EEL 6591: Wireless Networks

Spring 2021

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Prerequisites: EEL 4598/5718: Computer Communications or the instructor's consent.

Textbook: *Wireless Communications: Principle and Practice* by Theodore Rappaport, Second Edition, Prentice-Hall, 2002.

References: 1. *Wireless and Mobile Network Architecture* by Yi-Bing Lin and Imrich Chlamtac, John Wiley & Sons, 2000. **2**. Technical Papers.

Topics include:

- 1. Overview of wireless communication networks and protocols
- 2. The cellular concept: system design fundamentals
- 3. Wireless physical layer fundamentals
- 4. Data link control protocols
- 5. Wireless medium access control (MAC) protocols
- 6. Radio resource management (power control)
- 7. Resource allocation and Call admission control
- 8. Mobility management
- 9. Wireless networking (routing/rerouting, wireless TCP/IP)
- 10. Revolution/evolution towards future generation wireless networks (4G/5G/6G)
- 11. Selected topics: wireless ad networks, vehicle networks, Internet of Things (IoT), cognitive radio network, machine learning.

Grading: Homework-15%, One exam-50%, and Project-35%.

Academic honesty statement: All students admitted to the University of Florida have signed a statement of academic honesty committing themselves to be honest in all academic work and understanding that failure to comply with this commitment will result in disciplinary action. This statement is a reminder to uphold your obligation as a student at the University of Florida and to be honest in all work submitted and exams taken in this class and all others.