

University of Connecticut
Department of Civil & Environmental Engineering
CE2120-001 Applied Mechanics II: Dynamics
Spring 2016

Lecture: MWF 9:05 – 9:55 AM UTEB 150

Instructor: Prof. Shinae Jang (sjang@engr.uconn.edu)

Office hours: Tue 2-3PM, Thu 11AM- 12PM in Castleman 322 and via HuskyCT/Discussion Board

Teaching Assistants:

Graduate: Hao Yuan (hao.yuan@uconn.edu)

Problem-solving sessions for Homework: Thursdays 6-8PM

Office hours: Mondays 10-11AM and Fridays 11AM-12PM in Castleman 123

Undergraduate: Maria Rozman (maria.rozman@uconn.edu)

Prerequisite: CEE 2110 and MATH2110 or 2130

Required Material: Textbook: Vector Mechanics for Engineers: Dynamics, F. P. Beer, E. R. Johnston, Jr., P. J. Cornwell, B. P. Self. 11th Ed, McGraw-Hill, 2016, i>clicker2

i>clicker2 Instructions: I will be using the i>clicker student response system in class this term for executing parts of Pop Quiz and extra-credit in-class activities. The mobile application, REEF Polling **will not** be allowed. To receive credit for the responses you submit with i>clicker, you must register on HuskyCT by the drop/add deadline, 2/1. I consider bringing a fellow student's i>clicker to class to be cheating and a violation of the University Code of Conduct. If you are caught with a remote other than your own or have votes in a class that you did not attend, you will forfeit all clicker points and may face additional disciplinary action.

Grading: Homework (15%), Midterm Exams (45%), Final Exam (35%), Pop quiz (5%).

Letter	A	A-	B+	B	B-	C+	C	C-	F
Average	92<	88-91.9	83-87.9	78-82.9	73-77.9	68-72.9	63-67.9	58-62.9	<58

Course Policies:

In class:

- Please arrive to the classroom on time
- Respect your classmates and instructor – keep quiet during the lecture.
- No answering phone calls, no texting during the lecture.
- Any specific questions will be answered right after the class, during office hours, or through emails. Please include the course number in all correspondence.

Assignments:

- **Homework** problems will be released at the end of the lecture, and cumulative homework should be scanned as a single PDF file and submitted before deadline on the HuskyCT as written in the course schedule. The solution will be uploaded to HuskyCT right after the deadline. Therefore, late homework will NOT be accepted. The lowest homework graded will be waived; therefore, only 10 highest homework scores will be included in your grades.
- **Midterm exams:** Two midterm exams will be given during the semester. No makeup exams will be given with the following exceptions: 1) medical emergency with a letter from hospital or doctor, 2) athletic team members with a letter from their coach (in case of a conflict between an exam and a tournament). Students with a disability can contact CSD to schedule their exam in a private room with extended time.
- **Final:** A cumulative final exam will be given at the end of the semester during Finals Week. The date will be assigned by Registrar's office.

Academic integrity:

- The instructors of this class have a zero-tolerance policy for academic misconduct, that is copying others' work either in the lab, field, or on an exam. Any student work that is found to be in violation of the university policy regarding academic misconduct (http://www.community.uconn.edu/student_code.html) will be assigned a grade of zero at a minimum.
- Read and understand UConn Student Code of Conduct. Students will follow all University regulations concerning the final exam.

Course Schedule

Week	Date	Section	Topic	Due date
1	1/20	11.1	Introduction/Rectilinear Motion	
	1/22	11.2	Uniformly Accelerated Motion	
2	1/25	11.3	Graphical Solutions	HW1
	1/27	11.4	Curvilinear Motion of Particles	
	1/29	11.5	Curvilinear Motion- Non-rectangular components	
3	2/1	12.1	Newton's Second Law and Linear Momentum	HW2
	2/3	12.2	Angular Momentum and Orbital motion	
	2/5	12.3	Applications of Central-Force motion	
4	2/8	13.1	Work and Energy	HW3
	2/10	13.1	Work and Energy	
	2/12	13.2	Conservation of Energy	
5	2/15	13.3	Impulse and Momentum	HW4
	2/17	13.4	Direct Central Impact	
	2/19	13.4	Oblique Central Impact	
6	2/22		Review or Make-up Class	HW5
	2/24		Midterm 1 review	
	2/26		Midterm 1	
7	2/29	14.1	Newton's Second Law of Motion: Systems of Particles	
	3/2	14.2	Energy and Momentum: Systems of Particles	
	3/4	14.2	Energy and Momentum: Systems of Particles	
8	3/7	15.1	Translation and Fixed axis rotation	HW6
	3/9	15.2	General Plane Motion: velocity	
	3/11	15.3	Instantaneous Center of Rotation	
9			Spring break (3/13 – 3/19)	
10	3/21	15.4	General Plane Motion: acceleration	HW7
	3/23	15.5	Analyzing motion w.r.t a rotating frame	
	3/25	15.6	Motion of a rigid body in Three Dimensions	
11	3/28	15.7	Motion relative to a moving reference frame	HW8
	3/30	16.1	Kinetics of a Rigid Bodies	
	4/1	16.1	Kinetics of a Rigid Bodies	
12	4/4	16.1	Kinetics of a Rigid Bodies	HW9
	4/6	16.2	Constrained Plan Motion	
	4/8	16.2	Constrained Plan Motion	
13	4/11		Review or Make-up Class**	HW10
	4/13		Problem session	
	4/15		Midterm 2	
14	4/18	17.1	Work and Energy: a Rigid Body	
	4/20	17.2	Impulse and Momentum: a Rigid Body	
	4/22	17.3	Eccentric Impact	
15	4/25	19.1	Mechanical Vibrations without damping	
	4/27		Review/Problem session or make-up class	HW11
	4/29		Review for Final Exam**	
	TBD		Final Exam	

*The course contents are subject to change.