

ME-403

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Mechanical Systems Design

TEXT: Atila Ertas, Jesse Jones, The Engineering Design Process, John Wiley & Sons, 1996 2 Edition

LAB MANUALS: SDRC IDEAS SERIES STUDENT GUIDE IDEAS MS QuickStart

WEEK	TOPIC	PROJECT ASSIGNMENTS
1	Introduction/Engineering Design Search on Process/CAE/CAD/CAM/CAE	Proj #1: Literature
2	Structured and Unstructured Problems	Proj #2: Construction of Solid Model
3	Design Methods	
4	Creative Design/Ideation	
5	Innovations in Engineering Design	
	EXAM # 1	
6	Design Synthesis/Mathematical Models	
7	Decision Processes/Material Selection	Proj #3: Material Selection
8	Decision Support: Selection Problem	Proj #4: FEA Simulation in Mechanical Systems
9	Finite Element Analysis/Modeling and Simulation in Mechanical and Thermal/Fluid Systems	Proj #5: FEA Simulation in Thermal Systems
	EXAM #2	
10	Decision Support: Compromise Problem	
11	Optimization Methods in Design: Overview	Proj #6 Optimization
12	Optimization/Mathematical Methods	Proj #7 Design Proposal ME 408
13	Leadership and Professionalism in Engineering/ Engineering Law/Engineering Ethics	
14	FINAL EXAM	