

	National University of Sciences and Technology	
	Course Description	
Course Title Advanced Manufacturing Processes	Course Code DME 812	Credit Hours 3 – 0

Textbook:

- “Fundamentals of Modern Manufacturing; Materials, Processes and Systems”, by M. P. Groover

Reference Books:

- “Advanced Modeling and Optimization of Manufacturing Processes” by R. Venkata Rao 2011
- “Precision Manufacturing” 2008 Springer

Course Objective:

- Students shall be able to understand the operating principles and characteristics of current technologies in manufacturing for different materials in use. Students will be able to choose a method based on the requirements of the equipment applications. Insight into the working of processing operations, additive manufacturing, advanced composite technologies.

Course Outline:

Basic Manufacturing Processes, Metal Casting Fundamentals, Conventional and Advanced Metal Casting, Forging and advanced Forging operations, Rolling and Advanced Rolling Processes, Extrusion and Advanced Extrusion Processes, Sheet Metal Forming (SMF), Advanced Machining Processes, CNC Manufacturing, Rapid Prototyping and Additive Manufacturing, Advanced Composite Manufacturing.

ASSESSMENTS

Description	Percentage Weightage (%)
Assignments	05-10%
Quizzes	10-15%
Project	05-10%
Mid Semester Exams	30-40%
End Semester Exam	40-50%