San José State University
School of Engineering/Mechanical Engineering

ME 136, Design for Manufacturability, Spring 2020

Course and Contact Information

Instructor: Ed Cydzik

Office Location: Part-time faculty office ï E348

Telephone: 650.954.7278

Email:

- Gain exposure to principles of the Lean Six Sigma methodology.

Upon successful completion of this course, students will be able to:

- Explain how to apply a QFD chart
- Explain how to estimate the assembly time for a manually assembled product.
- Explain how to use a Pugh Concept Selection chart and how to compare material choices for a proposed design.
- Explain how to use an FMEA chart to prioritize activities

Required Texts/Readings (Required)

Textbook

George E. Dieter, Linda C. Schmidt, *Engineering Design 5th Edition*, ISBN 978-0-07-339814-3, available at the Campus Bookstore.

Other Readings

Additional readings will be posted on the Canvas LMS. All materials handed out or posted in Canvas LMS will be restricted for students use for class purposes.

Other suggested references:

1) Boothroyd, Dewhurst, and Knight (2011), *Product Design for Manufacture and Assembly*, 3rd Edition, ISBN 978-1-4200-8927-1. Outstanding reference on DFM&A, available a

Final Examination or Evaluation:

Final exam: One-hour final exam on Thursday May 7th from 7:30 PM- 8:30 PM in E329, open book and open notes. A single page of notes is strongly recommended.

Grading Information (Required)

Homework: Seven homework or project assignments, due at the start of lecture in hard copy format on Thursday following the week assigned. No late homework accepted.

Project: Team activities and presentations.

Exams: One, 1-hour midterm and one, 1- hour final exam.

Grading: Homework 15%-5(.of le)3(c)4total g3(in)11(gETBT1 0 0 1 250.25 520.699Tm

ME 136 / Design for Manufacturability, Spring 2020, Course Schedule

The Course Schedule may change changes will be announced during lecture time

Course Schedule

Week	Date	Topics, Readings, Assignments, Deadlines
1		Introduction to the Product Development Process; team-based approach; Reading ï Chapter 1 ï Engineering Design
	1/23/20	
2	1/28/20	Product Definition and Value Engineering; Reading ï Chapter 2
	1/30/20	
3	2/04/20	Quality Management in Manufacturing and Design; Reading ï Chapter 3
	2/06/20	
4	2/11/20	Voice of the Customer and Quality Function Deployment; Reading ï Chapter 4
	2/13/20	
5	2/18/20	Assembly analysis and manufacturing processes
	2/20/20	
6	2/25/20	Design for variety and platform design
	2/27/20	
7	3/03/20	**Midterm – classroom**
8	**3/**05/20	
8	3/10/20	Concept Generation and Selection
	3/12/20	

Week	Date	Topics, Readings, Assignments, Deadlines
13	4/21/20	Advanced Application of DFM tools
	4/23/20	
14	4/28/20	Advanced Application of DFM tools
	4/30/20	