ECSE-6961: Fundamentals of Wireless Broadband Networks
Spring 2007 Tentative Schedule:


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JANUARY:

1/2 January 16th/Jan 19th, 2007
Lecture 1: Introduction to Wireless Broadband Networks (T/V: Chap 1, G: Chap 1)
Lecture 2: Introduction to Wireless Broadband Networks (T/V: Chap 1, G: Chap 1)

3/4 January 23rd/Jan 26th, 2007
Lecture 3: The Wireless Channel (T/V: Chap 2, G: Chap 2,3; handout)
Lecture 4: The Wireless Channel (T/V: Chap 2, G: Chap 2,3; handout)

Jan 30th (see below)

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FEBRUARY:

5/6 Jan 30/Feb 2nd, 2007
[Instructor away: guest lectures by Prof. Ken Connor, Prof. Alhussein Abouzeid (details to be announced)]
Lecture 5: Prof. Ken Connor, RF Propagation, Electromagnetics, Antenna Design etc
Lecture 6: Prof. Alhussein Abouzeid, Capacity of Wireless Channels, (T/V: Chap 5, Appendix B, G: Chap 4)

7/8 February 6th/Feb 9th, 2007
Lecture 7: The Wireless Channel … Contd (T/V: Chap 2, G: Chap 2,3; handout)
Lecture 8: Capacity of Wireless Channels (contd..), (T/V: Chap 5, Appendix B, G: Chap 4)
9/10 February 13th/Feb 16th, 2007
Lecture 9: Point-to-Point Communication: Modulation, Coding, Detection, Diversity
(T/V: Chap 3, Appendix A, G: Chap 5,6,7,8,9,11)

Lecture 10: Point-to-Point Communication: Modulation, Coding, Detection, Diversity
(T/V: Chap 3, Appendix A, G: Chap 5,6,7,8,9,11)

11 February 20th/Feb 23rd, 2007
NOTE: February 20 Follow Monday class schedule. No class.
Lecture 11: EXAM 1 (Feb 23rd)

Feb 27th (see below)

MARCH:

12/13 February 27th/March 2nd, 2007
Lecture 12: Point-to-Point Communication: Modulation, Coding, Detection, Diversity
(T/V: Chap 3, Appendix A, G: Chap 5,6,7,8,9,11)

Lecture 13: Point-to-Point Communication: Modulation, Coding, Detection, Diversity
(T/V: Chap 3, Appendix A, G: Chap 5,6,7,8,9,11)

{March 5-9 - NO CLASSES - Spring Break.}

14/15 March 13th/March 16th, 2007
Lecture 14: Cellular Systems: GSM, CDMA, OFDM (T/V: Chap 4, G: Chap 12,13,15)
Lecture 15: Cellular Systems: GSM, CDMA, OFDM (T/V: Chap 4, G: Chap 12,13,15)

16/17 March 20th/Mar 23rd, 2007
Lecture 16: Cellular Systems: GSM, CDMA, OFDM (T/V: Chap 4, G: Chap 12,13,15)
Lecture 17: Cellular Systems: GSM, CDMA, OFDM (T/V: Chap 4, G: Chap 12,13,15)

18/19 March 27th/Mar 30th, 2007
Lecture 18: Multi-user Commns:TDMA/CDMA/OFDMA/CSMA (T/V: Chap 6, G: Chap 9)
Case Study Choices Communicated to TA (March 27th)
Lecture 19:  EXAM 2: (March 30th)

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APRIL:

20/21  April 3rd/April 6th, 2007
Lecture 20: Multi-user Commns: TDMA/CDMA/OFDMA/CSMA (T/V: Chap 6, G: Chap 9)
Lecture 21: MIMO/ST-coding and Spatial Multiplexing (T/V: Chap 7-9, G: Chap 10)

22/23  April 10th/April 13th, 2007
Lecture 22: MIMO/ST-coding and Spatial Multiplexing (T/V: Chap 7-9, G: Chap 10)
Lecture 23: MIMO/ST-coding and Spatial Multiplexing (T/V: Chap 7-9, G: Chap 10)

24/25  April 17th/April 20th, 2007
Instructor may be away: Guest Lecture(s) or Pretaped Lecture
Lecture 24: Prof. Mona Hella, RF Circuit Design Challenges for Modern Wireless
Lecture 25: TBD
TIME PERMITTING

26/27  April 24th/April 27th 2007
Case Study Due (April 27th)
Lecture 26: MIMO Multi-User (T/V: Chap 10, G: Chap 10, 14.9)
Lecture 27: Cross-layer design, Research challenges, wrapup

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28  May 1st 2007

EXAM 3:  1st part of class