



**CS439 – Wireless Networks and
Mobile Computing
Spring 2011
Important reading material for the
final exam
Professor: Maria Papadopouli**

IMPORTANT: The reading material for your final exam contains ALL the lectures and everything mentioned in the class. The following document just outlines some important thing you should review before the final exam and may be material for questions of judgment.

Notes on Channel Models

Section 3.9.1

Table 3.2 path-loss exponents

Section 3.9.2

Formula 3.69a

Figure 3.17

Section 3.9.3

Chapter 4

Section 4.1

Section 4.1.1

Section 4.1.2

Section 4.2 what is impulse response

Page 11-19 meaning of delay spread

Figure 4.10

Section 4.5

Channel Models: a survey

Meaning of shadowing, diffraction, reflection, scattering etc (very important)

Figure 3

Figure 4

Radio propagation models: Free-space model, two-ray model

Page 1-7 (very important)

Section 2.4.1 and 2.4.2 (Longley-Rice and Okumura Model)

Table IV (first two entries)

LECTURE 1

Slides 85,88

Modulation types (very important): Slides 97-117

Multiple Access Protocols (OFDM, CDMA etc)

Meaning of spatial-reuse

Very important: Slide 83

LECTURE 2

VERY IMPORTANT:

802.11 backoff mechanism

DCF

Other important stuff:

Virtual carrier sensing

DCF vs. PCF

Rate adaptation

How to find the maximum throughput in a Wireless LAN

Channel switching

Slide 81: dynamic adaptation

Slides 80, 70,71,72,73,74

LECTURE 3

Slides 2, 6, 7, 8, 9, 10, 24, 25, 28, 29, 36, 37

LECTURE 4

Borriello: A survey and taxonomy of location-sensing systems

Slides: 4,5,6,9,12

What is GPS? Everything about GPS

Fingerprinting method (possible question)

Cricket location sensing system

LECTURE 5

Slides 5,14,15

Subjective tests guidelines: methodology

Cognitive radios (1)

Slides 3,4,5,7,8,10,11(SOS), 12,13,14,15,16,17,18,19

Cognitive radios (2)

Slides: 7,8,9,13,19,24