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ME 291 (JAN) 3:0

Analysis of Manufacturing Process

Instructor(s): Koushik Viswanthan

Course description:
This course will provide a graduate-level introduction to manufacturing processes, from processing raw stock material to the final finished product. The emphasis will be on performing simple analyses to obtain quantitative estimates for process parameters (e.g., forces, pressures, energy) and product properties (e.g., residual strains, shape tolerances). Processes will be discussed and analysed following a broad classification and accompanied by in-class or lab demonstrations when possible. At the end of the course, the students will undertake a case study, where they will pick a product and make decisions, with relevant analysis, on the manufacturing process for each major sub-component.

Prerequisites:

Resources:

1. J. A. Schey (1987). Introduction to Manufacturing Processes. McGraw-Hill, NY.
2. G. Dieter (1976). Mechanical Metallurgy. McGraw-Hill, NY.
3. W. F. Hosford and R. M. Caddell (2011). Metal Forming: Mechanics and Metallurgy. Cambridge University Press
4. L. Edwards and M. Endean (1990). Manufacturing with Materials. Butterworth-Heinemann, UK.

Outcomes:

Additional information:

Course website: