



COURSE SYLLABUS –SPRING 2021

Course Instructor: Dr. S G Khan

1. Department and Name of Course: Mech. Engg Dept, Mechanical Design II - ME 352 - Cr-Lt-Lb: 4-3-1

2. Course Description

Design of machine elements, Screws and fasteners, rolling elements: bearings, journal bearings, Springs, Gears: Spur, Helical, Shafts, Brakes, Clutches, Flexible elements, Joining components and methods, Design project

3. Prerequisite: Mechanical Design I, ME 351

4. Textbook(s) and/or Other Required Material

R. G. Budynas and J. K. Nisbett, Shigley's Mechanical Engineering Design, 8th ed., McGraw Hill, 2008 (or later).

5. Course Objectives

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

- 1. analyze mechanical systems and select proper machine elements*
- 2. design common machine elements such as shafts, fasteners, springs, bearings, and gears.*
- 3. use design codes in design and selection of machine components*
- 4. function effectively both as an individual and as a member of project teams.*
- 5. perform a complete project and present his work in an engineering design report*
- 6. use the written and oral communication skills in an effective way.*

6. Class Schedule:

Course delivered via lecture with **PowerPoint slides** and White Board – **Monday-Wednesdays 8-9:15 YMES1**
2:30-3:45 YMES2

Laboratory:: 8:00-10:30 pm YMES2, 10:30-1:00 pm YMES1 Thursdays

Week No	Lecture Topic	Activities
Week 1	INTRODUCTION TO DESIGN OF MACHINE ELEMENTS	
Week2	CHAPTER 8:DESIGN OF SCREWS AND FASTENERS	
Week 3	CHAPTER 8:DESIGN OF SCREWS AND FASTENERS	
Week4	CHAPTER 8: DESIGN OF SCREWS AND FASTENERS	
Week5	CHAPTER 9:PERMANENT JOINTS/WELDING/ADHESIVE	QUIZ 1
Week6	CHAPTER 10: DESIGN OF SPRINGS	
Week7	CHAPTER 11: DESIGN OF ROLLING ELEMENTS	MIDTERM EXAM
Week 8	CHPATER 12: DESIGN JOURNAL BEARING LUBRICATION	
Week 9	CHAPTER 17: DESIGN OF FLEXIBLE DRIVES	
Week 10	CHAPTER 17: DESIGN OF FLEXIBLE DRIVES	
Week 11	CHAPTER 16: DESIGN OF BRAKES AND CLUTCHES	
Week 12	CHAPTER 13: DESIGN OF GEARS	QUIZ 2
Week 13	CHAPTER 13: DESIGN OF GEARS	PROJECT REPORT
Week 14	CHAPTER 14: DESIGN OF GEARS	PROJECT PRESENTATIONS
Week 15	CHAPTER 7: DESIGN OF SHAFTS	
	FINAL EXAM	

7. Grade Distribution

Term Activities (60%)	Lab Work/ Mini project	20%
	Quizzes/HomeWork	20%
	Mid-Term Exam:	20%
	Final Lab Exam	40%
Passing Marks		60%