

COM 5342 行動電信網路
Mobile Telecommunications Networks

教師: 楊舜仁 博士

sryang@cs.nthu.edu.tw

Office: 台達館 608R Tel: 31212

References (1/4)

➤ Reference Books

- 個人通訊服務網路，賴薇如編，維科圖書有限公司。
- *Wireless and Mobile Network Architectures*，Yi-Bing Lin and Imrich Chlamtac，Wiley Computer Publishing。
- *Wireless and Mobile All-IP Networks*，Yi-Bing Lin and Ai-Chun Pang，Wiley Computer Publishing。
- *WCDMA for UMTS*，John Wiley & Sons。
- *UMTS Networks – Architecture, Mobility and Services*，John Wiley & Sons。
- *Evolved Packet System – The LTE and SAE Evolution of 3G UMTS*，John Wiley & Sons。

References (2/4)

- Web Site: <http://www.3gpp.org>
- Magazines:
 - ACM Mobile Computing and Communications Review
 - IEEE Wireless Communications Magazine
 - IEEE Communications Magazine
 - IEEE Network

References (3/4)

➤ Journals:

- IEEE Transactions on Vehicular Technology
- IEEE Journal on Selected Areas in Communications
- IEEE Transactions on Mobile Computing
- IEEE Transactions on Computer
- IEEE Communications Letter
- IEEE Transactions on Wireless Communications

References (4/4)

➤ Journals:

- Journal of Wireless Communications and Mobile Computing
- ACM/Springer Mobile Networks and Applications
- ACM/Springer Wireless Networks

➤ Conferences:

- INFOCOM, MobiCom, MobiHoc, etc.

Goal

- Learn the concept of Personal Communications Service Systems.
- Specifically, study the operation of mobile systems and protocols used in Taiwan, e.g., SS7, GSM, GPRS, UMTS, LTE, etc.
- Study how to implement mobile applications. Students will be asked to implement a SIP-based Voice over Internet Protocol (VoIP) service.

Course Topics (1/2)

- 個人通訊服務簡介 (Introduction to Personal Communications Services)
- 電信網路信令協定 (Telecommunication Signaling Protocol)
- GSM系統 (GSM System)
- Voice over Internet Protocol
 - RTP, RTCP
 - SIP
- GPRS 系統簡介 (GPRS System Overview)
- UMTS 簡介 (Introduction to UMTS)
- 高速封包存取 (High Speed Packet Access)
- UMTS 之 All-IP 網路 (UMTS All IP Networks)
- The LTE and SAE Evolution of 3G UMTS
- Femtocell
- Machine-to-Machine Communications

Course Topics (2/2)

- Performance modeling/evaluation issues within the above different topics

Office Hours & Teaching Assistant

- Office Hours: By appointment
- TA: 陳怡貝, 台達館 705R, Tel: 80920
clairecc0963@gmail.com
- TA: 張正廷, 台達館 705R, Tel: 80920
qting0529+ta@gmail.com

Course Website

➤ <http://wmnet.cs.nthu.edu.tw/Course/PCS2013>

Evaluation

- 期中考 (25%)
- 3 Programming Projects
(40% = 10% + 15% + 15%)
- 期末口頭報告 (15%)
- 期末書面報告 (20%)