Objective

Finite element procedures are now an important and frequently indispensable part of engineering analysis and design. Finite Element computer programs are now widely used in practically all branches of engineering for the analysis of structures, solids, fluids and electrical and many more. An exciting and through understanding of finite element procedures for engineering applications is achieved only if sufficient attention is given to the mathematical characteristics of the procedures. The main objective of this course is to provide a flavor of the basic concept of finite element procedure using mathematical approach. The mathematical understanding greatly enriches our confident use and further development of FEM and is therefore emphasized in this course. These thoughts also indicate that collaboration between engineers and mathematicians to deepen their understanding of FEM and to further advance in the field of research can be of great benefit.

Course Coverage

This program will cater to the needs of college teachers who wish to keep abreast with the fundamentals of FEM in general so as enabling them to teach these to students and solve day to day problems by developing mathematical models. In view to this, the material is presented in such a way that one can easily relate knowledge from other fields with FEM. Some of the topics for discussion will be

1. Overview of FEM
2. Variational Methods
3. FE formulation of 1D problem.
4. FE formulation of 2D scalar and vector field problems.
5. Finite elements in heat transfer, fluids and electrical applications.
6. Isoparametric formulation.
7. Eigen value and time dependent problems.
8. Computer Implementation.

ISTE Approved Short Term Course on

Finite Element Methods:
A Mathematical Approach

April 30 – May 4, 2012

Registration Form

Name (in block letters): (Mr/Mrs/Ms)

_____

Designation:_____

Organization:_____
_____

Mailing address:_____
_____
_____

Telephone:_____
Fax:_____
E-mail:_____
Mobile:_____
Education qualification:_____
Specialization:_____

Accommodation required: Yes/No

Signature of applicant:

Signature of Principal of the College/Institute.

Completed Registration form should be sent to Course coordinator:

Prof. Chaitanya K. Desai
Course Coordinator,
Department of Mechanical Engineering,
CKPCET, Surat
Phone: (M) 9924446496
Fax :+91-261-2723999
Email: **desai_chaitanya@yahoo.com**

Important Dates

Last date for receipt of registration form:
April 1, 2012
Notification of acceptance:
April 15, 2012

Teaching Faculty

1. ***Prof. Chaitanya K. Desai***
   Associate Professor,
   Mechanical Engineering Department,
   CKPCET, Surat
   Research Scholar,
   Solid Mechanics & Design,
   Indian Institute of Technology Kanpur

2. ***Prof. Anish H. Gandhi***
   Principal,
   CKPCET, Surat

Venue

The venue will be the seminar hall of Electronics and Communication engineering department (D_2 building), C. K. Pithawalla College of Engineering and Technology, Surat.

Lecture Notes

Hard copy of power point presentation slides will be given as a part of the course.

Eligibility

Faculty members of degree level engineering colleges recognized by AICTE are eligible to attend this course

Registration

Interested candidates should send the complete registration form to the course coordinator by post/courier. A registration fee for this course is Rs 1500 and has to be paid in the form of Cheque/ Demand Draft in favor of *C. K. Pithawalla College of Engineering and Technology payable at Surat.*

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Coordinator

Prof. Chaitanya K. Desai
Department of Mechanical Engineering

C. K. Pithawalla College of Engineering and Technology
Surat-395007