2.163J/6.455J/12.518  
Sonar, Radar and Seismic Signal Processing  
Fall 2006

Administrative Information

Instructors: Prof. Arthur B. Baggeroer  
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Administrator: Mr. Geoffrey Fox  
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Office hours: Inst: M/W 4:00 - 5:00 @ 5-204  
TA: Th 2:00 - 4:00 @ 5-345

Text: There is no single text that is appropriate for the subject. We will use class notes supplemented by journal articles and selected readings. A reference list will be distributed.

Quizzes: There will be three quizzes during the semester. The second one will be a take home quiz. You may use your class notes during the "in-class" quizzes. You may use any texts or references for the take home quiz, but they must be cited. There is no final.

Homework: Homework will be assigned approximately every other week. We will have several "computer assisted" problems this semester. While MATLAB has proven to be the most convenient language for this, others are certainly acceptable. We will discuss the most convenient form of implementing this in class. You may discuss the homework with classmates but we expect that the solutions and computer programs to be your own efforts.

Grades: The quizzes each count 30% and the homework 10% in forming an initial grade determination. The opinions of the instructor and
the teaching assistant about your mastery of the subject material
determines the final grade.

Prerequisites: There are essentially three prerequisites for the subject:
linear systems, Fourier analysis and probability. There are several
subjects from different courses that serve as appropriate preparation.
We intend to enforce these prerequisites because there is not enough
time to devote to a review. A "diagnostic quiz," which does not
influence your grade, is attached. If you have significant difficulty
with it, consult the instructor before continuing in the subject.

Comments: This subject is taught with the expectation of a lot of interaction
between the students and the instructor. We will attempt to make
reference to a lot of practical problems that appear in the analysis from
radar, sonar and seismic systems to provide a practical setting for the
signal processing discussed. Please do not hesitate to ask questions.