San José State University
Mechanical Engineering Department
ME 256 Product Design and Development, Spring 2019

Course and Contact Information

Instructor	Dr. Vimal Viswanathan
Office Location	E310A
Telephone	408-924-3841
Email	vimal.viswanathan@sjsu.edu
Office Hours	MW 3:15 ï 4:15pm
Class Days/Time	MW 4:30 -5:45pm
Classroom	Moorehead Hall 162

5. Apply task management techniques for product development project.
6. Work as a team to accomplish a project goal.

Required Text/Readings

Textbook

1. ñProduct Design: Techniques in Reverse Engineering and New Product Developmentò, by Kevin Otto & Kristin Wood, Pearson Education (ISBN # 9780130212719)

Reference

1. ñProduct Design and Developmentò by Karl Ulrich and Steven Eppinger, McGraw Hill Education, 6th Edition (ISBN # 0078029066)

2. ñThe Mechanical Design Processò by David G. Ullman, 6th Ed., available at https://www.mechdesignprocess.com/

Course Requirements and Assignments

Homework problems will be assigned corresponding to lecture topics and reading assignments from the textbook. Homework is due at the very beginning of class on designated deadline dates and late submission receives zero credit. (See ñExceptionsò below regarding petition for extenua[illegible]

Examinations

One 75-minute midterm and one 75-minute final examination.

Class Protocol

Class participation and attendance are strongly encouraged. Use of cell-phones are not allowed. Laptop computers and tablet are allowed.

University Policies

Per University Policy S16-9, university-wide policy information relevant to all courses, such as academic integrity, accommodations, etc. will be available on Office of Graduate and Undergraduate Programsô Syllabus Information web page.

Course Schedule

This schedule is subject to change with fair notice via announcement in class or notification via Canvas. Specific reading assignments and deadlines will be communicated in Canvas.

Week of	Topics	Classwork/homework	Notes
January 21	No classes	None	Classes begin on January 24
January 28	Introductions, case study on product design, Team formation	Team formation	
February 4	Identification of market needs, tactics to identify opportunity gaps	Market need identification, creation of project(s)	Deadline to drop classes: Feb 5th
February 11	Presentation of proposed project(s), understanding customer needs	Selection of projects, customer needs collection	Deadline to add classes: Feb 12th
February 18	Product planning and development of mission statement(s)	Mission statement for the project	
February 25	Establishing technical specifications ï qualitative function deployment process	House of quality for the project	
March 4	Reverse engineering and benchmarking	Benchmarking for the project	
March 11	Establishing product function ï functional modeling	Function structure for the project	
March 18	techniques for concept generation, midterm exam	None	Midterm exam: March 20th
March 25	Concept generation, TRIZ	Concept generation for the project	
April 1	No classes	None	Spring recess
April 8	Bio-inspired design, concept selection	Pugh Chart for the project	
April 15	Product architecture and platform planning	Prototyping for the project	
April 22	Design for X (manufacturability, assembly, environment) consideration	Prototyping for the project (continued)	

April 29	Modeling and experimentation	Experimentation & evaluation data	
May 6	Review, final exam	None	Final exam: May 8th
May 13	Project video presentation	None	Last day of class ï May 13