

Course 101: Modal Analysis: Theory and Application

Saturday, January 28 and Sunday, January 29, 2017 | 8:00 a.m.–6:00 p.m.



David L. Brown

Course Description

Modal analysis theory, modal test methods, modal parameter estimation and applications are explored in this intensive two-day course by distinguished lecturers in this field. Lectures will be reinforced with demonstrations as lecture material is discussed. This format provides immediate comprehension and understanding of the theoretical and practical aspects of modal analysis methods. At the completion of this course you will have a understanding of modal analysis theory; experimental techniques and potential applications. Based upon the time limitations, the course will only focus on providing an overview of the subject material. Demonstrations will include excitation techniques, parameter estimation techniques and some advanced processing of data.



Randall J. Allemang

Who Should Attend

The course is directed toward people currently working in this technology who want to increase their understanding of current and updated modal analysis theory and application. The material presented is also appropriate for product design engineers, design evaluation engineers and in-service structural failure investigators concerned with the methodology of correlating experimental modal analysis and analytical modal analysis.

Quotes from Prior Attendees

"This is a course I would recommend to people involved with measurements,...so that they can understand the data and, ... work toward better results."

"This class reinforced concepts I already knew and added concepts which will improve my work in this field."

"I believe that this course is an excellent resource for engineers that have some experience with experimental modal analysis and have questioned data or practices that they have experienced in the past."



Peter Avitabile

Course Fee

The regular fee is \$1,000 and the student fee is \$500. Course fee includes course handout material and refreshment breaks. Lodging, additional food and other materials are not included.

Cancellation Liability

If the course is cancelled for any reason, the Society for Experimental Mechanics' liability is limited to the return of the course fees.

Instructor(s):

Dr. David L. Brown—
University of Cincinnati

Dr. Brown is Professor Emeritus of Mechanical Engineering at the University of Cincinnati, Ohio. Dave is an international consultant and lecturer on signal processing, dynamic measurement, modal analysis and system dynamics. Dave has published extensively in these areas and been invited to give numerous keynote presentations at conferences including the keynote presentation at the first IMAC. Dave has an academic background in both Aerospace and Mechanical Engineering and has over 4 decades of experience in the area of vibrations and experimental modal analysis.

Dr. Randall J. Allemang—
University of Cincinnati

Dr. Allemang is a Professor of Mechanical, Engineering at the University of Cincinnati, where he also serves as Director of the UC-Structural Dynamics Research Laboratory. Randy has been very active in experimental modal analysis research and has published numerous technical articles in the area of experimental modal analysis, measurement and modal vector assessment and modal parameter estimation. Randy has served as Chairman of the IMAC Advisory Board and President of SEM and has over 40 years of experience in measurements and experimental modal analysis.

Dr. Peter Avitabile—
University of Massachusetts Lowell

Dr. Avitabile serves as Co-Director of the Structural Dynamics and Acoustic Systems Laboratory and Professor in Mechanical Engineering at the University of Massachusetts Lowell. Pete has over 40 years of experience in design and analysis using FEM and experimental modal analysis techniques. Pete's main area of research is structural dynamics specializing in modeling, testing and correlation of analytical and experimental models. Pete has published his research and contributed many technical papers and articles to SEM including his "Modal Space" article series in Experimental Techniques.