

REGISTRATION FORM

TEQIP-III sponsored five day short term course on
FUNDAMENTALS OF

COMPUTATIONAL FLUID DYNAMICS: A PRACTICAL APPROACH (CFD-2018)

02-06 July 2018

Department of Mechanical Engineering
National Institute of Technology Rourkela

Name:
Designation:
Department:
Organization:
Highest qualification:
Specialization:
Mailing Address:
.....
.....
.....
Mobile:
Email:
Accommodation Required (Yes/No):
Payment Details: Amount: Rs/-
Demand Draft No.: Date:/...../2018
Bank:
Demand Draft should be drawn in favour of
"DIRECTOR, NIT ROURKELA" payable at Rourkela.

Signature of Applicant Date:/...../2018

Note:

- Incomplete registration form/without demand draft shall be rejected.
- Registration fee is non-refundable.
- No TA/DA will be provided for attending the course.
- Only limited number of participants will be selected on first-cum-first serve basis.

ORGANIZING COMMITTEE

Principal Co-ordinator: Dr. Manoj Kumar Moharana

IMPORTANT DATES

Last date for receipt of application: 15 June 2018
Notification about selection: Within 01 week of receipt of complete application.

Only limited number of participants will be selected on first-cum-first serve basis. Selected candidates will be informed by email immediately after receipt of the application form. Complete information for communication must be necessarily provided in the registration form. The demand draft will be returned to the applicant if not selected for this course.

ACCOMMODATION

Accommodation will be provided to out station participants at NIT guest house on prior request on sharing basis (twin sharing).

CONTACT

For registration form or any clarification please contact

Dr. Manoj Kumar Moharana

Tel: +91-661-246-2533 (O),

Mob: +91-7008111684, +91-8895593400

E-mail: mkmoharana@gmail.com

moharanam@nitrrkl.ac.in

<https://www.youtube.com/user/mkmoharana>

<https://www.facebook.com/DrManojMoharana>

For further information or updates related to this short term course please visit

<https://www.facebook.com/CFDfundamentals>

Note: The registration form can be downloaded from the following link

<https://sites.google.com/site/mkmoharana/>

<http://www.nitrrkl.ac.in/Academics/Events/CEP.aspx>

Send your filled in application and demand draft to

Dr. Manoj Kumar Moharana

Assistant Professor Grade-I

**Department of Mechanical Engineering
National Institute of Technology Rourkela
Rourkela 769008 (Odisha)**

TEQIP-III SPONSORED
FIVE DAY
SHORT TERM COURSE
ON

FUNDAMENTALS OF COMPUTATIONAL FLUID DYNAMICS: A PRACTICAL APPROACH

CFD-2018
02-06 JULY 2018



Principal Coordinator
Dr. Manoj Kumar Moharana

**Department of Mechanical Engineering
National Institute of Technology Rourkela
Rourkela 769008 (Odisha)**

ABOUT NIT ROURKELA:

National Institute of Technology Rourkela is an institute of national importance created under the act of parliament. NIT Rourkela provides quality education in a diverse and multi-cultural environment. The mission of the institute is to become an internationally acclaimed institution of higher learning that will serve as a source of knowledge and expertise for the society and be a preferred destination for both UG and PG studies. The vision of the institute is to advance and spread knowledge in the area of science and technology leading to creation of wealth and welfare of humanity.

Department of Mechanical Engineering is the largest among all of its departments at NIT Rourkela with about 180 students doing their master's degree and another 60 students are pursuing their doctoral program in different fields of cutting edge technology.

INTRODUCTION TO THE COURSE:

The development of high speed digital computers has had a great impact on the way principles from science of fluid mechanics and heat transfer are applied to problems of design in modern engineering practice. Therefore, there is a growing demand for graduating engineers with the basic skill of computational methods for heat transfer, mass transfer and fluid dynamics. Therefore, there is need to train the existing faculty members in the field of computational fluid dynamics.

The objective of this course is to provide the participants an introduction to computational fluid dynamics (CFD) which would help them to write their own CFD programs as well as use commercial CFD codes successfully. The specific objectives to achieve through this short term course are to provide a practical approach to solving a fluid flow and/or heat transfer problems of engineering nature.

COURSE CONTENTS:

- Introduction to CFD
- Mathematical modelling: Governing equations of fluid flow and heat transfer
- Introduction to discretization methods
- Solution techniques for system of algebraic equations
- Grid generation techniques
- Finite difference and finite volume methods for fluid flow and heat transfer
- Solution techniques for Navier-Stokes equation
- CFD solution procedure
- Introduction to commercial CFD code
- Fundamentals of CFD techniques
- Essentials of CFD solution analysis
- Practical guidelines for CFD simulation and analysis
- Some applications of CFD with examples

The course content includes theory as well as live practical session in computer laboratory.

WHO SHOULD ATTEND?

This program is intended for faculty members of engineering colleges who is interested to expose him/herself to the field of computational fluid dynamics (CFD) as a beginner for the purpose of teaching and/or research irrespective of their present qualification (B. Tech/M.Tech/Ph.D). This course will help a teacher to teach this course at his/her workplace. This course will also be helpful to faculty members planning to pursue M.Tech/Ph.D in near future in the field of fluid flow and heat transfer. Engineers from industries will also be benefitted by attending this course.

Target branch of Engineering:

Mechanical Engineering, Chemical Engineering.

Prerequisite for attending this course:

Fundamentals of fluid flow and heat transfer, basic computer operation, basics of numerical methods. Basic computer programming knowledge will be an added advantage though not mandatory for this course.

COURSE FEE:

a. Faculty: INR 3500/-

b. Delegate from industry: INR 5000/-

The course fee includes course material, local hospitality at NIT campus (food and sharing accommodation) and refreshment during the program days. Twin sharing accommodation at NIT guest house will be provided to out station participants only on prior request.

No TA/DA will be provided to the participants for attending this short term course.

Participation certificate will be provided to the successful participants who attend the program in full.

PAYMENT:

Registration fee has to be paid through Demand Draft in favour of "DIRECTOR, NIT ROURKELA" payable at **Rourkela**. Demand draft along with completely filled in registration form should reach the following address on or before 15 June 2018 (by speed post/registered post).

Dr. Manoj Kumar Moharana
Assistant Professor Grade-I
Department of Mechanical Engineering
National Institute of Technology Rourkela
Rourkela-769008 (Odisha)

