## UNIVERSITY OF SOUTHERN CALIFORNIA Department of Civil Engineering

## Spring 2013

CE 541b	DYNAMICS OF STRUCTURES
Instructor:	S.F. Masri KAP 206A Telephone: (213) 740-0602, 740-0603 email: <i>masri@usc.edu</i>
Office Hours:	Monday/Wednesday 2:00 - 4:00 pm
Class No.	Section 29801
Class time & Place:	Monday 6:30 - 9:10 pm; Room: KAP 134
Textbook:	"Fundamentals of Vibrations," by Leonard Meirovitch (McGraw-Hill), 2001
Prerequisite:	CE 541a or equivalent
Drop Dates:	Friday, 1 February 2013 without "W"; Friday, 12 April 2013 with "W"
Final Exam:	Monday, 6 May 2013, 7:00-9:00 pm
Grades:	Homework & Project/Midterm/Final: $35\%/30\%/35\%$
	Late Homework will not be accepted. No make-up on any exam.

## COURSE OUTLINE

- 1. Computational Techniques in Structural Dynamics
- 2. Continuous Systems; Approximate Methods
- 3. Random Vibration Concepts; Stationary and Non-Stationary Response of MDOF Systems
- 4. Response of Continuous Systems to Random Excitation
- 5. Introduction to Structural Control (Passive, Active, and Hybrid)
- 6. Vibration-Based Health Monitoring and Damage Detection Approaches
- 7. Nonlinear Systems; Geometric Theory
- 8. Nonlinear Systems; Approximate Methods
- 9. Experimental Structural Dynamics (Sensors; Instrumentation Networks; Actuators)
- 10. Laboratory Demonstrations and Assignments Involving Instrumented Models
- 11. \* Individualized Project

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