Instructor: Yi-chao Chen, Department of Mechanical Engineering, N210-D, Telephone: (713) 743-4533. E-mail: chen@uh.edu. Office hours: M. & W. 4:00-5:00 PM, or by appointment.

Lectures: M. & W. 2:30-3:50 PM, D2 LECT2.

Textbooks: R. G. Budynas and J. K. Nisbett, *Shigley's Mechanical Engineering Design* 10th edition, McGraw-Hill 2015.

Homework Assignments: Homework assignments will be uploaded on Canvas every week. Completed assignments must be submitted on Canvas by the due date.

Exams: All exams will be given at D2 LECT2.

Exam I: Wednesdays 2/12, 2:30-3:50 PM.

Exam II: Wednesday 3/26, 2:30-3:50 PM.

Final Exam: Monday 5/5, 2:00 – 4:00 PM.

Grading weights: Homework 12%, Mid-term exams 24% each, Final exam 40%.

Tentative Schedule :

WEEK	DATE	TOPIC	CHAPTER
1	1/13-1/17	Introduction	1
2	1/20-1/24	Materials, Stress Analysis	2 & 3
3	1/27-1/31	Deformations	4
4	2/3-2/7	Failures: Static Loading	5
5	2/10-2/14	Failures: Variable Loading	6
6	2/17-2/21	Failures: Variable Loading	6
7	2/24-2/28	Shafts	7
8	3/3-3/7	Joints	8 & 9
9	3/10-3/14	Spring Holiday	
10	3/17-3/21	Springs	10
11	3/24-3/28	Contact Bearings	11
12	3/31-4/4	Journal Bearings	12
13	4/7-4/11	Gears	13
14	4/14-4/18	Gears	14 & 15
15	4/21-4/25	Clutches, Brakes	16
16	4/28-5/1	Flexible Elements	17

Frequently Asked Questions:

1. *Can I collaborate with friends/classmates on homework?* No. Learning machine design requires independent thinking. While it may be helpful to discuss basic concepts, principles, and solution methods with your peers, you must carry out the work independently, and present your own work in homework assignments.

2. *Can I submit a late homework?* No. Homework assignments are a very important part of this class. Doing homework assignments sincerely and on time will help you understand the subject matters and prepare for the exams.

3. *Can you move the exam date?* No. The exam date cannot be moved. There will be no make-up/alternative for missed exams. If you have a valid reason for not being able to take an exam you need to discuss it with me prior to the exam.

4. *I did not do well in the exams. Can I do a project to earn extra credits?* No, unfortunately. The purpose of this class is to develop a background in dynamics and to learn using these tools in various areas of engineering. This can only be achieved through sufficient practice and evaluated through exams.

5. *I don't have the basics of what you are teaching (e.g. I don't remember free-body diagrams). Can you please go over the stuff that I don't remember?* No. This is a required course for mechanical engineering and civil engineering students. If you don't remember the materials covered in the prerequisites, you are expected to do a fair amount of self-studying.

6. *I did very poorly on my first exam. The drop date is approaching. Should I drop the course, or do you think I can pass this course by doing well on the second and the third exams?* I don't know. It depends on you and your classmates.

7. *I think you were too strict in grading this exam and I feel I deserve extra 2 points on this question. Would you please re-consider it?* No. Grading standards is uniform throughout the class. If my grading has been harsh on your exam, it has been so for your peers.

Required syllabus language

Mental Health and Wellness Resources

The University of Houston has a number of resources to support students mental health and overall wellness, including CoogsCARE and the UH Go App. UH Counseling and Psychological Services (CAPS) offers 24/7 mental health support for all students, addressing various concerns like stress, college adjustment and sadness. CAPS provides individual and couples counseling, group therapy, workshops and connections to other support services on and off-campus. For assistance visit uh.edu/caps, call 713-743-5454,

or visit a Lets Talk location in-person or virtually. Lets Talk are daily, informal confidential consultations with CAPS therapists where no appointment or paperwork is needed.

The Student Health Center offers a Psychiatry Clinic for enrolled UH students. Call 713-743-5149 during clinic hours, Monday through Friday 8 a.m. - 4:30 p.m. to schedule an appointment.

The A.D. Bruce Religion Center offers spiritual support and a variety of programs centered on well-being.

If you or someone you know is struggling or in crisis, help is available. Call CAPS crisis support 24/7 at 713-743-5454, or the National Suicide and Crisis Lifeline: call or text 988, or chat 988lifeline.org.

Academic Honesty Policy

High ethical standards are critical to the integrity of any institution, and bear directly on the ultimate value of conferred degrees. All UH community members are expected to contribute to an atmosphere of the highest possible ethical standards. Maintaining such an atmosphere requires that any instances of academic dishonesty be recognized and addressed. The UH Academic Honesty Policy is designed to handle those instances with fairness to all parties involved: the students, the instructors, and the University itself. All students and faculty of the University of Houston are responsible for being familiar with this policy.

Title IX/Sexual Misconduct

Per the UHS Sexual Misconduct Policy, your instructor is a responsible employee for reporting purposes under Title IX regulations and state law and must report incidents of sexual misconduct (sexual harassment, non-consensual sexual contact, sexual assault, sexual exploitation, sexual intimidation, intimate partner violence, or stalking) about which they become aware to the Title IX office. Please know there are places on campus where you can make a report in confidence. You can find more information about resources on the Title IX website.

Reasonable Academic Adjustments/Auxiliary Aids

The University of Houston is committed to providing an academic environment and educational programs that are accessible for its students. Any student with a disability who is experiencing barriers to learning, assessment or participation is encouraged to contact the Justin Dart, Jr. Student Accessibility Center (Dart Center) to learn more about academic accommodations and support that may be available to them. Students seeking academic accommodations will need to register with the Dart Center as soon as possible to ensure timely implementation of approved accommodations. Please contact the Dart Center by visiting the website: https://uh.edu/accessibility/ calling (713) 743-5400, or emailing jdcenter@Central.UH.EDU.

Excused Absence Policy

Regular class attendance, participation, and engagement in coursework are important

contributors to student success. Absences may be excused as provided in the University of Houston Undergraduate Excused Absence Policy and Graduate Excused Absence Policy for reasons including: medical illness of student or close relative, death of a close family member, legal or government proceeding that a student is obligated to attend, recognized professional and educational activities where the student is presenting, and University-sponsored activity or athletic competition. Under these policies, students with excused absences will be provided with an opportunity to make up any quiz, exam or other work that contributes to the course grade or a satisfactory alternative. Please read the full policy for details regarding reasons for excused absences, the approval process, and extended absences. Additional policies address absences related to military service, religious holy days, pregnancy and related conditions, and disability.

Recording of Class

Students may not record all or part of class, livestream all or part of class, or make/distribute screen captures, without advanced written consent of the instructor. If you have or think you may have a disability such that you need to record class-related activities, please contact the Justin Dart, Jr. Student Accessibility Center. If you have an accommodation to record class-related activities, those recordings may not be shared with any other student, whether in this course or not, or with any other person or on any other platform. Classes may be recorded by the instructor. Students may use instructors recordings for their own studying and notetaking. Instructors recordings are not authorized to be shared with anyone without the prior written approval of the instructor. Failure to comply with requirements regarding recordings will result in a disciplinary referral to the Dean of Students Office and may result in disciplinary action.