

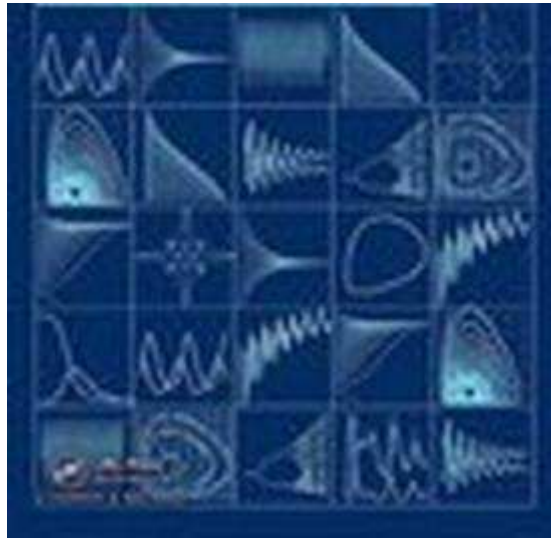
First CEP Workshop on

Math Modeling

Theory and practices

for

Science and math teachers



December 17 – 19, 2010

Indian Institute of Technology, Bombay
Powai, Mumbai - 400 076.

It is well-known that any scientific investigation / study require one or more branches of mathematics. Over the past few years, almost every subject has started utilizing mathematical tools, as mathematics gives a precise way of formulating and analysing a problem to make logical conclusions. Mathematical modelling is the means by which mathematics becomes useful to virtually any subject. Inclusion of math modelling in regular teaching not only gives students an opportunity to relate abstract concepts with real life problems, it also promotes collaborative enquiry and experimentation work, and discussion about math concepts.

GOALS

Since "teachers teach as they have been taught," the workshop is designed to

- Introduce Modelling Instruction and equip science teachers to enhance and expand student interest in learning as they develop a practical, conceptual understanding.
- Prepare teachers to implement Modelling Instruction pedagogy and materials into their classroom, by giving them the theory and practice inputs.

WHO WILL BENEFIT

Science and Math teachers at secondary/Sr. Secondary level at schools and junior colleges.

All the participants will be given a Participation Certificate by IIT Bombay.

PARTICIPANTS EXPECTED

Minimum No.: 30, Maximum No.: 60

COURSE CONTENTS

Mathematical modeling is a subject without boundaries. Not only one needs to know the mathematical concepts, also the techniques and tools need for the processes. The workshop will have two components: Theory and practice. In the theory part we intend to discuss Curve Fitting, Empirical modeling, Discrete Dynamical systems, modeling based on differential equations, and simulations. Practice sessions will have hands on sessions with technological tools: Modeling using calculators, modeling using Microsoft Excel, and modeling using the computer algebra system MAPLE (No prior knowledge of MAPLE is needed)

DAILY PROGRAMME

Theory lectures of 90 minutes each in the morning sessions and hands on practice sessions of 90 minutes each every day between 9.30am – 5.30pm.

RESOURCE PERSONS

Faculty members from the Department of Mathematics, I.I.T. Bombay, Training professionals from Casio India Pvt. Ltd, and Training professionals (Maplesoft) from Lanika solutions.

COURSE FEE

Rs. 6500/- per teacher (Rs 6000/= for a group of 2 or more teachers from the same school).

Fees must be paid by a demand draft drawn in favor of "Registrar, IIT Bombay (CEP A/c)".

APPLICATIONS (including DD) MUST REACH US NOT LATER THAN November 30, 2010

Accommodation for outside participants can be arranged in student hostels @ Rs. 1000/= per participant.

COURSE VENUE

IIT Bombay

FORMAT OF REGISTRATION FORM

First CEP Workshop on

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NAME (BLOCK LETTERS):

GENDER (M / F):

Name of the school/Junior College

MAILING ADDRESS:

TELEPHONE : _____ (O) _____ (R)

MOBILE: _____

EMAIL : _____

(Please be accurate as all communications will be sent by emails)

PAYMENT: D.D. No.: Dt. Rs.

[Demand draft should be drawn in favor of "The Registrar, IIT Bombay (CEP A/c)"] and sent to Prof. Inder K. Rana, Department of Mathematics, IIT Bombay, Powai, Mumbai 400076

Date:

Signature of Applicant

(You can Xerox it if you need more copies)