2-DAY CERTIFIED COURSE

April 4–5, 2020
Sheraton Hotel,
New Orleans, LA, USA

www.astfe.org/courses/febemm2020/

Introduction to Finite Element, Boundary Element, and Meshless Methods

An Introductory 2-Day Course with Applications including Hands-on Exercises

COURSE OUTLINE

Overview

Day 1: The Finite Element Method

Day 1–2: The Boundary Element Method

Day 2: The Meshless Method

COURSE INSTRUCTORS

Dr. Darrell W. Pepper
The University of Nevada Las Vegas,
Las Vegas, NV

Dr. Alain Kassab
The University of Central Florida,
Orlando, FL

Dr. Eduardo Divo
Embry-Riddle Aeronautical University,
Daytona Beach, FL

REGISTRATION

Fee: $500

The Fee for the course covers instructional material costs, a copy of the book *Introduction to Finite Element, Boundary Element, and Meshless Methods*, by D.W. Pepper, A. Kassab, and E. Divo, ASME Press, 2014, a complete set of computer codes, break refreshments, and lunch each day. All fees must be paid in advance at least two weeks before the start of the course. Pay by credit card, check, money order, or request to bill employer.

Please use the form that can be found online at: fbm.centecorp.com.

CALL FOR PAPER

This course stems from the experiences in teaching numerical methods to both engineering students and experienced, practicing engineers in industry. The emphasis in this course deals with finite element, boundary element, and meshless methods. Each technique serves as a stand-alone description, but it is apparent to see how each conveniently connects to the other techniques. The intent in this course is to provide a simple explanation of these three powerful numerical schemes, and to show how they all fall under the umbrella of the more universal method of the weighted residuals approach.

OBJECTIVES

– Introduce the basic concepts of the finite element method, the boundary element method, and the meshless method utilizing the Method of Weighted Residuals

– Discuss the advantages and limitations of each method

– Demonstrate the capabilities of each method on a variety of problems

– Provide "hands-on" access to simple computer codes that run on PCs

– Emphasize fundamentals through algebraic examples

WHO SHOULD ATTEND

This course is intended for those who wish to understand the basic concepts of the finite element method, the boundary element method, and meshless methods, and how they become implemented in computer programs. The course is suitable for both postgraduate students and graduate engineers and scientists in industry and government. Those with a basic understanding of calculus and a familiarity with PCs (Windows or Mac) will have sufficient background necessary for this course. Students with an engineering or mathematical background should have no difficulty in grasping the underlying principles of the methods and their applications to various fields.

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Thermal and Fluids Engineers