

	National University of Sciences and Technology	
	Course Description	
Course Title Additive Manufacturing	Course Code ME 842	Credit Hours 3 – 0

Textbook:

- “Additive Manufacturing Technologies”, Ian Gibson, David Rosen and Brent Stucker, Springer Publisher, 2023.

Reference Books:

- “Laser Additive Manufacturing of High-Performance Materials”, DongdongGu, springer Publisher, 2014
- “Understanding Additive Manufacturing”, Andreas Gebhardt, Hanser Publisher, 2011

Course Objective:

- Description of methods used in Additive Manufacturing (AM)
- Discussion on related theories governing AM
- Information regarding materials used in AM
- Introduction to the standard machines used for this technology
- Applications and business opportunities with future direction.

Course Outline:

- Introduction and basic principles, classification of AM processes, AM process chain, materials used in AM, photopolymerization process, powder bed fusion process, Extrusion-based systems, Material jetting/Binder jetting, Direct energy deposition process, sheet lamination process, post-processing/software issues, design for additive manufacturing, process selection, applications of AM, business opportunities and future direction.

ASSESSMENTS

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