About The Course

Modern engineers and scientists frequently encounter challenging mathematical problems. As technology continues to progress, some of these problems will require a better comprehension of advanced mathematical concepts than ever before. Modern pedagogy has started experimenting about the mathematical training modality in engineering and science programs throughout the county. There should be a clear connection between the mathematical concepts and their abstraction followed by their engineering applications. The current short term course is intended to explore some of the interesting topics of engineering mathematics, namely- Multi objective optimization(MOO), Orthogonal functions and their engineering applications, Uncertainty modelling using Fuzzy Sets and Fuzzy Logic, Moment methods in kinetic theory.

Learning objectives of the course:

- **Introduction with the different advanced techniques aligned with mathematical modelling**
- **Applications of these techniques to engineers and scientists**

ORGANIZING COMMITTEE

PATRON

Prof. Animesh Biswas

(Hon. Director, NIT Rourkela)

Prof. Chittaranjan Patra

(TEQIP3 Coordinator, NIT Rourkela)

COURSE COORDINATORS

Prof. Madhushree Kundu

(Professor, Department of Chemical Engineering, NIT Rourkela)

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e-Short Term Course on

Advanced Mathematical Techniques for Engineers & Scientists (AMTES20)

(September 28-30, 2020)

Organized By

Department of Chemical Engineering
National Institute of Technology Rourkela, Rourkela

Sponsored Organizations

TEQIP-3
Technical Education Quality Improvement Programme

ABOUT INSTITUTE

National Institute of Technology (NIT) Rourkela is an institution of national importance funded by Ministry of Human Resource Development. NIT Rourkela was established as Regional Engineering College (REC) on August 15, 1961. It is one of the premier national level institutions for technical education in the country. The main objective of the institute is to produce quality engineers and scientists in graduate, post-graduate and doctoral levels in various branches of Engineering and Science. NIT Rourkela was ranked 601-800 in the world by the Times Higher Education World University Rankings of 2018 and 126th in Asia. In India, it was ranked 16 among engineering colleges by the National Institutional Ranking Framework (NIRF) in 2019.

SCHEDULE OF COURSE

DAY 1

09:30-10.00 - Inaugural function
10:00-12.00 –Expert lecture-1 (Prof. Rangaiah)
BREAK
14:00-16.00 –Expert lecture-2 (Prof. Pratihar)

DAY 2

10:00-12.00–Expert lecture-3 (Prof. Patwardhan)
BREAK
14:00-16.00 –Expert lecture-4(Prof. Patwardhan)

DAY 3

10:00-12.00 –Expert lecture-5(Dr. V. K. Gupta)
BREAK
14:00-16.00 –Expert lecture-6 (Prof. Rangaiah)
16.00-16.45- Interaction with Participants
16.45 Onwards- Valedictory function

EMINENT SPEAKERS

1. Prof. G.P. RANGAIAH

(Emeritus Professor, Department of Chemical & Biomolecular Engineering, National University of Singapore)

Topic: Optimization for Multiple Objectives: Principles, Applications and Programs

2.Prof. DILIP KUMAR PRATIHAR

(Professor, Department of Mechanical Engineering, Indian Institute of Technology Kharagpur)

Topic: Uncertainty Modelling Using Fuzzy Sets and Fuzzy Logic

3. Prof. SACHIN PATWARDHAN

(Professor, Department of Chemical Engineering, IIT Bombay)

Topic: Eigenvalue and Multivariate regression applications

4. Dr. VINAY KUMAR GUPTA

(Assistant Professor, Department of Mathematics, IIT Indore)

Topic: Moment methods in kinetic theory

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REGISTRATION

Registration is open to: Faculty members in all disciplines of Engineering, Sciences, Mathematics, Physics, Post Doctoral Fellows, Research Scholars/ PG/UG students. For registration use the following link.

https://docs.google.com/forms/d/e/1FAIpQLSfYxzConRpy8RIIAk1IB58_ghatyDorrBnZn-KAYadJwi-wQw/viewform?usp=sf_link

FEE DETAILS

The registration fee details are listed below:

Students (M.Tech/Ph.D.)	Rs. 100
Faculty/Industry Fellow	Rs. 200

MODE OF PAYMENT: Online only

Please transfer the Fee amount to the following bank account. Save the payment reciept. Attach it in the google form submission (link mentioned above).

A/c no: 37537622247

A/c name: DIRECTOR, NIT ROURKELA

IFSC CODE: SBIN0002109