

Introduction

The faculty development program is for **one week** training program for the faculty of engineering Institute/ University working in the field of modeling and simulation and optimization. Dynamical systems and its designs are complex by nature, and becoming more complex day by day. As the manufacturing and dynamical system design grow in overall size to accommodate ever increasing demands for functionality and performance, these design must integrate analogue and digital hardware, as well as the software that controls them. Any system's behaviour is determined by interdependencies between different components. Therefore, an integrated and interdisciplinary engineering approach is necessary. For this reason, engineers must be assisted by tools, which allow a systems analysis with respect to capabilities, capacities and behaviour without really constructing the system. This necessitates an appropriate modelling and simulation tool for manufacturing and dynamical systems and for optimization. The course aims at giving a brief introduction of the manufacturing and dynamical systems, their modeling methodologies, and simulation and optimization techniques.

Course Contents

1. Introduction to Dynamical Systems

2. Modeling and Simulation of Manufacturing Systems and Optimization

- Modeling theory and methodology for complex systems ,multi-parameter optimization in simulation
- M&S technology of continuous systems/discrete systems/hybrid systems/intelligent systems
- Design of experiments using ANNOVA & Design Expert

3. Modeling and Simulation of Dynamical Systems

- Introduction to dynamical system modelling, concept of bond graphs and simple dynamical elements in systems
- Modeling automotive mechatronic systems- motors, drive trains, mechanisms, mechanical handling systems, rotor-shaft, bearing, damping, modeling of robots, Simulation using SYMBOLS Shakti, MATLAB Simulink, Simulation softwares like ANSYS, ABACUS

4. Recent trends in Modeling, Simulation and Optimization

- Emerging technologies such as Micro-Electro-Mechanical Systems (MEMS)
- Modeling of biomechanical systems, thermal systems,

Resource Persons

Experts from reputed IITs/NITs, leading industries and R & D Organizations will be invited to deliver the lectures.

Participants

The programme is open to the faculty of AICTE/UGC approved engineering Institute/ University and the persons from industries working in the area of modeling and simulation and optimization.

Registration

Registration form in the prescribed format should reach the Coordinator on or before 20th May 2014. To avoid this, the applicants may send advance copy before the due date. The selection letter will be send through e-mail only on or before 31st May, 2014.

APPLICATION FORM

TEQIP-II sponsored Faculty Development Programme on Modeling and Simulation of Dynamical Systems and Optimization (MSDSO-2014) June 9 –June 13, 2014

1. Name:
2. Date of Birth:
3. Designation
4. Institution:
5. Whether the institution has AICTE/UGC approval
Yes/ No
6. Address for correspondance :

Phone:

E-mail:

Mobile:

7. Educational qualifications:

8. Experience (in years)

Teaching

Industry

Research

9. 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 course for the entire duration. I also undertake the responsibility to inform the Coordinator in case, I am unable to attend the course.

Place:

Date:

Signature

SPONSORSHIP CERTIFICATE

Dr/Mr/Mrs/Ms-----
----- is an employee of our
institute and is hereby sponsored to participate in the
*Faculty Development Program on Modeling and
Simulation of Dynamical Systems and Optimization
(MSDSO-2014)*

Place:

Date: Signature of Head of Institution

Mail the Registration form to:

Prof. Vikas Rastogi
Course Coordinator
Department of Mechanical Engineering,
Delhi Technological University,
Shahbad Daultapur, Delhi-110042
Email Address: rastogivikas@gmail.com
Fax: +91-11-27871023
Cell: +91-9871620892

Organising Committee

Chairman: Prof. Naveen Kumar, HOD (Mech.), DTU
Co-ordinator: Prof. Vikas Rastogi, DTU
Co-Coordinator:

- Dr. Atul Kumar Agarwal, DTU
- Dr. Rajesh Kumar, DTU
- Dr. R.S. Walia, DTU

For further details visit institute Website.
www.dce.edu. Brochure can be downloaded by
the link provided.

Accommodation and Travel

Accommodation for pre-registered delegates
can be arranged in campus (guest house or
hostel) / hotel on request. The delegates will
have to bear the expenses. As per TEQIP-II
guidelines, TA/DA of the participant will not
be permitted. However, official lunch/tea will
be provided during the course.

About DTU, Delhi

Delhi Technological University (DTU), also
referred to as DelTech, was established in
1941 as Delhi Polytechnic, and was under the
control of the Government of India. Later
called Delhi College of Engineering, the
college was under the government of the
National Capital Territory of Delhi since
1963 and affiliated to the University of Delhi
since 1952. In July 2009 DCE was upgraded to
a state university and renamed Delhi
Technological University. It offers courses
towards Bachelor of Technology (B.Tech),
Master of Technology (M.Tech.), Master of
Science (M.Sc.), Doctor of Philosophy (Ph.D.)
and Master of Business Administration
(M.B.A) and contains 14 academic
departments with a strong emphasis on
scientific and technological education and
research.

About Mechanical Engineering Department

The department of mechanical engineering is
the biggest department of the University. It
offers three degree and four PG program and
more than 30 research scholars have been
registered in Ph.D. program. All the
laboratories of the department are equipped
with latest state of art equipments.

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*Funded by
Technical Education Quality Improvement Program-II*



Course Coordinator
Prof. Vikas Rastogi, DTU

Co-Coordinators:
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Dr. Rajesh Kumar, DTU
Dr. R.S. Walia, DTU

Organized by
**Department of Mechanical, Production and
Industrial & Automobile Engineering
Delhi Technological University**
(University Estd. by Govt. of N.C.T. of Delhi)
Shahbad Daultapur, Main Bawana Road, Delhi-110042