A Short Term Course on
ADDITIVE MANUFACTURING
February 11 – February 15, 2019
(Application form should contain the following Information printed on A4 size paper)

Name:
Position:
Department:
Institution/Organization:
Address:
E-mail Address: Mobile No.:

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

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<th>Degree</th>
<th>Field of Specialization</th>
<th>Institution</th>
<th>% marks/ CGPA/CPI</th>
<th>Year</th>
<th>Rank in the class</th>
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<td>M.E./M.Tech.</td>
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Areas of Research Interest: ________________________________

Have you attended any course on “Additive Manufacturing” at IITK or elsewhere: Yes / No
(If yes, please give details..................................................................................)

Note: Candidates from the teaching institutions should send the refundable caution money deposit only after getting the confirmation of their selection.

*IMPORTANT DATES*

For College Teachers
- Receipt of application through email: Jan. 21, 2019
- Selected candidates list: Jan. 22, 2019
- Receipt of payment: Jan. 23, 2019

For Participants from Industries, R&D Labs, and PhD Scholars
- Receipt of application through email: Jan. 21, 2019
- Selected candidates list: Jan. 22, 2019
- Receipt of payment: Jan. 23, 2019

ADDRESS FOR CORRESPONDENCE

Dr. Arvind Kumar/ Dr. Niraj Sinha
Department of Mechanical Engineering
Indian Institute of Technology Kanpur
Kanpur- 208016
E-mail: arvindkr@iitk.ac.in / nsinha@iitk.ac.in
Phone: 0512-259 7484(O); 259 7196(O)

Additive Manufacturing Process Flow (Source: DUPress.com)

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A Short Term Course on
Additive Manufacturing
For Engineering College Teachers, Practicing Engineers and Scientists
February 11 – February 15, 2019
Sponsored by
All India Council of Technical Education, New Delhi

Coordinators: Dr. Arvind Kumar, Dr. Niraj Sinha

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All India Council of Technical Education, New Delhi
The primary objective of the present course is to acquaint the participants with the concept of AM, various AM technologies, materials science aspect for AM, modelling of AM processes, and their applications in various fields. Towards modelling in AM, relevant case studies have been included to expose the participants to the mathematical models for AM to describe the transport phenomena such as heat/mass transfer and fluid flow. The course will also cover AM process plan including building strategies and post-processing.

**COURSE CONTENT**

- Introduction to Additive Manufacturing
- CAD for Additive Manufacturing
- Material Science Aspects in Additive Manufacturing
  Different materials used in AM, Use of multiple materials, multifunctional and graded materials in AM, Role of cooling rate.
- Various Additive Manufacturing Processes
  Powder-based AM processes (SLM, SLS, LMD), Printing processes (droplet-based 3D printing), Fused deposition modelling (FDM), Laminated object manufacturing, Stereolithography, Micro- and nano-additive manufacturing.
- Modelling in Additive Manufacturing
  Transport phenomena models: thermal and fluid flow, molten pool, residual stress, Various case studies - modelling of powder-based AM process, droplet-based printing process.
- Applications of Additive Manufacturing
  Aerospace, Automotive, Electronics industries and Biomedical applications.
- Demo of FDM and SLM Machine
  Additive Manufacturing Lab visit

**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 (only those approved by AICTE, New Delhi). They will be paid to and fro 3rd AC class train fare via shortest Route (strictly on production of ticket), and free boarding and lodging in the visitors hostel extension of IIT Kanpur. The applications of the teachers from the accredited colleges should reach the course coordinator latest by 21st Jan, 2019 giving the information as mentioned in the Proforma. The engineering College teachers are required submit their application duly recommended by the Head of the Institution/Department through email. The candidate should have minimum qualification as B.E. / B.Tech. / B.Sc. (Engineering). However, candidates with M.E. / M.Tech. / M.Sc. (Engineering) will be given preference. The candidates with Ph.D. degree with manufacturing specialization are most welcome, and will be given the highest priority.

For the selected candidates: The selected candidates will have to send a refundable caution deposit of Rs. 1,000/- to ensure their seat in this course. This amount will be refundable only to those teachers who attend the course (Please do not send the money until you get selection confirmation).

**FOR PARTICIPANTS FROM INDUSTRIERS 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. 18,000/- per participant. The participants will have to make their own arrangements to meet their travel and boarding & lodging expenses. Boarding and lodging can be arranged in IITK guest house based upon prior request. Applications on a separate sheet giving the information shown in the proforma should reach the Course Coordinator latest by 21st Jan, 2019.

**FOR PHD SCHOLARS**

For Ph.D. Scholars, the registration fee is Rs. 4,500/. They have to bear their travel and boarding & lodging expenses. Boarding and lodging can be arranged in IITK guest house based upon prior request. Applications on a separate sheet giving the information shown in the proforma should reach the Course Coordinator latest by 21st Jan, 2019.

**PAYMENT DETAILS**

The registration fee or refundable caution money deposit should be sent by bank transfer. After completing the bank transfer email the details of the payment along with your name.

Account name: M F S Course
Account number: 34783101142
Bank: State Bank of India, IIT Kanpur Branch
IFS Code: SBIN001161

The list of the selected candidates and other useful information will be provided on the website [http://home.iitk.ac.in/~arvindkr/](http://home.iitk.ac.in/~arvindkr/)