WRIGHT STATE
UNIVERSITY

EE 421/621: Communication Theory

SYLLABUS - Fall 2006

Instructor: Dr. Zhiqiang Wu
Office: 421 Russ Engineering Center
Email: Zhiqiang.Wu@wright.edu
Office Hours: MW 11:00-12:00am, 4:00-5:00pm

Class Time and Place: TBD

Credits: 4.00

Prerequisites by topic:

- Fourier series and transforms.

- Probability and random variables.

- Fundamental matrix theory and vector analysis.

- Linear system theory; impulse response and convolution.

Course Description: This course provides an introduction to digital communications systems and theory. Topics include: sampling and quantization, baseband transmission, modulation and demodulation, communication channel and multiple access.

Project Description: We will conduct projects using MATLAB to simulate digital communication systems. The projects will be closely related to the course topics.

Textbook: Carl R. Nassar, *"Telecommunication Demystified"*, LLH Technology Publishing

Reference Books:

- John G. Proakis and Masoud Salehi, *"Communication Systems Engineering"*, Prentice-Hall, 2nd Edition, 2002.

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- John G. Proakis, *Digital Communications*, McGraw-Hill, 4th Edition, 2000

- William C. Jakes, *Microwave Mobile Communications*, IEEE Press, 1974

Grading:

Homework: 20%
Project: 30%
Midterm Exam: 20%
Final Exam: 30%

Course Outline:

Components of Digital Communication System
Baseband Transmission
Modulation and Demodulation
Channel Modeling
Sampling and PCM
Other topics

Class attendance:

Attending and actively participating in lecture is a requirement of this course. If you cannot attend a lecture, please make sure that you can obtain a set of lecture notes from a classmate. You are responsible for all information given in class verbally or in writing.

Academic Honesty:

Academic honesty is fundamental to the activities and principles of a university. All members of the academic community must be confident that each person's work has been responsibly and honorably acquired, developed, and presented. Any effort to gain an advantage not given to all students is dishonest whether or not the effort is successful. The academic community regards academic dishonesty as an extremely serious matter, with serious consequences that range from probation to expulsion. When in doubt about plagiarism, paraphrasing, quoting, or collaboration, consult the course instructor. Academic honesty is each student's responsibility. You are responsible for not cheating and not allowing anyone to cheat from you. If there is evidence of cheating on examinations, the minimum penalty will be a zero for all parties involved. Evidence of cheating also will be reported to Electrical Engineering chairman in accordance with University guidelines for dealing with academic dishonesty.