

EE 597

WIRELESS NETWORKS

- Phy Layer ($\sim 1/4$ of the course)
for more detailed coverage: EE 535
(mobile comm.)
- Radio propagation models
- Digital modulation:
tradeoffs between Rate, Power, & Error

- Aspects of fading:
 - fast / slow
 - flat / freq.-selective fading
- (FDMA)
- CDMA & OFDM
- MIMO & Diversity schemes
- Coding

• Medium Access & Resource Allocation (40%)

- Randomized Access:

Aloha / Slotted Aloha

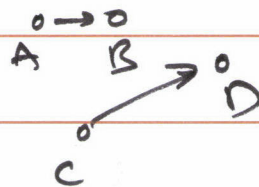
CSMA (IEEE 802.11x)

Throughput/Capacity Region &

Saturation Throughput Analysis

(will make heavy use of EE 465 material here)

Power control over independent links



Power control over parallel channels - Waterfilling.

Channelized Access (TDMA/FDMA)

in multihop settings & for cellular:

Graph Coloring Applied