

EE520: Topics in Communications: Secure Wireless Communications

Spring 2018

Instructor:

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Lectures:

MW 11:00-12:20

Course Description:

This course provides a strong foundation for graduate study and research in the area of secure wireless communications. The first half of this course covers wireless channel characteristics, fundamentals of wireless communications, and modern wireless communication techniques. The second half of this course is devoted to the physical-layer secure communications. Primary topics for the course are:

- Wireless channel characteristics
- Capacity of wireless channels
- Multiple antenna communications
- Physical-layer security
- Covert communications, information hiding
- Spread-spectrum communications

As part of the course work, students are required to write a term paper on a topic relevant to secure wireless communications. This paper can be either a thorough literature survey on a specific topic, or a study presenting an original research contribution in the field. Papers should demonstrate understanding of the material taught. More information about the project requirements will be discussed in the first week of the semester.

Suggested Background:

Probability, undergraduate course in digital communications (EE422 or equivalent)

Grading:

Grading is based on homeworks, paper readings and presentations, and term project; no mid-term/final exam is planned. The weights for the final grade are as follows:

- Homeworks:30% (early part of classes)
- Class participation: 30% (paper readings and presentations)
- Project: 40%

Disability Statement:

If you have a documented disability and anticipate needing accommodations in this course, please request that a Disability Resources (DR) staff send a Student Academic Accommodation Request (SAAR) form verifying your disability and specifying the accommodations you will need. DR is located in Room 1076 of the Student Services Building.