



Wireless Networks

ECE 6102

Credit Hours:

3.00 - 3.00

Course Levels:

Graduate (5000-8000 level)

Course Components:

Lecture

Course Description:

Design principles and communication algorithms for wireless networks with a focus on MAC and routing protocols, scheduling algorithms, power control, and scaling properties.

Course Goals / Objectives:

- Be fluent in fundamentals of scheduling, rate allocation, power control, and scaling laws in wireless networks
 - Learn MAC and routing protocols for single and multi-hop networks, and cross-layer design principles
 - Improve their communication skills through presenting the state-of-the-art papers in class and writing research-oriented term papers
 - Be trained in independent or team research to formulate and solve a real-life networking problem through their research-oriented term projects
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Course Topics:

- Wireless communication basics, propagation, and the wireless channel
 - MAC layer design and scheduling
 - Rate allocation and power control
 - Cellular design and channel allocation
 - Routing in multi-hop wireless networks
 - Scaling Laws for multi-hop networks
 - Cross layer design
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Designation:

Elective