George Mason University
Electrical and Computer Engineering Department

ECE 738: ADVANCED DIGITAL SIGNAL PROCESSING
Fall 2007

Syllabus

	Problem Set		Project		
Date	Out	Due	Out	Due	Lecture Topic
8/29	1				Introduction and DSP Review
9/5	2	1			Matched filters
9/12	3	2	I		Deterministic spectral estimation and the short-time Fourier transform
9/19	4	3			Spatial filtering & beamforming
9/26		4			Spatial filtering & beamforming
10/3	5		II	I	Nonparametric spectral estimation
10/10					**Exam 1 covers material through 9/26**
10/17	6	5			Nonparametric spectral estimation
10/24	7	6			Nonparametric spectral estimation
10/31	8	7			Subspace methods
11/7			III	II	Optimum Array Processing
11/14	9	8			Adaptive Beamforming
11/21					*Thanksgiving recess*
11/28					**Exam 2 covers material through 11/14**
12/5		9			Advanced Topic (TBA)
12/12				III	**Final Project Presentations, 4:30-7:15pm**

Reading
Reading will be assigned each week from the course reader, *Discrete-Time Signal Processing* by Oppenheim, Schafer, & Buck, or relevant journal articles.

Homework
Homework will be assigned approximately weekly.

Projects
There will be three projects assigned during the term. These projects will involve analytical work, computer simulations, and analysis of real data. For the third project, each student will select a paper from the recent literature to analyze. The final exam period will be devoted to short presentations of Project 3.

Important Dates for Fall 2007

September 11:	Last date to drop without tuition liability
September 11:	Last date to add courses
September 28:	Last date to drop
November 21-25:	Thanksgiving Recess
December 8:	Last day of classes
Deceber 10	Reading day