

MCE 263 - Dynamics: Winter J-Term Syllabus

Table 1: Course Details

Instructor	Prof. CE Rousseau Office: 260 Fascitelli Center for Advanced Engineering Hall · Phone: (401) 874-2542 Office hours: Monday - Friday: 9:00-11:00am Email: SAKAI.uri.edu – all Sakai messages sent between 8AM & 4PM will be answered before the end of the day.
Class Schedule	(January 2 – January 17) online - Register for textbook online access before January 2!
Catalog Description	Kinematic and kinetic study of motion of particles, systems of particles, and rigid bodies, acted upon by unbalanced force systems, using both scalar and vector methods; development of methods of analysis based on the direct application of Newton’s laws, work-energy and impulse-momentum principles. (Lec. 3)
Prerequisites	MCE 262 - Statics
Text	Required: <u>ebook version</u> Dynamics, 12th edition, Beer, Johnston, & Cornwell, Self, McGraw-Hill, 2016, & <u>purchase of online access</u> . Optional: HardCopy of the same textbook.
Evaluation	–15 Reading assignments (on Connect): 5 pts –14 HW assignments (on Connect): 20 pts If HW is solved incorrectly, solution to similar problems is provided. Student is then given unlimited opportunities to redo HW correctly. –10 Quizzes (on Connect or Sakai/Brightspace): 75 pts All quizzes become available at 6:00 PM on the due date and must be completed within a period of 6 hours. No email submissions will be accepted. Each assigned problem set and each problem within a set are equally weighed.
Academic Support	Office of Disability Services 1. Any student with a documented disability is welcome to contact me early in the semester so that we may work out reasonable accommodations to support your success in this course. Students should also contact Disability Services for Students, Office of Student Life, 330 Memorial Union, 401-874-2098. 2. From the University Manual: 6.40.10 and 6.40.11 Accommodations for Qualified Students With Disabilities . Students are expected to notify faculty at the onset of the semester if any special considerations are required in the classroom. If any special considerations are required for examinations, it is expected the student will notify the faculty a week before the examination with the appropriate paperwork.

ASSIGNMENTS/QUIZZES/EXAMS NOT SUBMITTED BY THE DEADLINE WILL RECEIVE A GRADE OF ZERO. Please back up your work on a flash drive, email to yourself, and/or store in a cloud. It is a good idea to have a back-up plan in case of computer problems, e.g., a friend’s computer, a library computer, etc.

Table 2: Final Course Grades

A ≥ 93	A- 90 – 92	B+ 87 – 89	B 83 – 86	B- 80 – 82	C+ 77 – 79	C 73 – 76	C- 70 – 72	D+ 67 – 69	D 61 – 66	F ≤ 60
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Table 3: Schedule of Activities

Module	Dates	Topic*	Sections	Assignments	Quiz
1a	1/2	Rectilinear motion	11.1,2A-B	Pr. 11.2,7,10,17,34,38,42	–
1b	1/3	Motion of several particles Projectiles	11.2C 11.4A-C	Pr. 11.48,52,59 11.105-107	1/3
2	1/4	Relative motion Curvilinear: n-t	11.4D 11.5	Pr. 11.117,119,121 11.136,140,141,145	1/4
3	1/6	Newton's law Newton's law curvilinear	12.1 12.1	Pr. 12.9,11,44,45 12.49,51,65	1/6
4	1/7	Work & energy Potential energy	13.1 13.2	Pr. 13.3,9,14,19,50 13.73,74	1/7
5	1/8	Impulse & momentum-particles Impact	13.3,4 13.4	Pr. 13.119 13.158,166,171,175,182	1/8
6a	1/9	Translation & rotation (RB)	15.1	Pr. 15.1,7,8,18	–
6b	1/10	Rotation, relative motion (RB) Relative motion, velocity (RB)	15.2 15.2	Pr. 15.28,31,38,41 15.43,55,62,63,70	1/10
7a	1/11	Instantaneous center (RB)	15.3	Pr. 15.80,82,89,104	–
7b	1/13	Relative motion, acceleration (RB)	15.4	Pr. 15.105,107,109,111,115,121,122,133	–
7c	1/13	Moment of inertia	9.1,2,5	–	1/13
8a	1/14	Translation (RB kinetics)	16.1	Pr. 16.1,5,14,19,28,37,56	–
8b	1/15	Fixed axis rotation (RB kinetics) General plane motion (RB kinetics)	16.2 16.2	Pr. 16.78,88,100 16.104,117,121	1/15
9	1/16	Work & energy (RB)	17.1	Pr. 17.2,11,12,24,27,37	1/16
10	1/17	Impulse & momentum (RB)	17.2	Pr. 17.52,54,62,72	1/17

*Each Module learning objective relates to the overall course objectives (see Table 4). The student will demonstrate mastery of the Module objectives by obtaining a passing grade for the quiz held at the end of the Module.