The University of Texas at Tyler  
Department of Electrical Engineering  

EENG 5301: Wireless Communications and Networks  

Syllabus  

Catalog Description:  

Introduction to Wireless Communications and Networks: transmission fundamentals, LANs, MANs, WANs, switching, ATM, TCP/IP; Wireless Communications: antennas, propagation, signal encoding, spread spectrum, error control; Wireless Networking: satellite communications, cellular networks, analog, TDMA, CDMA, cordless systems, wireless local loop, mobile IP, WAP; Wireless LANS: infrared, spread spectrum, microwave, IEEE 802.11, Bluetooth. Prerequisite: EENG 4312 or CI.

Prerequisites: Communications Theory  

Credits: 3 (3 hours lecture, 0 hours laboratory per week)  

Text(s): Stallings, Wireless Communications and Networks, Prentice Hall, 2002  

Additional Material: MATLAB  

Course Coordinator: Hector A. Ochoa, Assistant Professor  

Topics Covered: (paragraph of topics separated by semicolons)  


Evaluation Methods: (only items in dark print apply):  

1. Examinations / Quizzes  
2. Homework  
3. Report  
4. Computer Programming  
5. Project  
6. Presentation  
7. Course Participation  
8. Peer Review  

Course Objectives: By the end of this course students will be able to:  

1. Discuss communication fundamental this include: transmission, communication networks and protocols [1,2,3,5]  
2. Describe and simulate the different types of wireless communications technologies and its applications [1,2,3,5]
3. Identify the different wireless networking: principles, technologies and standards [1,2]
4. Apply the concepts of wireless communications and networks to real life scenarios. [3,5]

*Numbers in brackets refer to method(s) used to evaluate the course objective.*

**Relationship to Program Outcomes**: This course supports the following Electrical Engineering Program Outcomes, which state that our students will:

1. Graduates of the program will possess a breadth and depth of knowledge in electrical and computer engineering. [1,2,3,4]
2. Graduates of the program will possess and demonstrate oral and written communication skills. [1,2,3,4]
3. Graduates of the program will demonstrate the capability to perform independent learning and investigation.[1,2,3,4]

*Numbers in brackets refer to course objective(s) that address the Program Outcome.*