

**Staff Development Programme
On
Application of CFD in Engineering
Field
(14th March to 27th March, 2011)**

Sponsored by



**All India Council for Technical
Education
New Delhi**

Organised by



**Department of Mechanical Engineering
National Institute of Technology,
Agartala**

**P.O.: Barjala, Jirania, West Tripura, India.
Pin:799055**

**Tele- (0381)-2346630,2346360 Fax:: (0381)-2346360
Website: www.nitagartala.in**

This course on “Application of CFD in Engineering Field” is a refresher course designed for the faculty of all engineering disciplines. This course is focused for the faculty teaching the courses such as numerical methods, FEM and CFD and major emphasis is given to the fundamental aspect of these topics. However, the participants will be introduced to the latest developments and applications of the above tools. The proposed content is ideal for an undergraduate curriculum and will be of immense help to the teachers handling the undergraduate courses in Numerical methods, FEM and CFD. The course content will include, but not limited to the following topics:

Proposed Course Contents:

- a) Introduction and Historical Perspective of CFD
- b) Identification of physical problems
- c) Establishing the mathematical models;
Differential formulation, Integral
formulation and variational formulation
- d) CFD Governing Equations
- e) Turbulence Modeling
- f) Numerical Methods
- g) Finite Difference Methods
- h) Finite Volume Methods
- i) Finite Element Methods
- j) Grid generation Technique
- k) Incompressible flow
- l) SIMPLE method
- m) Vorticity-Stream function method
- n) Two Phase flow
- o) Combustion
- p) IC Engines
- q) Manufacturing Engineering
- r) Turbomachinery
- s) Automobiles
- t) Stress Analysis Problems

On successful completion of the course, the participants will be able to:

- a) Develop technologies in the emerging areas.
- b) Penetrate the acquired knowledge to their students.
- c) Setup computational facilities for research in CFD.
- d) Explore new ideas in this area.

Resource Persons:

Overview of the Course:

The lectures in the course will be delivered by the faculty members of the Department of Mechanical Engineering and other allied departments. Expert speakers from other leading institute will also deliver lectures.

Eligibility

The course would be interdisciplinary in nature. Faculty Members of AICTE-approved engineering colleges (Central/State Government, autonomous, private colleges/universities and deemed-to-be universities) are eligible for participation.

Free Registration and Boarding & Lodging:

Through **e-mail /speed-post/fax on or before 10th March, 2011 (5.00pm)** on first-come first-serve basis. Maximum participants are limited to **50(fifty)**. There is no registration fee for the faculties/teachers from AICTE approved colleges/Institutions. The application shall be given in the given format. Boarding and lodging shall be provided to all participants in NITA Hostels without any charges.

Traveling Allowance (TA):

TA will be provided to all outstations participants as per the institute norms.

Course Fee

Course, sponsored by AICTE, fees not to be paid by participants from only AICTE Approved institution

The **National Institute of Technology Agartala** is one of the 20 (twenty) National Level Technical Institutes setup by the Govt. of India. The Institute's mission is "To help to improve the economic development of the country particularly the North-East states and also the public systems, through pursuit of excellence in technical education, research, consultancy and training".

The institute is offering continuing education at undergraduate & post-graduate levels in the field of engineering courses like Mechanical, Civil, Electrical, Computer Science & Engineering, Electronics & Communication Engineering etc. and post graduate courses in Thermal Science & Engineering, Structural Engineering & Power Electronics & Drives under Mechanical, Civil & Electrical Engineering Department respectively. The institute is intended to cater the needs of the technical manpower in this region in particular and in India as a whole.

Location

National Institute of Technology, Agartala is situated at Jirania, West Tripura nearby National Highway NH-44, at 22 km distance from the capital Agartala and 5 kms from Nearest railyway station Jirania.. It is connected by road and railways to Guwahati, Assam. The capital Agartala is also well conncted by Air, roadways and through rails to the rest part of the country.

Correspondence

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**Department of Mechanical Engineering
National Institute of Technology, Agartala**

REGISTRATION FORM

Name: _____

Designation: _____

Affiliation: _____

Address for correspondence: _____

Email: _____

Phone (with STD Code): _____

Cell: _____

Fax: _____

Email: _____

Highest Qualification: _____

Experience-Teaching (years) _____

Accommodation required: Yes/No

Declaration:

The information provided is true to the best of my knowledge. If selected I agree to abide by the rules and regulations of the course and shall attend the courses for the entire duration.

Place:

Date:

Signature of participant

SPONSORSHIP CERTIFICATE

Mr/Mrs/Ms/Dr _____
is an employee of our institute and his/her application hereby sponsored. The applicant would be permitted to attend the course if selected.

Place:

Date:

**Signature of
Head of Institute with seal**