CHARUSAT

Charotar University of Science and Technology is established under the Gujarat Act No. 8 of 2009, Government of Gujarat. University GrantsCommission has empowered CHARUSAT to award Degrees under Section 22 of UGC Act 1956. University recently accredited with "A" by NAAC, Bangalore. The University is identified with cutting edge research, robust academic programmes, quality teaching learning process and over-all personality development interventions of its students. CHARUSAT campus provides refreshing environment and stimulates intellectual growth and creativity.

M. S. Patel Department of Civil Engineering

Civil Engineering is a broad field of engineeringthat deals with the planning, construction, and maintenance of built environment and other infrastructure facilities and are closely related to earth, water and environment. The Department of Civil Engineering at CSPIT, CHARUSAT was established in year 2008 to impart quality education & conduct research inCivil Engineering to cater the rising needs and demands of the society. The Department has constantly been equipping itself with technological advancements of national priorityand flexibly adapting to changing scenario in the fields of Civil Engineering. The Department offers B.Tech Civil Engineering (90 Seats),M.Tech Structural Engineering (18 Seats) and PhD programmes in various discipline of Civil Engineering. The department is also equipped with licensed software's like STAAD Pro S6, Midas Civil, Bentley Road max, STRUDS 12.0, ESRGSR V4, GEO5, Primavera P6 and Bentley Combined.

Why this course?

Finite Element Analysis (FEA) uses mathematical models to understand and quantify the effects of real-world conditions on a part or assembly. These simulations, which are conducted via specialized software, allow engineers to locate potential problems in a design, including areas of tension and weakspots. FEA is a method of analyzing how a part or assembly will perform over its lifetime. FEA enables you to predict potential design issues and therefore minimize risk to your product, profits, and your business. The process of FEA can be used for the structural analysis to find out significant stress. It is also useful to receive input data from other tools such as computation fluid dynamics systemsand kinematics analysis systems.

Objectives of the Course

- To apply the Finite Element Method for solving basic problems related to springanalysis, stress analysis, strain, Fluid flow etc.
- Effect of Mesh size in modelling
- Hour glass and stiffness control to mesh
- Appropriate application of Finite Element Technique to simulate the object as per its application of usage.
- To understand pre-failure behavior of the object developed using simulation tool.

Certificate Course

on

"Finite Element Analysis: with handson practice using simulation tool"

Chandubhai S Patel Institute of Technology

CHARUSAT
CHAROTAR UNIVERSITY OF SCIENCE AND TECHNOLOGY

Duration: 16th May - 21st May 2022

Last date of registration: 10/05/2022

1 Week Course (30 Hours) (Per day 6 lectures)
+
Practical Exam

Course coordinator:

Mr. Nirpex Patel

Organized by:

M. S. Patel Department of Civil Engineering
CSPIT, CHARUSAT

Address for Correspondence:

M. S. Patel Department of Civil Engineering, CSPIT, CHARUSAT Campus, Off Nadiad- Petlad Highway 139, Changa, Gujarat 388421

Learning outcomes

By the end of the course, participants will be able to learn:

- Enhance design and early evaluation of critical design parameters.
- Virtual prototyping capability, meaning fewer physical prototypes are required and which are aligned to rapid prototyping.
- Efficient and less expensive design cycles.
- Increased productivity, and profit.
- Push the boundaries of finite element analysis using simulation tool

Outline of contents

- Basics of FEM, Abaqus/CAE, Abaqus/Explicit
- Hourglass Control
- CDP and Smeared Cracking modelling
- Assembly & Job Creation
- Material Properties (Non-linear)
- Multiple Functions and interactions
- 1-D, 2-D & 3-D Problems
- Meshing Elements and Effectiveness
- Symmetrical Problems/Quasi-static Solutions
- Interpretation of Results

Job Opportunities

Get an opportunity to be a part of the top- ranking organizations of your choice. Post the course completion students can pursue career as:

- FE/Risk Analyst
- Structural/Design/Manufacturing consultant
- Engineering Principal Consultant

Course registration fees

Total Intake: 20

- CHARUSAT Students — INR 5,000/-
- External Students (Including 18% GST) — INR 5,900/-

Details of payment:

Bank Name: State Bank of India
A/C Name: CHANDUBHAI S PATEL INSTITUTEOF TECHNOLOGY
A/C Number: 30762646817
IFSC Code: SBIN0010961

Teaching-Learning Methodology

- Hand on practice will be provided to the students so as to make them ready for liveprojects in real-time environment.

For whom?

- Working professionals in Structural Engineering and Design as well as Mechanical firm, Fresh graduates from Core Engineering Disciplines like Civil and Mechanical Engineering and Structural Engineering post-graduation students

Eligibility

- B.E./B.Tech Civil Engineering with 60% aggregate marks and/or M.E./M.TechStructural Engineering pursued or completed from AICTE approved Institutes.

Prerequisites

- Domain knowledge in Engineering Mechanics, Mechanics of Solids and Strengthof Material, Excel Utilities, Properties of materials, Basics of Finite Element Methods and Applications, Types of Elements.

Subject Dependencies

- Analysis and design of critical spots of an engineering problems, Check the efficiency and feasibility of designed tools prior to in- situ applications and optimize it to achieve economy.

Examination pattern

- Chapter-wise assignments are to beconducted as an internal evaluation which carries weightage of 10 marks each and will be converted to 40% for final evaluation.
- Final Exam to be conducted which will be practical based examination carrying weightage of 100 marks and will be converted to 60% for final evaluation.

How to apply?

To fill online application form along with details of registration fees, visit:

www.cspitcivil.com/latest

For further details

Contact: Mr. Nirpex Patel

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