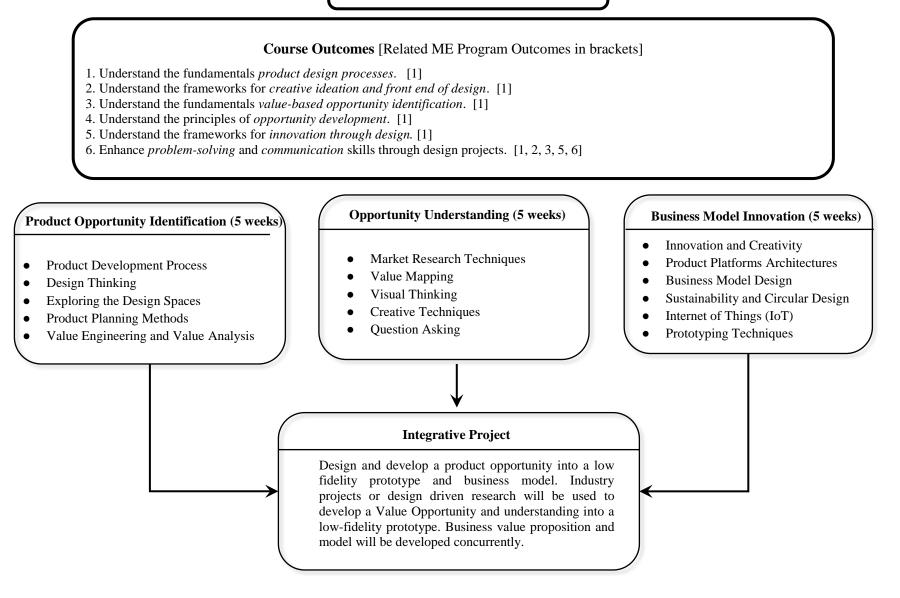
ME 553

Product and Process Design



COURSE NUMBER: ME 553	COURSE TITLE: Product and Process Design
REQUIRED COURSE OR ELECTIVE COURSE: Elective	TERMS OFFERED: Spring
TEXTBOOK/REQUIRED MATERIAL: Title: Product Design and Development - 6th Edition Authors: Karl Ulrich & Steven Eppinger ISBN-13: 978-0078029066 ISBN-10: 0078029066	PRE-REQUISITIES:
COORDINATING FACULTY:	
COURSE DESCRIPTION: This course enables students to identify product opportunities along with the value it offers, the design process to further understand the opportunity, and ultimately learning to the development and design through the innovation process.	 COURSE OUTCOMES [Related ME Program Outcomes in brackets]: 1. Understand the fundamentals <i>product design processes</i>. [1, 2, 7] 2. Understand the frameworks for <i>creative ideation and front end of design</i>. [1, 2]
 ASSESSMENTS TOOLS: 1. Homework assignments. 2. Thought questions 3. Quizzes. 4. A final project report and presentation 	 Understand the fundamentals <i>value-based opportunity identification</i>. 2, 7] Understand the principles of <i>opportunity development</i>. 2, 6, 7] Understand the frameworks for <i>innovation through design</i>. 2, 3, 5, 6] Enhance <i>problem-solving</i> and <i>communication</i> skills through design projects. 2, 3, 4, 5, 6]
NATURE OF DESIGN CONTENT: The iterative and creative nature of the design process is framed in the lectures and exercises. The project captures all key aspects so the students experience the full design cycle towards a low-fidelity prototype.	RELATED ME PROGRAM OUTCOMES: 1. Engineering fundamentals 2. Engineering design
PROFESSIONAL COMPONENT: 1. Engineering Topics: Engineering Science – 1 credit (40%) Engineering Design – 2 credits (60%)	 2. Engineering design 3. Communication skills 4. Ethical/Prof. responsibilities 5. Teamwork skills 6. Experimental skills 7. Knowledge acquisition
COMPUTER USAGE : All the lab activities require computers.	
COURSE STRUCTURE/SCHEDULE : 1. Lecture – 2 lectures per week – 75min duration each	
PREPARED BY: Karthik Ramani	REVISION DATE: March 5, 2019