## COURSE CALENDAR

## MECHANICS I

fall 2022

## https://www.phys.uconn.edu/~rozman/Courses/P3101\_22F/



Last modified: December 8, 2022

The section and the page numbers below refer to the following textbook: **Mor** – David Morin, *Introduction to Classical Mechanics With Problems and Solutions*, Cambridge University Press, 2008

Tuesday	Thursday
Aug 30th Lecture 1	Sep 1st Lecture 2
Strategies for solving problems; dimensional analysis.	Solving differential equation of motion (Mor Sec 3.3).
( <b>Mor</b> Sec. 1.2)	Homework 1 assigned: due — 9/8/2022
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Sep 6th	Sep 8th Lecture 3
Classes canceled	Limiting cases and approximations (Mor Sec. 1.3).
Sep 13th Lecture 4	Sep 15th Lecture 5
Solving differential equation of motion, II (Mor Sec 3.3).	Projectile motion, II (Mor Sec. 3.4)
Projectile motion (Mor Sec. 3.4)	Homework 2 assigned: due 9/22/2022
Sep 20th Lecture 6	Sep 22nd Lecture 7
Atwood's machine (Mor Sec. 3.2)	HW1 and HW2 review Homework 3 assigned: due
	9/29/2022
Sep 27th Lecture 8	Sep 29th
Oscillations (Mor Sec. 4.1-3)	
	Midterm I
Oct 4th Lecture 9	Oct 6th Lecture 10
Damped harmonic motion (Mor Sec. 4.3)	Coupled oscillators, normal modes, I (Mor Sec. 4.5)
	Homework 4 assigned: due 10/13/2022

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Tuesday	Thursday
Oct 11th Lecture 11	Oct 13th Lecture 12
Review of homework assignments	Coupled oscillators, normal modes, III
Coupled oscillators, normal modes, II	Homework 5 assigned: due 10/20/2022
Oct 18th Lecture 13	Oct 20th Lecture 14
Conservation of energy (Mor Sec. 5.1)	Conservation of energy, II (Mor Sec. 5.3)
Small oscillations (Mor Sec. 5.2)	Homework 6 assigned: due 10/27/2022
Oct 25th Lecture 15	Oct 27th Lecture 16
Review of normal modes	Review of HW6 and Midterm II
	Takehome Midterm II assigned; due11/8/2022
Nov 1st Lecture 17	Nov 3rd Lecture 18
Momentum. Conservation of momentum (Mor Sec. 5.5.1)	Lagrangian mechanics I.
Rocket motion ( <b>Mor</b> Sec. 5.5.2)	Lagrange equations (Mor Sec. 6.1)
Nov 8th Lecture 19	Nov 10th Lecture 20
Lagrangian mechanics II.	Lagrangian mechanics III
Conservation laws (Mor Sec. 6.5)	Homework 7 assigned: due 11/17/2022
Nov 15th Lecture 21	Nov 17th Lecture 22
Lagrangian mechanics IV	The center of mass (Mor Sec. 5.6)
Small oscillations ( <b>Mor</b> Sec. 6.7)	
Nov 22nd	Nov 24th
Thanksgiving recess – No classes	Thanksgiving recess – No classes
Nov 29th Lecture 23	Dec 1st Lecture 24
Rotational motion of rigid bodies (Mor Sec. 8.1)	Dynamics of rigid bodies, I.
Homework 8 assigned: due 12/6/2022	
Dec 6th Lecture 25	Dec 8th Lecture 26
Dynamics of rigid bodies, II.	Crash course in Hamilton's equations
	Takehome Midterm III assigned; due12/15/2022
Dec 13th	Dec 15th
Week of Finals	Week of Finals