

FACULTY OF ENGINEERING AND TECHNOLOGY

Department of Mechanical Engineering Department of Civil Engineering Department of Automotive and Aeronautical Engineering

# 3 - DAY FACULTY DEVELOPMENT PROGRAMME ON Teaching Finite Elements to Undergraduate students



Date and Venue

**5<sup>th</sup> - 7<sup>th</sup> January 2023** Ramaiah University of Applied Sciences Ramaiah Technology Campus, Peenya, Bengaluru - 560058

Dr. Mahendra Babu N. C. Head, Dept. of Mechanical Engineering hod.me.et@msruas.ac.in Dr. Nayana N. Patil Head, Dept. of Civil Engineering hod.ce.et@msruas.ac.in

Dr. Shashank V. Assistant Professor, Dept. of Automotive and Aeronautical Engineering shashankvadlamani.ase.et@msruas.ac.in

Dr. M. Sivapragasam Associate Professor, Dept. of Automotive and Aeronautical Engineering sivapragasam.aae.et@msruas.ac.in

# ABOUT RUAS

Ramaiah University of Applied Sciences (RUAS), a state Private University aims to focus its programs on student centric higher education. Students can expect to experience an integrated approach to academic, research, training, real life problem solving and entrepreneurship. The University, at present, offers undergraduate, postgraduate and doctoral programs in Engineering and Technology, Art and Design, Management and Commerce, Hospitality Management and Catering Technology, Pharmacy, Dental Sciences, Mathematical and Physical Sciences and Life and Allied Health Sciences.

## ABOUT THE COURSE

The Finite Element Method (FEM) is a numerical and computer-based technique for solving a wide range of practical engineering problems in various fields. The course is intended to prepare faculty members to teach an introductory FEM course to undergraduate students. This course is designed to teach the theory and applications of linear Finite Element Analysis (FEA) to problems in solid and structural mechanics, heat transfer fluid mechanics and other fields. The basic idea and features, as well as the fundamental steps of FEA, will be introduced. The mathematical foundations of element formulation, boundary conditions, equation solution, and post processing are all covered.

#### COURSE CONTENT

- 1. Background of numerical simulations and FEM
- 2. Basic Concepts in FEM
- 3. How and what to teach in FEM for UG and PG Students

## ABOUT THE SPEAKER



Prof. J. N. Reddy is a Distinguished Professor and the inaugural holder of the Oscar S. Wyatt Endowed Chair in the Department of Mechanical Engineering at Texas A&M University, College Station, Texas. Prior to his current position, he worked as a postdoctoral fellow at the University of Texas at Austin, as a research scientist for Lockheed Missiles and Space Company, and taught at the University of Oklahoma and Virginia Polytechnic Institute and State University, where he was the inaugural holder of the Clifton C. Garvin Endowed Professorship. Professor Reddy is the author of over 320 journal papers and 14 text books on theoretical formulations and finite element analysis of problems in solid and structural mechanics (plates and shells), composite materials, computational fluid dynamics and heat transfer, and applied mathematics.

# Account Details for Registration

Transfer Details: Through RTGS or NEFT Account Name: M. S. Ramaiah University of Applied Sciences Account Type: Savings Account Account Number: 914010033410657 IFSC: UTIB0000559 Bank & Branch: Axis Bank, Rajajinagar, Bengaluru GST No: 29AADAM2496AIZN

# Rs. 2000/-

Registration charges includes Certificate of Participation and a copy of FEM Book by Prof. J. N. Reddy

> Payment details to be sent to Registration Co-ordinator Mr Balappa U. balu.me.et@msruas.ac.in