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<b><u>Instructor</u></b>	Dr. Ozgul Yasar OCNL 424 Phone: 530- 898-6142 email: <a href="mailto:oyasar@csuchico.edu">oyasar@csuchico.edu</a> Office Hours: Mondays at 12 pm – 1 pm and Thursdays at 11 am – 2 pm or by appointment
<b><u>Catalog Description</u></b>	Kinematics and dynamics of mechanical systems composed of rigid bodies. Moments and products of inertia, forces of interaction, inertia forces, and torques. Equations of motion of non-planar systems.
<b><u>Prerequisites</u></b>	CIVL 211 (Statics) with a grade of C- or higher. MATH 260 (Differential Equations)
<b><u>Class Times</u></b>	MWF 11:00 - 11:50 AM in LANG 300
<b><u>Textbooks</u></b>	Engineering Mechanics: Dynamics (14th Edition) by Russell C. Hibbeler, Pearson 2016. ISBN-13: 978-0133915389
<b><u>Homework</u></b>	Homework sets will be assigned for the semester. These problem sets will be posted on the Canvas class site. Problem sets must be submitted to the Canvas at the start of the class period on the due date specified. Homework submitted after the specified deadline will receive no credit unless prior arrangements are made with the instructor, or there is an officially-verifiable illness or emergency. Tardiness or absence from class on the due date is not an excuse for late submission of homework. If the points are taken from any of the assignments, there will be a note attached to the penalized question to explain the reason for the penalty. Important reminders are also going to be announced in Canvas. I encourage you to login to Canvas daily to check any possible announcements.
<b><u>Tests</u></b>	There will be quizzes, two midterms, and a final exam for the semester. All tests are closed-book. These midterms primarily cover the key topics discussed since the previous test. The final exam is comprehensive. Makeup tests will be given only with documented compelling reasons. Students will take the final exam on the day and time scheduled by the university. Time conflicts with other final exams should be brought to the instructor's attention as early as possible. Answers to the test problems should include relevant work in a logical order with explanation where necessary. When calculation is needed to arrive at a final answer, the formula(s) used along with numerical substitutions and correct units should be clearly shown. A complete and correct answer is necessary for full credits. Your webcams must be on during the exams.
<b><u>Collaboration</u></b>	Collaboration and discussion on the homework is encouraged in this class, but assignments turned in for a grade must be a student's own work. Consulting with your colleagues is fine, but copying from somebody else's homework solution is considered academic misconduct. (I strongly recommend that you first attempt every homework problem on your own, and only then meet with your colleagues to check and improve your work. The best learning usually comes after getting stuck on your own.) Academic misconduct will be referred to the Student Judicial Affair.

## Evaluation

The overall course grade will be based on homework, quizzes, midterms, and final exam.

Homework 15%

Quizzes 20%

Midterms 35%

Final Exam 30%

Grade	A	A-	B+	B	B-	C+	C	C-	D+	D	F
	93-100	90-92	87-89	83-86	80-82	77-79	73-76	70-72	66-69	60-65	<60

## Course Objectives and Description

Students will learn to analyze the motion and the forces of physical systems, modeled as collections of particles and rigid bodies. The course consists of two primary types of study: kinematics, which treats only the motion of objects without consideration of the forces causing the motion, and kinetics, which involves the analysis of the forces on objects as well as the resulting motion. Students are expected to have an adequate working knowledge of statics prior to taking this course, i.e., being able to model a physical system at rest, draw free-body diagrams, and apply the laws of static equilibrium.

## Class Schedule

The following table is a tentative course schedule outlining the chapters covered and approximate time for the tests. The schedule and topics might be modified based on student progress and time availability.

### ***Tentative Schedule, Fall 2023***

Week	Date	Topic	Reading
Week 1	8/21-8/25	Kinematics of a Particle	12.1-12.4
Week 2	8/28-9/1	Curvilinear and Relative Motion	12.5-12.10
Week 3	9/4-9/8 <b>No Class Sep.4 (Labor Day)</b>	Kinetics and Newton's 2 <sup>nd</sup> Law	13.1-13.3
Week 4	9/11-9/15	Equations of Motion	13.4-13.6
Week 5	9/18-9/22	Work and Energy	14.1-14.6
Week 6	<b>9/25-9/29</b>	<b>Review (Midterm I: Ch#12,13,14)</b>	Study
Week 7	10/2-10/6	Linear Impulse and Momentum	15.1-15.4
Week 8	10/9-10/13	Angular Momentum	15.5-15.7
Week 9	10/16-10/20	Rigid Body Motion	16.1-16.5
Week 10	10/23-10/27	Relative Motion	16.6-16.8
Week 11	10/30-11/3	Equation of Motion	17.1-17.5
Week 12	<b>11/6-11/10 No Class Nov.10 (Veterans Day)</b>	<b>Review (Midterm II: Ch#15,16,17)</b>	Study
Week 13	11/13-11/17	Work & Energy	18.1-18.5
Week 14	<b>11/20-11/24</b>	<b>Fall Break</b>	<b>Enjoy</b>
Week 15	11/27-12/1	Impact	19.1-19.4
Week 16	12/4-12/8	Review	
Week 17	<b>12/11-12/15</b>	<b>Final Exam (TBA)</b>	

## Dropping and Adding Class

Students are responsible for understanding the policies and procedures about add/drops, academic renewal, etc., found in the [CSU Chico University Catalog](#). You should be aware of the new deadlines and penalties for adding and dropping classes.

**Academic Integrity**

Students are expected to be familiar with the University's Academic Integrity Policy. Your own commitment to learning, as evidenced by your enrollment at California State University, Chico, and the University's Academic Integrity Policy requires you to be honest in all your academic course work. Faculty members are required to report all infractions to the Office of Student Judicial Affairs. The policy on academic integrity and other resources related to student conduct can be found at: <http://www.csuchico.edu/sid/integrity.shtml>

**Americans with Disabilities Act**

If you need course adaptations or accommodations because of a disability or chronic illness, or if you need to make special arrangements in case the building must be evacuated, please make an appointment with me as soon as possible, or see me during office hours. Please also contact Accessibility Resource Center (ARC) as they are the designated department responsible for approving and coordinating reasonable accommodations and services for students with disabilities. ARC will help you understand your rights and responsibilities under the Americans with Disabilities Act and provide you further assistance with requesting and arranging accommodations.

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530-898-5959  
Student Services Center 170  
[arcdept@csuchico.edu](mailto:arcdept@csuchico.edu)

**Student Learning Center**

The mission of the Student Learning Center (SLC) is to provide services that will assist CSU, Chico students to become independent learners. The SLC prepares and supports students in their college course work by offering a variety of programs and resources to meet student needs. The SLC facilitates the academic transition and retention of students from high schools and community colleges by providing study strategy information, content subject tutoring, and supplemental instruction. The SLC is online at <http://www.csuchico.edu/slc>