A Short term Course
on
Systems Engineering

March 24 – March 28, 2014

(Registration form should contain the following information. It should be printed (not hand written) on A4 size paper)

Name:

Position:

Department:

Institution/Organization:

Address:

E-mail Address: Mobile No.:

Telephone No.: Fax No.:

Educational Background (starting from B.E./B.Tech):

Degree	Field of Specialization	Institution	% marks/ CGPA/CPI	Year	Rank in the class
B.E./B.Tech.					
M.E./M.Tech.					
Ph.D.					

Areas of Research Interest: _____

Have you attended any course on "Systems Engineering" at IITK or elsewhere: Yes / No

(If yes, please give details……)

Note: Candidates from the teaching Institutions should send the demand draft only when they get the selection letter.

Payment details

Demand draft no._____ dated_____

Amount in Rs._____ drawn at_____

Recommendation **Signature of applicant**

Signature of Head of the Department
/ Head of the organization (with seal).

Note: Correspondence will be done through e-mail. Application's hard copy should definitely be sent by post.

*IMPORTANT DATES

For College Teachers

- Receipt of applications: March 22, 2014. (05:00 pm)
- Information to the selected candidates: March 22, 2014 (06:00 pm)
- Receipt of the draft: March 24, 2014 (09:00 am)
- Short term school duration: March 24 to March 28, 2014.

For Participants from Industries and R&D Labs

- Receipt of applications: March 22, 2014. (05:00 pm)
- Information to the selected candidates: March 22, 2014. (06:00 pm)
- Receipt of the draft: March 24, 2014. (09:00 am)
- Short term school duration: March 24 to March 28, 2014.

ADDRESS FOR CORRESPONDENCE

Dr. Deepu Philip
Department of Industrial & Management Engineering
IIT Kanpur-208016.
E-mail: dphilip@iitk.ac.in
Phone No. 0512-2597460

Dr. J. Ramkumar
Mechanical Engineering Department
Indian Institute of Technology Kanpur
Kanpur- 208016.
E-mail-: jrkumar@iitk.ac.in
Phone-: 0512- 2597546(O)

A short term Course

On

Systems Engineering

For Engineering College Teachers, Practicing Engineers and Scientists

March 24 – March 28, 2014

Sponsored by

Continuing Education Program of IIT Kanpur

Dr. Deepu Philip & Dr. J. Ramkumar
Indian Institute of Technnology Kanpur
Kanpur

INTRODUCTION

An intensive course on **Systems Engineering** will be conducted between 24th March to 28th March 2014, sponsored by Continuing Education Program of IIT Kanpur. The Program will be specifically useful for persons who are concerned with training/teaching, research and industrial application. The course is also designed to cater the needs of scientist from R&D labs and practicing engineers from industry.

OBJECTIVE

Systems Engineering is an interdisciplinary approach and means to enable the realization of successful systems. It focuses on defining customer needs and required functionally early in the development cycle documenting requirements, then proceeding with design synthesis and system validation while considering the complete problem including operations, performance, test, manufacturing, cost and schedule. This course emphasizes the links of systems engineering to fundamentals of decision theory and statistics.

Systems Engineering is an evolving discipline that applies an inter-disciplinary problem solving approach across the entire technical effort whether military, industrial commercial or civil systems and system of systems. The discipline is mandated on all military and civil programs.

On the past few decades, especially due to the evolution digital computers and software, the complexity and inert connectedness of systems for a great variety of applications has overwhelmed previous technical and management processes. This complexity has resulted in developmental failures, cost overruns, schedule slippage, stakeholder dissatisfaction and environmental disasters.

This course will expose the participants to theory and practice of systems engineering and systems engineering design approach to devise a system solution, which meet customer/stakeholder objectives optimally within available resources..

Course Systems Solutions:

- **Aviation Systems**
- **Manufacturing Systems**
- **Service Systems Health Care)**
- **Defense Systems**

COURSE CONTENTS

- **Systems Engineering Theory**
- **Perspective of systems**
- **System Types and System Architecture**
- **Value of Systems Engineering**
- **Systems Engineering Process & Life Cycle Models**
- **Systems Engineering Standards Approach**
- **The Systems Approach**
- **General Problem Statement**
- **Requirements & Functional Analysis**
- **Capability Documents & Specifications**
- **Synthesis & Architecting**
- **Systems Analysis Costing**
- **Systems Affordability**
- **Value Analysis & Engineering**
- **Verification, Validation and Test**
- **Hands on Product Realization**
- **Integration & Transition Interface Analysis**
- **Design for specialties, Reliability, Availability, Maintainability, Interoperability, Manufacturability, Sustainability)**

FACULTY

Speakers shall be drawn from various disciplines of different IITs and other institutions of higher learning, and related industries and R&D organizations of different parts of the country.

COURSE FEE

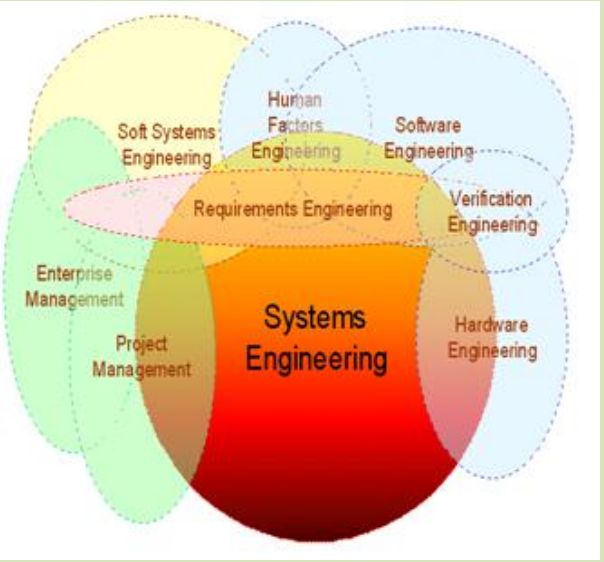
FOR COLLEGE TEACHERS ONLY

There is no course fee for the sponsored teachers from engineering colleges They will be paid to and fro III AC class train fare via shortest route (**strictly on production of ticket**), and free boarding and lodging in the guest house / hostel of IIT Kanpur .The applications of the teachers from the accredited colleges should reach the course coordinator latest by Mar.5, 2014 giving the information as shown in the Proforma. The engineering College teachers are required to send applications duly recommended by the Head of the Institution/Department. The candidate should have minimum qualification as B.E. / B.Tech. Candidates with Ph.D. and/or M.E/M.Tech will be preferred.

For selected candidates: The selected candidates will be requested to send/bring a refundable caution deposit of Rs.1000/- to ensure their commitment for participation in this course. This amount will be refundable only to those teachers who attend the course. Please write your name on the back of demand draft.

FOR PARTICIPANTS FROM INDUSTIERS AND R & D LABS

Private and public sector industries, R & D Labs, teaching Institutions and other organizations are welcome to depute their executives, managers, teachers and engineers to participate in the course. The sponsoring organizations are required to pay a registration fee of Rs.10, 000/- per participant. The participants will have to make their own arrangements to meet their travel and other expenses. Boarding and lodging can be arranged in IITK guest house or IITK hostels based upon **prior request and on the payment basis**. Applications on a separate sheet giving the information shown in the Proforma should reach the Course Coordinator latest by March 22, 2014.

MODE OF PAYMENT

The registration fee or refundable caution money deposit should be sent by bank draft payable at the "State Bank of India, IIT Kanpur" Branch and drawn in favour of "**Systems Engineering".**