

Theme

Advancement in computers led to solution of various complex engineering problems. The finite element method (FEM) is the best approach available for numerical solution of any engineering problem. Researchers have applied FEM as tool to solve various problems such as fluid flow, heat transfer, magnetic field analysis, structural analysis, etc. In order to be an effective analysis tool, it must be based on theories and techniques from three different disciplines. First, the approximations used to develop the properties of the various finite elements must be based on sound fundamental principles of continuum mechanics. Second, the numerical methods selected for special integration, solution of equations, evaluation eigenvalues, and step-by-step time solutions must be accurate and efficient. Third, the computer implementation of the numerical techniques used must be approached with great care if number of numerical operations are to be minimized, and high speed and low speed storage units are to be used effectively, and the resulting program is to be reasonably machine independent.

The Programme

This course is one-week short term training programme sponsored by ISTE and AICTE for college teachers. This elementary level interdisciplinary course will prove useful for Mechanical and Civil engineering streams.

Course Outline

- Basics of finite element method
- Elements and Shape functions
- Variational principle for FEM
- One Dimensional FE Analysis
- Application of FEM for plane stress and strain problems

- Finite element for dynamics
- Finite Element applied to pressure vessel, fluid flow, heat transfer.
- Various Applications
- Hand-on experience on FEM package.

Faculty

Course will be conducted by the faculty of Engineering College Kota and external experts in the field of FEM.

Dead Lines

Receipt of applications : October 30, 2004
Confirmation of Selection: November 15, 2004

Eligibility

Sponsored teachers of AICTE recognized Engg. college and working professionals.

Registration Fees

No registration fee from the sponsored teachers of AICTE approved institutions. Other working professionals are requested to pay Rs. 3000/- per participant. Fee includes course fee and working lunch and tea.

Boarding and Lodging

All teachers from AICTE approved degree/diploma level technical institutions will be provided boarding and lodging facilities, as per ISTE guidelines.

Traveling Allowances

The sponsored participants from AICTE approved institutions are eligible for TA/DA as per ISTE-AICTE rules.

APPLICATION FORM

AICTE-ISTE STTP

On

**Finite Element Techniques: Fundamentals,
Implementation and Applications
(December 20-25, 2004)**

Name: Prof./Dr/Mr/Ms

Designation :

Organisation :

Mailing Address :

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Telephone:

Email :

Educational Qualification

Experience:

Subject Taught:

Whether Accommodation Needed: Yes/No

Demand Draft No. Dated

Bank Name

Date: Signature of Applicant

Sponsorship Certificate

Certified that has been sponsored for attending the STTP course to be conducted by Engineering College Kota during December 20-25, 2004.

Signature of sponsoring authority with date and seal

How to Apply

Applicants from AICTE-recognized colleges are required to submit their duly sponsored applications. They may use the photocopy of the form. A deposit of Rs. 300/- by demand draft drawn in favor of Coordinator-AICTE STTP Course on FEM, payable at Kota, should accompany each application. The amount will be refunded to those not selected and to those selected provided they attend the course in full. Please note that the number of seats for the course is limited to 30 and selection will be on the basis of first come first serve.

Address for communication

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General Information

Kota, situated on the bank of river Chambal is well connected by rail and bus service to all parts of India and is located on Delhi-Mumbai Broad Gauge. The Institute is 14 Kms from the railway station. The temperature in December is around 25°C during day and 10°C in night. Winter clothing will be needed.

Finite Element Techniques: Fundamentals, Implementation and Applications

AICTE-ISTE Sponsored
Short-Term Training Programme
20th to 25th December, 2004



Dr. V.K.Gupta
S.K. Rathore

Coordinators

**Department of Mechanical
Engineering
Engineering College Kota,
Akelgarh, Kota (Raj.) - 324010**