

EE 535: Mobile Communications

Spring 2017

Lecture: Monday, Wednesday 3:30 – 4:50 p.m. in OHE 136

Instructor: Christopher Wayne Walker, Ph.D.

Office: PHE 414

Office Hours: Monday 5:00 – 6:00 p.m., Wednesday 5:15 – 6:30 p.m.

Daytime phone: (213) 740-7654 - USC during office hours

or (310) 812-5176 (voicemail available)

email: cwwalker@cwvphd.com

Discussion: 12:30 – 1:20 p.m. in OHE 120

TA: YongLong Zhang

Office Hours: TBD

Course web page: DEN website

Text: Required: Wireless Communications, 2nd edition,

Author: A.F. Molisch

First Lecture: Monday, January 9

Last Lecture: Wednesday, April 26

No class: Monday, Jan. 16 (MLK Day), Monday, Feb. 20 (Presidents' Day)

No class: Monday, March 13 and Wednesday, March 15 (Spring Recess)

Course Grading Policy:

Method	Date	Weight
Homework	As assigned in class	25%
Midterm	Wednesday, March 8, 3:30 – 4:50 p.m.	35%
Final	Friday, May 5, 2-4 p.m.	40%

Notes: One 8 ½ x 11 sheet of notes (front and back) is allowed on the Midterm. Two such sheets are allowed on the Final. Calculators are allowed on all exams. No computers or cell phones are allowed on exams nor is any device allowed that has internet capability.

Contact Information: You are welcome to consult with me or your TA during office hours. Please consult with the TA only during his office hours (he is busy with studies like you are). If my office hours are not convenient for you or else you have a question that needs addressing before you can see me then you are welcome to call or email me. Email is the preferred method of contact if I can answer your question with an email response, but if we need to have more interaction then you are welcome to call me at my office. If you call and I cannot speak with you immediately then I will set up a time to call you back to discuss any issues or concerns you may have. I want this course to be a positive learning experience for you so please make sure you get all your questions answered.

Homework: Homework will be assigned regularly. You may work with others on the homework assignments but the work you hand in must be your own and not copied from another student. Late homework is not accepted.

EE 535 Outline

Spring 2017

Inst: C.W. Walker

Chapter	Title	Sections*
1	Applications and Requirements of Wireless Services	All
2	Technical Challenges of Wireless Communications	All
3	Noise- and Interference-Limited Systems	All
4	Propagation Mechanisms	4.1, 4.2, 4.31, 4.41, 4.5, App. 4A
9	Antennas	All
5	Statistical Description of the Wireless Channel	5.1 – 5.4
6	Wideband and Directional Channel Characterization	6.1 – 6.3
7	Channel Models	7.1 – 7.5
10	Structure of a Wireless Communication Link	All
11	Modulation Formats	11.1 – 11.3
12	Demodulation	12.2, 12.3
13	Diversity	13.1 – 13.6
14	Channel Coding and Information Theory	14.1 – 14.4
17	Multiple Access and Cellular Principle	17.1 – 17.3, 17.5, 17.6
18	Spread Spectrum Systems	18.1 – 18.4
19	Orthogonal Frequency Division Multiplexing (OFDM)	19.1 – 19.5, 19.8 – 19.11

* Lectures will not necessarily cover all the material in the indicated sections but rather the material deemed the most important by the instructor.

The above outline is tentative and may change if circumstances warrant.