13.42 Syllabus Spring 2005
Prof. A. Techet

Lecture	#	Day	Date	Topic	Lecture Note Handouts	Homework
Lecture	1	Tu	1-Feb	Introduction to Course Review of Dynamical Systems	Slides	
Lecture	2	Th	3-Feb	Dynamical Systems and Ship Motions Review of Complex Numbers	Reading 2	HW#1 Out
Lecture	3	Tu	8-Feb	Tools for Analyzing Ship Motions: Introduction to Linear Systems, Fourier Transforms	Reading 3	
Lecture	4	Th	10-Feb	Tools for Analyzing Ship Motions: Fourier Transforms & Transfer Functions	Reading 4	HW #1 Due HW#2 Out
Lecture	5	Tu	15-Feb	System Characterization: Transfer functions & Impulse response	Reading 5	
Lecture	6	Th	17-Feb	Characterization of random environments: Waves & Wave Spectra	Reading 6	HW #2 Due HW #3 Out
No Class	7	Tu	22-Feb	President's Day (Monday Classes)		
Lecture	7	Th	24-Feb	Random Variables	Reading 7	HW #3 Due HW #4 Out
Lecture	8	Tu	1-Mar	Random Processes	Reading 8	
Lecture	9	Th	3-Mar	Statistics of Random Sea Waves	Reading 9	HW #4 Due HW#5 Out (short)
Lecture	10	Tu	8-Mar	Long Term Wave Statistics	Reading 10	HW #5 Due
EXAM	1	Th	10-Mar	Exam #1 In Class		
Lecture	12	Tu	15-Mar	Designing for Extreme Events 100 Year Waves	Reading 11	
Lecture	13	Th	17-Mar	Fluid Forces on bodies: Viscous & Inertial forces	Reading 12	HW #6 Out
No Class		Tu	22-Mar	Spring Break		
No Class		Th	24-Mar	Spring Break		
Lecture	14	Tu	29-Mar	Wave Forces on Floating Bodies	Reading 13	
Lecture	15	Th	31-Mar	Equations of Motion of Floating vessels under wave forcing	Reading 14	HW #6 Due HW #7 Out
Lecture	16	Tu	5-Apr	Froude Krylov Forces Heave and Surge Motions	Reading 15	
Lecture	17	Th	7-Apr	Forward Speed Effects and Model Testing	Reading 16	HW #7 Due HW #8 Out
Lecture	18	Tu	12-Apr	Seakeeping Analysis Natural Frequency/Natural Periods	Reading 17	
Lecture	19	Th	14-Apr	Ship Motion in Roll, Roll Damping	Reading 18	HW #8 Due HW #9 Out
No Class		Tu	19-Apr	Patriots Day No class		
Lecture	20	Th	21-Apr	Vortex Induced Vibrations I Viscous forces	Reading 19	HW #9 Due HW #10 Out
Lecture	21	Tu	26-Apr	Vortex Induced Vibrations II Considerations for Offshore platform design	Reading 20	
Lecture	22	Th	28-Apr	Second Order Forces Wave Drift	Reading 21	HW #10 Due
EXAM		Tu	3-May	Exam 2: In Class		
Lecture	22	Th	5-May	Free Surface Impact Problem applied to Ship Slamming	Reading 22	
Lecture	23	Tu	10-May	Class presentations	Reading 23	Final Project Due
Lecture	24	Th	12-May	Class presentations	Reading 24	

Updated 2/1/2005