



# MANUFACTURING PROCESS TECHNOLOGY I & II

## **PROF. SHANTANU BHATTACHARYA**

Department of Mechanical Engineering  
IIT Kanpur

**INDUSTRY SUPPORT** : Small and medium scale production industries.

**INTENDED AUDIENCE** : Students of BE/ME/MS/BSc/MSc stream

### **COURSE OUTLINE :**

This is an introductory level course in Manufacturing Systems Technology and management. For most enterprises, the long term goal is to stay in business, grow and make profits. This is particularly true for manufacturing enterprises, which must understand the dynamic changes that are taking place in business environment and are flexible enough to change at every level. This course is an introductory course for engineering professionals who would like to take up careers in manufacturing and also for professionals who are already in manufacturing careers and would like to see the technological changes that manufacturing paradigm has witnessed in the last 3 decades.

### **ABOUT INSTRUCTOR :**

Shantanu Bhattacharya (PhD)  
Associate Professor  
Department of Mechanical Engineering  
Indian Institute of Technology Kanpur  
Kanpur-208016  
Uttar Pradesh (India)

### **COURSE PLAN :**

**Week 1:** Manufacturing properties of materials

**Week 2 and 3:** Casting processes

**Week 4 and 5:** Machining processes and Tool life estimation

**Week 6:** Joining processes

**Week 7 :** Metal Forming Processes

**Week 8:** Introduction micromanufacturing and microsystems fabrication technology

**Week 9, 10 and 11:** Advanced machining processes (AJM, USM, ECM, EDM, LBM and EBM)

**Week 12:** Additive manufacturing