

Spring 2015 – Course Announcement

IE 670: Experimental techniques for manufacturing and materials processing

CONTENT: The course will cover various experimental techniques for characterizing manufacturing and materials processes. Topics will include force, displacement and vibration measurements; surface and dimensional metrology including roughness, form and related topography parameters; indentation hardness from macro- to sub-micrometer length scales; tensile and formability testing including study of flow localization; characterization of large plastic strains in material removal and deformation processes; high speed photography and image correlation methods; data analysis and measurement errors

Group/individual lab experiments (and background theory) will constitute the main elements of the course.

PREREQUISITES: Undergraduate-level knowledge of Mechanics of Materials, Materials Behavior and Manufacturing Processes.

GRADING CRITERIA: Assignments, lab reports and term project.

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CLASS MEETING TIME: TBD at first meeting