## ECSE-6962 Fall '04

## **Mobile & Wireless Networks**

Mondays & Thursdays, 4:00-5:20 Low-3130

## **Professor Alhussein Abouzeid**

## **Course Syllabus**

- I. Medium Access Control
  - a. ALOHA
  - b. CSMA
  - c. RTS/CTS
  - d. 802.11 capacity analysis (single cell)
  - e. Multihop capacity and connectivity
  - f. MAC in Sensor Networks (e.g. S-MAC)
- II. MAC Resource Allocation and Scheduling
  - a. Throughput maximization with and without fairness
  - b. Constrained Graph & Coloring
- III. Routing
  - a. DSR and AODV
  - b. Analysis of Reactive Routing
  - c. Location-aided routing
  - d. Hierarchical Routing (CBRP and alpha,t)
  - e. Power-aware routing
- IV. Mobility Models for Ad-hoc Networks
  - a. A survey of entity mobility models
  - b. A survey of group mobility models
  - c. Long-run analysis of random waypoint model
- V. Transport Protocols for ad-hoc networks
  - a. Mobile ad-hoc networks
  - b. Sensor Networks
- VI. Sensor Networks Applications
- VII. Cellular Networks