

INTRODUCTION

Nonlinear Partial Differential Equations appear in many fields of science and engineering. The course is aimed to present the analysis, solution techniques, and numerical methods to the mathematics teachers of the engineering and technological institutions.

COURSE OBJECTIVES

The objective of the course is to introduce the theory and numerics of nonlinear partial differential equations and their applications in the fields of science and engineering to the participants. The exposure obtained in the course will be useful to the participants to introduce similar courses at their colleges and also pursue research in related areas.

COURSE OVERVIEW

Hyperbolic equations-scalar and systems, Diffusion processes-Reaction diffusion equations and Convection-Diffusion equations, Elliptic equations-Existence theory and stability. Numerical methods to solve the nonlinear partial differential equations. Applications-Traffic flow, Breaking dam problem, Model for the spread of a disease, pattern formation.

COURSE DURATION

The course duration is six days starting from 22nd January to 27th January, 2018.

RESOURCE PERSONS:

Faculty from IIT Madras

ELIGIBILITY & REGISTRATION

Engineering college teachers from AICTE approved colleges are eligible to apply. Eligible teachers are requested to register for the course by submitting the filled in application along with the sponsorship certificate to the coordinator on or before **17th November, 2017**. Faculty from **all** disciplines are welcome to participate. In particular, those who have good knowledge in Differential equations and related areas are encouraged to apply.

REGISTRATION FEE

There is **no course fee** for the participants from AICTE approved engineering colleges. However, the short listed candidates after hearing from the coordinator, need to pay a refundable deposit of Rs. 500/-. This amount shall be paid through a demand draft drawn in favour of *IIT Madras*, payable at Chennai. This deposit will be refunded in cash/DD to the course participants at the end of the course.

TRAVEL SUPPORT

All the course participants are eligible for 3-A Tier AC train fare, for both onward and return journey, by the shortest route on submitting the copies of the train tickets.

BOARDING AND LODGING

Boarding and lodging facilities, on twin sharing basis, will be provided to the interested participants of the course at the Taramani Guest House, IIT Madras for the entire duration of the course.

AICTE Sponsored QIP Short Term Course on

Nonlinear Partial Differential Equations: Theory and Numerics

22- 27 January, 2018

APPLICATION

Name (in BLOCK letters):

Designation :

Department :

Address of the College:

Academic Qualification:

Experience (in years):

Communication Address:

Office/Residence Phone:

Mobile:

E-mail :

Date:

Signature of the Applicant

SPONSORSHIP CERTIFICATE

It is certified that Dr./Shri./Smt.

.....

is a faculty of our institute and is being sponsored hereby for attending the QIP short term course on “**Nonlinear Partial Differential Equations: Theory and Numerics**” to be conducted at IIT Madras during **22 - 27th January, 2018**.

Signature of Sponsoring Authority
(with date and seal)

Please scan the filled in application and send the same by Email to stciitmpdes@gmail.com and also post the hard copy.

Department of Mathematics, IIT Madras

The Department of Mathematics, IIT Madras was set up in 1960. The department keeps in pace with the advances in technology, by providing its students with separate and state-of-the-art computer facilities for the M. Sc/M. Tech. and Ph. D students.

Relevance of the course

Nonlinear Partial Differential equations has its applications in many fields of science and engineering. Exposure to the theory and numerics of nonlinear partial differential equations help understanding the problems in science and engineering to a great extent.

IMPORTANT DATES

Last date for applications: **17-11-2017**

Intimation of selection: **07-12-2017**

Confirmation by participants:

20-12-2017

For further details, please contact:

Dr. Ch. Srinivasa Rao

Department of Mathematics
Indian Institute of Technology Madras
Chennai – 600 036

Tel. : +91 - 44 - 2257 4623

Fax : +91 - 44 - 2257 4602

E-mail: stciitmpdes@gmail.com

AICTE Sponsored QIP Short Term Course on

Nonlinear Partial Differential Equations : Theory and Numerics

22 - 27 January, 2018

Coordinators

Dr. Ch. Srinivasa Rao
Prof. Y. V. S. S. S. Raju



Organized by

Department of Mathematics
Indian Institute of Technology Madras
Chennai - 600 036

URL: <https://mat.iitm.ac.in>