EE 555 – Wireless and Mobile Networks

Course Objective: This course covers fundamentals, principles as well as evolving research on wireless networks. Emphasis will be on the networking aspects (layer 2 and up), with examples from state-of-the-art wireless technologies and systems such as wireless mesh networks, wireless sensor networks, LTE, WiMax, WiFi etc.

Instructor: Özgür Gürbüz, Room #1109
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Class Hours: Mondays 11:40 – 13:30 (FMAN G056)
(can be changed) Thursdays 12:40 – 13:30 (FMAN G056)

Course Text: 
Wireless Communications and Networking, Vijay Garg, Morgan Kaufmann, 2010

Wireless Communications and Networking, William Stallings, Prentice Hall, 2005


We will also be reading journal articles on relevant topics.

Grading: 
Midterm 25%
Final 40%
Homework 10%
Project 25%

Topics to be covered:

Week 1: Overview of Wireless Systems/Networks
Weeks 3-4: Wireless Multiple Access Techniques
Weeks 5-6: Principles of Cellular Design
Weeks 7-9: Wide Area Wireless Networks
Planning and Design of Wide Area Wireless Networks
Mobility Management in Wireless Networks
Week 10: Wireless Local Area Networks: WiFi Technology and Enhancements
Week 11: Wireless Personal Area Networks: Low Rate & High Rate
Week 14: 5G and Beyond