

Mathematical Analysis and its Applications to Engineering



January 02 - 04, 2016

KIC-TEQIP Workshop

Conducted by: Department of Mathematics, Indian Institute of Technology Guwahati

The purpose of Mathematics in engineering education is to inculcate in the budding engineers the mathematical competence which is the ability to understand, analyze and use mathematics in a variety of contexts and situations. Mathematical analysis is a branch of mathematics which begins with the theory of differentiation and integration at school level. It has widespread applications in science and engineering.

Students in engineering and technical institutions often find it difficult to connect mathematical analysis with their engineering disciplines. As a result engineering students struggle to get the motivation and interest for the subject during teaching and learning mathematics courses.

Course Objectives:

- To explore the connections of mathematical analysis to the mathematics in engineering subjects.
- To emphasize the importance of mathematical analysis in engineering.

Course Contents:

- The application of mathematical analysis in signal processing, time frequency analysis, control theory, fractal analysis etc.
- Detailed mathematical investigation of the rich and elegant structure underlying time frequency analysis.

Resource Persons:

Faculty members of IIT Guwahati and guest faculty members from other premier institutions will deliver lectures.

Eligibility:

The course is open to teachers of TEQIP mapped Technical Institutions (in Quality Circle with IIT Guwahati) and Central or State Government funded Technical Institutions in the North-Eastern states. Seats that remain unfilled will be open to other institutions.

No Course Fee is charged.

Financial Assistance:

For Participants from TEQIP Mapped Institutions:

- TA & DA from their respective Institutions

For Participants from Govt. Funded Institutions in NE:

Limited number of selected Participants from Central & State Govt. Funded Institutions in the NE may be eligible & considered by IIT Guwahati for reimbursement of

- to and fro railway fare via shortest route in 3AC
- to and fro fare in Government approved buses.

No taxi fare will be reimbursed.

For all other participants:

No TA & DA will be provided by IIT Guwahati

Boarding and Lodging:

For participants from TEQIP institutions, free boarding and lodging (on sharing basis @ 2 persons per room) in the Guest House will be provided. For other participants, lodging will be extended depending on availability.

Selection Criteria:

Number of seats is 30. Selection will be based on first cum first served basis from priority

1. TEQIP Mapped Institutions with IITG
2. Govt. Funded Tech. Institutes in NE
3. Other Institutions

Selected candidates will be informed by email.

Intimation of Selection: 17.11.2015

How to Apply:

Application form can be download from the website:

<http://www.iitg.ernet.in/jitumath/maae/>

The **duly filled and endorsed application** should reach the Course Coordinator on or before **06.11.2015**. Mailing address is given below.

Last Date for completed applications to reach IITG:

November 06, 2015 (Friday)

For complete details & updates, please visit www.iitg.ernet.in/jitumath/maae/

About TEQIP

Under the TEQIP-II program sponsored by the MHRD IITs have been invited to participate by establishing a centre dealing with KNOWLEDGE INCUBATION (KIC) vide DO No. 16-25/2013-TS.VII dated 25th June 2013. These centers are intended to become a focal point for training Faculty, Staff and students from TEQIP-II institutions in Knowledge Engineering, Content Creation, Improving Teaching, Pedagogy & administrative skills in identified niche areas/disciplines.

About KIC

KIC- Knowledge Incubation Cell at IITG functions as a multi disciplinary as well as interdisciplinary Innovation Incubation Centre with Knowledge Management as its focus. Its activities are in the area of improving quality of technical education, incubator of Innovative Ideas; implementer of contemporary pedagogy practices and development of Learning Content in Technical institutions.

About IIT GUWAHATI

IIT Guwahati campus is spread over a sprawling 785 hectares plot of green land on the north bank of the river Brahmaputra around 25 km from the heart of the city. With hills and vast open spaces the campus provides an ideal setting for training. For details see:

<http://www.iitg.ernet.in>

TEQIP- Department Coordinator: Prof. Durga Charan Dalal

Course Coordinators: Dr. J. Swain & Dr. B. Bhattacharjya

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