
Mechanical Design II Syllabus

Spring 2022

CATALOG DESCRIPTION

Analysis and design of machine elements, components, and mechanical systems. Machine elements include shafts, keys, bearings, gears, belts, chains, springs, screws, and motors.

Prerequisite: ENGR 0135, ME 0024 or MEMS 0024 or ET 0035, and ME 1028 or MEMS 1028.
3 credit hours.

Instructor: Qi, Gang PhD

Textbook: Shigley's Mechanical Engineering Design (11th Edition), Richard G. Budynas and J. Keith Nisbett, ISBN – 978-0-07-339821-1

Classroom: 江安匹兹堡学院 204

Office: 4-219;

Email: gang.qi@scupi.cn

Office hours: 9:00 – 10:00 am and 1:30 – 3:00 pm Thu and 9:00 – 10:00 am Fri.

Teaching Assistant: Jin, Liuchao

(Modifications to this syllabus may become necessary during the semester. Any changes to the syllabus shall be posted on the course website and announced in class)

Prerequisites

ME 0024 or MEMS 0024 or ET 0035 and ME 1028 or MEMS 1028.

Class Format

The teaching format of this course is lecture + inclass exercises + design projects. The lectures include introducing the concepts, the commands, text materials, and questions. The studios are the scheduled class time you will work in teams to apply these concepts and commands. Teams will be formed during the first week of class.

Homework Assignments

HW will be assigned every week. You may discuss the problems with other students, but all electronic writeups for submission must be prepared individually. These assignments are due at midnight before the next class. For instance, the due day is following Tuesday midnight (24:00) for the Wednesday session.

Plagiarism and Academic Misconduct

Plagiarism, copying, and any other form of academic misconduct or dishonesty will not be tolerated. Cite all references, such as books, technical reports, and web sites you have used. You

may discuss the homework with other people currently taking this class, the instructors, and any teaching assistants.

Course Topics:

- Shafts and shaft components (keys and pins)
- Screws, fasteners, and nonpermanent joints
- Bearings
- Springs
- Gears
- Belts and Chains
- Motors

Course Project:

- Title: Power Transmission Design

Grading:

- Homework Assignments 15%
- Two Interm exams (2 x 25) 50%
- One open end design project 35%

Standard numerical and letter scales conversion

Letter	A	A-	B+	B	B-	C+	C	C-	D+	D	F
Percentage (%)	100~90	89~85	84~80	79~76	75~73	72~70	69~66	65~63	62~61	60	<60

Your HW assignments will be graded by the TA of your section. If you believe an error has been made in the grading of an assignment, you are to bring it to the attention of the TA within ONE WEEK after grading.