

Course Number FED 101

COURSE TITLE	Fundamentals of Engineering Design (ME)		
COURSE STRUCTURE	(2-1-2) (lecture hours/week - lab hour/week – course credits)		
COURSE COORDINATOR	B. S. Mani		
COURSE DESCRIPTION	Study technical graphics and the computer as a technical drawing tool; Introduction to projections and multi-view drawings and visualization; Discuss geometry commonly used in engineering design graphics, orthographic projections; Dimensioning techniques, tolerancing and introduction to auxiliary and sectional views; Apply software program Creo Parametric (aka Pro/Engineer, Wildfire) to various problems.		
PREREQUISITE(S)	None		
COREQUISITE(S)	None		
REQUIRED, ELECTIVE OR SELECTED ELECTIVE	Required		
REQUIRED MATERIALS	Fundamentals of graphics communication by Gary R. Bertoline, Eric N. Wiebe ISBN: 978-0-07-352263-0 (0-07-352263-5); 6th Edition, McGraw Hill 2010. 2. Pro/Engineer Creo Parametric 4.0 Tutorial by Roger Toogood ISBN: 63057-091-0-8. Schroff Development Corporation 2017		
Other supplemental materials (not Required)	The Engineering Design Process, Second Edition, Ertas <i>et al</i> , John Wiley & Sons, 1996. Chapter 10– engineering ethics (p. 427 – 468)		
COMPUTER USAGE	Creo Parametric 4.0 (aka Pro/Engineer, Wildfire)		
COURSE LEARNING OUTCOMES/ EXPECTED PERFORMANCE CRITERIA:	Course Learning Outcomes	SOs*	Expected Performance Criteria
	1 <i>describe</i> the design process and technical graphics used in the mechanical engineering design process.	1	Prepare Design Intent Planning (DIP) sheets for each model created: 70% of students will earn a grade of 70% or better on this project
	2. <i>read and construct</i> basic mechanical engineering models and drawings.	1	Build more than 25 models submitted through the semester: 80% of students will earn a grade of 70% or better on this project
	3. <i>use</i> modern solid modeling CAD software to generate model, assembly, and detailed drawing	1, 4	Build the Midterm exam model: 80% of students will earn a grade of 70% or better on this question.

