ENG ME 302 Engineering Mechanics II **Spring 2022**

Prof. Raymond J. Nagem
110 Cummington St., Room 420
617 353-5925
nagem@bu.edu

Zili Wang
zw2445@bu.edu
Celeste Deng
dengyq@bu.edu

Text: James H. Williams, Jr., *Fundamentals of Applied Dynamics,*
MIT Press, 2019, ISBN 9780262039710.

Week Beginning	Topics	Reading
1/17	Particle kinematics	Chs. 1, 2; Secs. 3–1, 3–2
1/24	Moving reference frames	Secs. 3–3 – 3.5
1/31	"	"
2/7	Momentum principles for particles	Secs. 4–1 – 4–4
2/14	"	"
2/21	Work and energy for particles	Secs. 5–1 – 5–3
2/28	Lagrange equations for particles	Secs. 5–4 – 5–7
3/14	"	"
3/21	Momentum principles for rigid bodies	6–1 – 6–2
3/28	Dynamic properties of rigid bodies	6–1 – 6–3
4/4	Rigid body dynamics	6–4
4/11	Lagrange equations for rigid bodies	6–5 – 6–6
4/18	"	"
4/25	Mechanical vibrations	Secs. 8–1, 8–3.1 – 8–3.3
5/2	"	"

Grading Two tests, each worth 25% of final grade;
Final exam, worth 25% of final grade;
Homework assignments, together worth 10% of final grade;
Laboratory project, worth 15% of final grade.

Test dates Test 1: February 24, 2022
Test 2: March 31, 2022