

## Indian Institute of Technology Guwahati

Course Number & Title: ME1111 Manufacturing Practices
L-T-P-C:1-0-3-5
Type of Letter Grading (Regular Letter Grades / PP or NP Letter Grades): Regular Letter Grades
Kind of Proposal (New Course / Revision of Existing Course): New Course
Offered as (Compulsory / Elective): Compulsory
Offered to: BTech (ME), First year
Offered in (Odd/ Even / Any): Odd
Offered by (Name of Department/ Center): Mechanical Engineering
Pre-Requisite: Nil
Preamble / Objectives (Optional): Upon completion of this course, the students will gain knowledge of the different manufacturing processes which are commonly employed in the industry, to fabricate components using different materials. They will also get practical knowledge of the dimensional accuracies and dimensional tolerances possible with different manufacturing processes. By assembling different components, they will be able to produce small devices of their interest
Course Content/ Syllabus (as a single paragraph if it is not containing more than one subject. Sub-topics/ Sections may be separated by commas(,). Topics may be separated by Semi-Colons(;). Chapters may be separated by Full-Stop(.). While starting with broad heading, it may be indicated with Colon symbol before the topics. For example: Multi-variable Calculus: Limits of functions, Continuity, ..... )
Manufacturing Methods- casting, forming, machining, joining, advanced manufacturing methods; CNC machining; Additive manufacturing; Fitting operations & power tools; Electrical & Electronics; Carpentry; Plastic moulding; glass cutting; Metal casting; Welding (arc welding & gas welding); brazing. Workshop Practice: Machine shop; Fitting shop; Carpentry; Electrical & Electronics; Welding shop; Casting; Smithy; Plastic moulding & Glass Cutting.
Books (In case UG compulsory courses, please give it as "Text books" and "Reference books". Otherwise give it as "References".
Texts: (Format: Authors, <i>Book Title</i> in <i>Italics</i> font, Volume/Series, Edition Number, Publisher, Year.)
1. S. K. H. Choudhury, A. K. H. Choudhury and N. Roy, Elements of Workshop Technology, Volume I: Manufacturing Processes, Media Promotors, 2008.
References: (Format: Authors, <i>Book Title</i> in <i>Italics</i> font, Volume/Series, Edition Number, Publisher, Year.)
1. H. Gerling, All About Machine Tools, 2nd Edition, New Age International, 2006.
2. W. A. J. Chapman, Workshop Technology, 4th Edition, Viva Books, 1998. W. A. J. Chapman, Workshop Technology, 4th Edition, Viva Books, 1998.
3. HMT, Mechatronics, McGraw Hill Education, New Delhi, 2017.