

Assignment Schedule – Spring 2023
ME 274 - BASIC MECHANICS II
 School of Mechanical Engineering - Purdue University

PERIOD	DATE	TOPIC	READING	HOMEWORK
KINEMATICS				
1	M	1/9	Point Kinematics – Cartesian description	1.A, H.1.A, H.1.B
2	W	1/11	Point Kinematics – Path description	1.A, H.1.C, H.1.D
3	F	1/13	Point Kinematics – Polar description	1.A, H.1.E, H.1.F
	M	1/16	University Holiday - no class meeting	
4	W	1/18	Point Kinematics – Joint description	1.C, H.1.G, H.1.H
5	F	1/20	Point Kinematics – Relative and Constrained Motion	1.D, H.1.I, H.1.J
6	M	1/23	Planar Kinematics – Rigid Bodies	2.A, H.2.A, H.2.B
7	W	1/25	Planar Kinematics – Rigid Bodies	2.A, H.2.C, H.2.D
8	F	1/27	Planar Kinematics – Rigid Bodies	2.A, H.2.E, H.2.F
9	M	1/30	Planar Kinematics – Instant Centers	2.B, H.2.G, H.2.H
10	W	2/1	Planar Kinematics – Rigid Body Summary	2.C, H.2.I, H.2.J
11	F	2/3	Moving Reference Frame Kinematics – 2D	3.A, H.3.A, H.3.B
12	M	2/6	Moving Reference Frame Kinematics – 2D	3.A, H.3.C, H.3.D
	W	2/8	No class meeting due to evening exam	
13	W	2/8	Exam 1, 6:30-7:30 PM	
14	F	2/10	Moving Reference Frame Kinematics – 3D	3.B, H.3.E, H.3.F
15	M	2/13	Moving Reference Frame Kinematics – 3D	3.B, H.3.G, H.3.H
16	W	2/15	Moving Reference Frame Kinematics – 3D	3.B, H.3.I, H.3.J
17	F	2/16	Particle Kinetics – Newton's Second Law	4.A, H.4.A, H.4.B
KINETICS				
18	M	2/20	Particle Kinetics – Newton's Second Law	4.A, H.4.C, H.4.D
19	W	2/22	Particle Kinetics – Newton's Second Law	4.A, H.4.E, H.4.F
20	F	2/24	Particle Kinetics – Work/Energy	4.B, H.4.G, H.4.H
21	M	2/27	Particle Kinetics – Work/Energy	4.B, H.4.I, H.4.J
22	W	3/1	Particle Kinetics – Linear Impulse/Momentum	4.C, H.4.K, H.4.L
23	F	3/3	Particle Kinetics – Linear Impulse/Momentum	4.C, H.4.M, H.4.N
24	M	3/6	Particle Kinetics – Central Impact	4.C, H.4.O, H.4.P
	W	3/8	No class meeting due to evening exam	
25	W	3/8	Exam 2, 6:30-7:30 PM	
26	F	3/10	Particle Kinetics – Angular Impulse/Momentum	4.D, H.4.Q, H.4.R
Spring Break - March 13-18 - no classes				
27	M	3/20	Particle Kinetics – Angular Impulse/Momentum	4.D, H.4.S, H.4.T
28	W	3/22	Planar Kinetics of Rigid Bodies – Newton/Euler Equations	5.A, H.5.A, H.5.B
29	F	3/24	Planar Kinetics of Rigid Bodies – Newton/Euler Equations	5.A, H.5.C, H.5.D
30	M	3/27	Planar Kinetics of Rigid Bodies – Newton/Euler Equations	5.A, H.5.E, H.5.F
31	W	3/29	Planar Kinetics of Rigid Bodies – Work/Energy	5.B, H.5.G, H.5.H
32	F	3/31	Planar Kinetics of Rigid Bodies – Work/Energy	5.B, H.5.I, H.5.J
33	M	4/3	Planar Kinetics of Rigid Bodies – Impulse/Momentum	5.C, H.5.K, H.5.L
34	W	4/5	Planar Kinetics of Rigid Bodies – Impulse/Momentum	5.C, H.5.M, H.5.N
35	F	4/7	Planar Kinetics of Rigid Bodies – Summary	5.A-D, H.5.O, H.5.P
VIBRATIONS				
36	M	4/10	Vibrations – Equations of Motion	6.A, H.6.A, H.6.B
	W	4/12	No class meeting due to evening exam	
37	W	4/12	Exam 3, 6:30-7:30 PM	
38	F	4/14	Vibrations – Free, Undamped Response	6.B, H.6.C, H.6.D
39	M	4/17	Vibrations – Free, Damped Response	6.B, H.6.E, H.6.F
40	W	4/19	Vibrations – Free, Damped Response	6.B, H.6.G, H.6.H
41	F	4/21	Vibrations – Harmonic Excitation	6.C, H.6.I*, H.6.J*
42	M	4/24	Vibrations – Harmonic Excitation	6.C, H.6.K**, H.6.L**
43	W	4/26	Vibrations – Harmonic Excitation	6.C, H.6.M**, H.6.N**
44	F	4/28	Course Overview	

Final Examination: During the final examination period (5/1-5/6). Date, time, and location TBA during the semester.

Homework Assignments: Homework problems are due on Gradescope by 11:59 pm on the day of the next regular class period after they are assigned. (*) denotes homework due at 11:59 pm on Sunday, 4/23. (**) denotes homework that will NOT be collected.

Solution Videos: Solution videos are provided for the assigned problems above on the course website after the due date.