and J. Kuri,
“Wireless Networking,” 2008, Morgan
Kaufmann Publication

- ☐ J. G. Andrews, A. Ghosh, and R. Muhamed,
“Fundamentals of WiMAX,” Prentice Hall



Tentative evaluation

- Homework (10%)
 - ☐ No late homework is accepted!
- Midterm and final exams (40% each)
 - ☐ Midterm exam on 10/21
 - ☐ Final exam on 12/16 (in the 16th week)
 - ☐ No make-up!
- Participation (10%)
 - ☐ Online questionnaire (5%) included
 - ☐ No roll call; don't ask for leave



Tentative syllabus

- Basic topics

- ☐ Communication systems, wireless channel impairments (e.g., co-channel interference, path loss, shadowing, inter-symbol interference, channel fading, noise) and models, modulation and signal constellation, multiple access, cellular network concept

- Core topics

- ☐ OFDM (Orthogonal Frequency Division Multiplexing)
- ☐ Resource allocation

- Advanced topics

- ☐ Brief introduction on filtered-OFDM
- ☐ Brief introduction on non-orthogonal multiple access (NOMA)
- ☐ MIMO (multiple-input and multiple-output), optional



Pre-requisites

- Required

- Undergrad-level engineering mathematics

- Calculus, probability, ...

- Recommended but not required

- Introduction to computer networks, ...