

**ECE 3656 Mobile and Wireless Networking
Spring 2002**

SYLLABUS

The class meets Monday and Wednesday from 4pm to 5:40pm in RY 159.

Instructor:

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Office hours: Wednesday, from 2:00pm to 3:50pm.

Prerequisites: ECE 3511, and knowledge of C or C++.

Textbook: 1. *Wireless and Mobile Network Architectures*, Yi-Bing Lin and Imrich Chlamtac, John Wiley and Sons, 2001. 2. Notes from the instructor.

Course Objectives: To introduce to the fundamental techniques and protocols of the two main wireless networks architectures, namely cellular networks (second generation and emerging third generation systems) and ad hoc networks. The course examines the characterizing aspects of these wireless architectures and introduces to related problems and solutions.

Topics: Mobile Ad Hoc Networks: MAC layer solutions, multipoint communication protocols (routing, multicast, broadcast), clustering protocols. Enabling Technologies: Bluetooth and IEEE 802.11. Cellular systems: mobility management and signaling within mobile networks, common air interfaces. IS-41, GSM and wireless data networking (CDPD).

Project: Performance evaluation of network layer protocols for all mobile networks (ad hoc networks). You will be required to write a simulator for evaluating the performance of protocols for setting up or implementing multipoint communication in ad hoc networks. The project will span the whole term and it is **due** the week prior final week.

Grades: Homework: 20%. Project: 40%. Final exam: 40%.

Student Responsibilities: Homeworks are due in class on the specified date. Turn in what is completed by the deadline for partial credits. No late submission will be accepted. ("No shows" will obtain 0 points.) *If k is the total number of homework assigned, at least $\lceil \frac{k}{2} \rceil$ of the homework have to be turned in for passing the class with more than a B.*

All submissions must be your own work. Identical, or semi-identical assignments will not be accepted.

Class attendance is responsibility of each individual. If a student should elect not to attend a class, s/he is responsible for any handouts, announcements, reading material and content of missed lecture.

Scholastic dishonesty (e.g., cheating, plagiarism, collusion, record falsification, etc.) will be punished according to NU policies and standards.

The present syllabus is intended as an informal outline of the class and it is subject to modifications with notice given in class.

Further information can be found at: <http://www.ece.neu.edu/courses/ece3656/>