



Module PMRF-ISSS018/2022

# Introduction to Finite Element Analysis

## Name of the PMRF student

Attada Phanendra Kumar

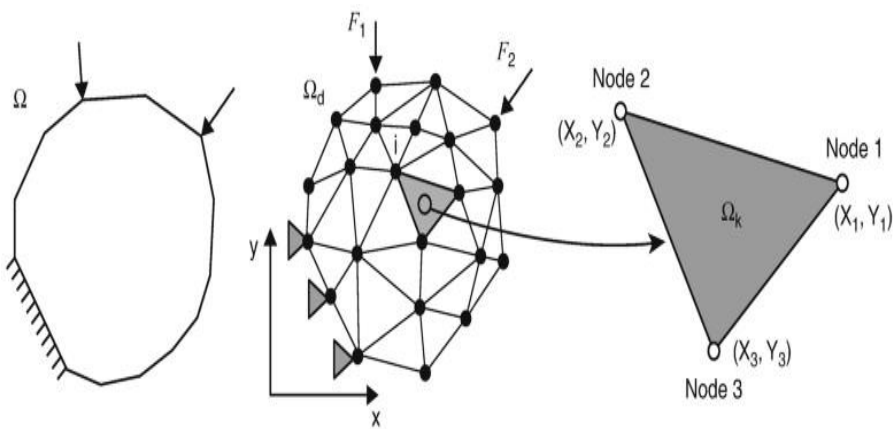
## Required background of the students taught

It is an introductory level course.

This lecture series would be beneficial for students pursuing Civil, Mechanical and Aerospace Engineering.

## Online session coordinator

Will be chosen from the list of registrants



## Details of the content of the module

1. Introduction to Finite Element Analysis (FEA).
2. Finite Element Characterisation for Truss structures.
3. Weighted Integral Formulation of Boundary Value Problem (BVP): Strong form, Weak form, Why weak form?, Galerkin's residual method.
4. Finite Element Formulation for Beams.
5. Finite Element Formulation for Plane Stress and Plane Strain Problems: Shape functions, Rate of convergence, Triangular elements, Rectangular elements.
6. Isoparametric Formulation: Triangular and Quadrilateral isoparametric elements, Numerical integration using Gaussian Quadrature.

Note: Can add additional topics based on the suggestions from the students.

## Schedule of the module

**TIME:** 4:30 PM – 5:30 PM every Saturday

**START DATE:** June 11, 2022

**END DATE:** December 10, 2022

**TOTAL SESSIONS:** 25 Lectures (additional sessions for doubts clearance can be taken)

Meeting link : Will be shared later

[Link](#)

Contact email ID: [issf.forum@gmail.com](mailto:issf.forum@gmail.com)

Registration link: [Google Form](#)