# Department of Civil Engineering Motilal Nehru National Institute of Technology Allahabad

#### Announces

## Self Financed Short Term Course on Numerical and Optimization Technique (NOT-2015)





Coordinators Dr. R. M. Singh, Dr. N. R. Rawal Dr. K. Pallav

Department of Civil Engineering Motilal Nehru National Institute of Technology Allahabad-211004, India.

## BACKGROUND

Computational techniques have become an essential part to solve the engineering problems. Numerical optimization techniques are important and computational tools for conducting research and development in engineering sciences. The proposed short term course presents traditional as well as advanced numerical and optimization methods. It also highlights successful applications in various real areas. The course modules are framed for the participants without a strong background in the field. The prime objective of the short term course is to familiarize the participants with basic as well as state of the art of theory and applications of numerical and optimization techniques.

#### **Course Content**

- Numerical techniques: Basics and general numerical methods, FDM (Finite difference), FEM (Finite element)
- Optimization techniques: Basics, constrained and unconstrained optimization with linear and nonlinear programming methods, GA, Differential Evolution PSO and NSGA,
- Soft-computing: ANN, Fuzzy and Hybrid Intelligent methods
- Fuzzy optimization, Multi-objective and goal programming
- Lab and demonstration of numerical and optimization techniques on MATLAB and LINGO
- Case studies and demonstrations of applications numerical and optimization techniques for various engineering problems

#### About Civil Engineering Department

The Department of Civil Engineering was established in 1961. The initial intake of the students was 30. The first head of the Department of Civil Engineering was Mr. S.C. Jain. The Department began teaching with 5 faculty members. For first 2 years the classes and laboratories were held in the premises of the Polytechnic Allahabad. In the third year of its establishment, the main building of the Institute came up and the Department of Civil Engineering was located in the main building. In the beginning, the Department had only five laboratories viz. Survey Soil Mechanics and Foundation Laboratory, Engineering Laboratory, Concrete and Structure Laboratory, Transportation Engineering Laboratory and Public Health Engineering Laboratory.

In subsequent years, the intake of Civil Engineering students was increased to 70. The M.Tech. Programme in the department begin in 1970 on a regular basis in the streams of (1) Structural Engineering and (2) Soil Mechanics and Foundation Engineering. At present four M.Tech. programmes are running in the Department viz. (1) Structural Engineering, (2) Geotechnical Engineering, (3) Geo-Environmental Engineering and (4) Environmental Engineering.

During its journey of development, many M.Tech. programmes were added and several new laboratories were developed. The department was also recognized as QIP centre for M.Tech. and Ph.D.

The present sanctioned faculty strength is 36. The present sanctioned intake of B.Tech. is 100 and M.Tech. students is 100. Also the present Ph.D. (Full Time Regular) intake of the students is 3 per year.

### **REGISTRATION FEES**

Professional : 5000/-Faculty : 4000/-Students : 1500/-

"The registration fee of selected participant must be paid by DD in favour of "NOT-2015, MNNIT Allahabad"

#### **Important Dates**

Last Date of receipt of Application: 20<sup>th</sup> Sept. 2015 Notification for selection: 22<sup>nd</sup> Sept 2015

#### PATRON

Prof. P. Chakraborti Director, Motilal Nehru National Institute of Technology Allahabad

#### **CHAIRMAN**

Prof. A. K. Sachan Head, Civil Engg Dept., MNNIT Allahabad

#### CONVENOR

Prof. S K. Duggal Civil Engg. Dept., MNNIT Allahabad

#### COORDINATORS

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#### About MNNIT Allahabad

Motilal Nehru National Institute of Technology Allahabad, Allahabad (MNNIT) is an Institute with total commitment to quality and excellence in academic pursuits. It was established as one of the seventeen Regional Engineering Colleges of India in the year 1961 as a joint enterprise of Government of India and Government of Uttar Pradesh, and was an associated college of University of Allahabad, which is the third oldest university in India.

With over 45 years of experience and achievements in the field of technical education, having traversed a long way, on June 26, 2002 MNREC was transformed into National Institute of Technology and Deemed University fully funded by Government of India. With the enactment of National Institutes of Technology Act-2007(29 to 2007), the Institute has been granted the status of institution of national importance w.e.f. 15.08.2007.

The Institute had begun with offering Bachelor Degree Programmes in Civil, Electrical and Mechanical Engineering. It was the first in the country to start an undergraduate programme in Computer Science & Engineering in 1976-77. Subsequently, in the year 1982-83 undergraduate programmes in Electronics Engineering and Production & Industrial Engineering were started. The first Master's Programme of the Institute was introduced by the Mechanical Engineering Department in the year 1966. In all other Engineering Departments, Master's Programmes were introduced in the 1970-71. To add a new dimension to itself the Institute established School of Management studies in 1996, which offers a two year / four semester post graduate degree programme in Management (MBA).

The Institute was selected as a lead institution in the Design theme under Indo-UK REC Project (1994-99). Under this scheme a Design Centre was established. The Institute has been selected as a Lead Institution under World Bank funded Government of India Project on Technical Education Quality Improvement Programme (TEQIP) (2002-2007). Two state level institutions are networked with MNNIT under the project.

## REGISTRATION FORM (NOT-2015)

Name (block letter):	
Designation:	
Organization:	
Address:	
E-mail:	
Phone: (O)	(M)
Fax:	

#### **Registration Fee:**

Amount:	DD No.:
Bank:	Date:

Any Accompanying Person: YES/NO

Accommodation Required: YES/NO If yes, please write to the coordinator(s) for details.

Signature

Please send this form to:

Dr. R. M. Singh Coordinator, NOT-2015 Department of Civil Engineering Motilal Nehru National Institute of Technology Allahabad -211004, India Phone: + 91-9839506133, 9336146896,9435309635 E-mail:not2015.mnnit@gmail.com