UNIVERSITY OF SOUTHERN CALIFORNIA
Sonny Astani Department of Civil and Environmental Engineering

FALL 2021

CE 541 **DYNAMICS OF STRUCTURES** (4.0 units)

Instructor:	Sami F. Masri KAP 206A; Telephone: (213) 740-0602, 740-0603 email: *masri@usc.edu*
Office Hours:	Monday: 11:00 am - noon; Tuesday: 11:00- am - noon
Teaching Assistant:	Amin Jabini; KAP 239, Telephone: 213-740-2036; *jabini@usc.edu*
T.A. Office Hours:	Monday, 5:30 - 6:30 p.m.; Wednesday, 4:15 - 5:15 p.m. (KAP 239); Other times by appointment.
Class No.	29781R, 29782D, 29788R
Class time & Place:	Monday 12:00 - 3:20 pm ; DEN Room: OHE 120
Textbook:	"Fundamentals of Vibrations," by L. Meirovitch (Waveland Press), 2010
	"Mathematica Navigator," (3nd Edition) by Heikki Ruskeepaa, Academic Press, 2009
Prerequisite:	(Graduate Standing)
Drop Dates:	10 September 2021 without "W"; 12 November 2021 with "W"
Final Exam:	Friday, 10 December 2021, 11:00 am - 1:00 pm
Grades:	Homework / Midterm / Course Project: 20% / 20% / 60% *(No Final Exam)*
Remarks:	Weekly assigned homework problems and bi-weekly computer projects
	Late Homework or projects will not be accepted. **No make-up on any examinations.**

COURSE OUTLINE

1. Single-Degree-of-Freedom Systems
2. Systems With Several Degrees-of-Freedom
3. Energy Methods
4. Elements of Analytical Dynamics
5. Vibration of Continuous Systems (Exact Methods)
6. Vibration of Continuous Systems (Approximate Methods)
7. Reduced-order SDOF models (EQ problems/response of distributed systems)
8. Random Vibration Concepts; Response of Continuous Systems to Random Excitation
9. Nonlinear Systems; Geometric Theory; Approximate Methods
10. Computational Techniques