भारतीय प्रौद्योगिकी संस्थान गुवाहाटी
Indian Institute of Technology Guwahati

TEQIP-III Short Term Course

https://sites.google.com/view/ramst

Recent Advances in Manufacturing Science and Technologies

February 22nd -26th, 2021

Conducted by:
Dr. Swarup Bag
Associate Professor
Department of Mechanical Engineering
Indian Institute of Technology Guwahati

Organized by:
Knowledge Incubation for TEQIP
Centre for Educational Technology
URL: http://www.iitg.ac.in/cet

ABOUT THE COURSE / EVENT

Five-day short term course on "Recent advances in manufacturing science and technologies" is aimed at enriching the skills and knowledge of students, professionals, and researchers with cutting-edge research, fundamental understanding, and on-going research of the subject.

Faculty member of IIT Guwahati and other premier institutes of India will deliver lectures during this course.

COURSE CONTENTS

- Description about various manufacturing technologies and their advancement
- Numerical modelling in various advanced manufacturing processes
- Physics behind the development of various thermal and mechanical responses during manufacturing of different products
- Techniques for monitoring and control of different manufacturing processes
- Additive manufacturing processes
- Green energy technologies

TOPICS TO BE COVERED

- Wire arc additive manufacturing
- Demonstration of FE modelling
- Precision manufacturing
- Sandwich and adhesive bonding
- Automation in manufacturing
- Laser based manufacturing processes
- Optimization of manufacturing processes
- Monitoring and control of welding processes
- Ultra short pulse laser material processing
- Data driven modelling of welding processes
- Green energy technologies
- Residual stress and distortion in manufacturing processes
- Issues and challenges in the modelling of additive manufacturing processes
- Creep behavior of micro-alloyed steel
- Liquid metal embrittlement severity in manufacturing
- 3D printing of concrete

SPEAKERS

Prof. Amitava De, Department of Mechanical Engineering, IIT Bombay, will grace the program as an invited speaker for the course.

Dr. Bipul Das, Department of Mechanical Engineering, NIT Silchar, will also join the program as an invited speaker.

Other lectures will be delivered by faculty members of IIT Guwahati.

ELIGIBILITY

The course is open to faculty members, researchers, and professionals from academic institutions and industries. No course fee is charged.

CERTIFICATE

Each registered participant will receive a certificate of participation on successful completion of the short term course.

COURSE MATERIAL

Each of the participants will be provided with a set of lecture notes in the soft-copy format on successful completion of the course.

BOARDING AND LODGING

The course will be held in **online mode**. The joining link will be sent to the participant's registered email ID.

IMPORTANT DATES

The last date for the receipt of duly signed application.

Email: ramstiitg@gmail.com

By email: scanned copy: 17/02/2021

Intimation of selection: 19/02/2021

SELECTION CRITERIA

Number of seats: 50

The selection will be based on first cum first served basis.

ADDRESS FOR CORRESPONDENCE

Name: Dr. Swarup Bag

Course Coordinator: Dr. Swarup Bag

Department of Mechanical Engineering

Indian Institute of Technology Guwahati

Guwahati- 781 039

Application Form

1. Name (block letters):

2. Designation and Pay scale:

3. Gender: ☐ Male ☐ Female ☐ Other

4. Category: ☐ General ☐ OBC ☐ SC/ST

5. Highest academic qualification:

6. Specialization (if any):

7. Name of the organization:

8. Type of organization: ☐ Educational ☐ Industry

9. Experience (if any):

   (a) Teaching: (b) Industrial: (c) Research:

10. Address for communication:

    Address:

    Pin code: Mobile No.:

    E-mail:

Please register me for the course on **"Recent advances in manufacturing science and technologies"** to be organized by Department of Mechanical Engineering, IIT Guwahati, during 22nd -26th February, 2021.

I am sending a soft copy of this application by email to the coordinator of the course.

Place:

Date: *Signature of the applicant*

SPONSORSHIP / NOMINATION CERTIFICATE

Prof/Dr./Mr./Ms./Mrs./.....

.....

is an employee/student of our institute and his/her application is hereby sponsored/nominated. The applicant is permitted to attend the short-term course **"Recent advances in manufacturing science and technologies"** at IIT Guwahati during 22/02/2021 to 26/02/2021 if selected.

I also certify that our institute/college is under the "Institution List" of 3rd phase of TEQIP Project of MHRD.

Date

Signature of Authority

Designation

Official Seal

Selected participants will be informed by e-mail. The duly sponsored/nominated application form should be mailed to:

Dr. Swarup Bag,
Email ID: ramstiitg@gmail.com

Department of Mechanical Engineering

Indian Institute of Technology, Guwahati
North Guwahati, Guwahati-781 039, Assam
Ph. No. 0361- 2582686(O)

ABOUT TEQIP

TEQIP conceived in pursuance of the NPE-1986 (revised in 1992) by Govt. of India as a long term program to be implemented in different phases. After successful execution of TEQIP II, TEQIP III starts from 2017-18 as Central Sector Scheme with a focus on the Low Income States, Northeast, Hill States and Islands. The third phase of TEQIP is also special in a way that it incorporates twinning arrangements between mentee & mentor institutions with an emphasis on Focused Training (PT) and Focused Interventions from IITs in terms of deliverables and accountability. KIT, established at IIT Guwahati under 2nd phase of TEQIP is a focal point for training Faculty, Staff and students from TEQIP-III institutions in Knowledge Engineering, Content Creation, Improving Teaching, Pedagogy & administrative skills in identified niche areas/disciplines.

ABOUT KIT

KIT (Knowledge Incubation Cell for TEQIP) at IIT Guwahati functions as a multi-disciplinary as well as interdisciplinary Innovation Incubation Centre with a focus to impart Knowledge, infusing innovation and leading a path to achieve academic excellence. 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 while mentoring them.

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.

Website: www.iitg.ac.in