MANUFACTURING & PRODUCTION OUTLINE

Module Name	Topics	Learning Outcome	Complexity Level	Session Count	Duration per Session (Hours)	Total Duration (Hours)
MANUFACTURING & PRODUCTION	Manufacturing Processes	• Understand various manufacturing processes and their applications in engineering. • Select appropriate manufacturing processes based on design requirements and constraints. • Optimize manufacturing processes to improve efficiency and quality.	Intermediate	2	2.5	20
	Machines	• Understand the principles of operation and applications of different types of machines. • Analyze machine components and systems for performance and reliability. • Apply knowledge of machines to design and optimize engineering systems.	Advanced	2	1.5	

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MANUFACTURING & PRODUCTION	Materials	• Understand the properties and behavior of engineering materials. • Select appropriate materials based on functional requirements and environmental factors. • Evaluate material performance and durability in engineering applications.	Advanced	1	2	
	Sample Project	• Apply engineering principles and skills to complete a sample project from concept to implementation. • Demonstrate competence in project management, problem-solving, and communication. • Reflect on lessons learned and areas for improvement through the sample project experience.	Advanced	2	2.5	

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MANUFACTURING & PRODUCTION	Project Presentations & Discussion	• Engage in constructive discussions and debates on engineering projects and topics. • Communicate ideas and opinions effectively in a group setting. • Collaborate with peers to analyze and solve engineering problems presented in project discussions.	Advanced	2	2.5	