

# PHYS 2302 lesson, tutorial, and assignment schedule

D. Clarke; Fall 2022 (revised, 27/9/22)

lesson	topics	§§ in text	tut.	due
1. $\Theta$ Sep. 8	vector fundamentals	1.3–1.7, 1.9	1.1	
2. T Sep. 13	coordinate systems, circular motion, Newton's laws	1.10–1.12, 2.1 <sup>†</sup>	1.2	
3. $\Theta$ Sep. 15	kinematics, Newton's 2 <sup>nd</sup> Law, free-body diagrams, friction	2.2	1.3	
4. T Sep. 20	FBDs, Newton's 3 <sup>rd</sup> law	2.2	1.4	
5. $\Theta$ Sep. 22	<i>first lesson in ODEs</i>		2.1	
T Sep. 27	Classes cancelled (Fiona)			
6. $\Theta$ Sep. 29	$F(x)$ , $F(v)$ , $W$ - $K$ theorem, energy conservation	2.3, 2.4	2.2	A1
7. T Oct. 4	<i>second lesson in ODEs</i> , Hooke's Law	3.1	3.1	
8. $\Theta$ Oct. 6	simple harmonic oscillation	3.2	3.2	A2
9. T Oct. 11	energy of a SHO, damped harmonic motion	3.3, 3.4	4.1	
10. $\Theta$ Oct. 13	damped harmonic oscillators	3.4	4.2	A3
T Oct. 18	<b>midterm 1:</b> to the end of §2.3 in class notes (middle of lesson 9)			
11. $\Theta$ Oct. 20	LRC circuit, <i>third lesson in ODEs</i>	3.5	4.3	
12. T Oct. 25	Driven, damped harmonic motion	3.6	5.1	
13. $\Theta$ Oct. 27	resonance, dimensional analysis	3.6	5.2	A4
14. T Nov. 1	vector calculus <sup>‡</sup> , $W$ - $K$ theorem, conservative forces	4.1, 4.2	6.1	
15. $\Theta$ Nov. 3	constrained motion, separable forces	4.6	6.2	A5
16. T Nov. 15	projectile motion, with and without air resistance	4.3	6.3	
17. $\Theta$ Nov. 17	multi-dimensional oscillators	4.4	7.1	A6
T Nov. 22	<b>midterm 2:</b> to the end of §3.3.1 in class notes (middle of lesson 16)			
18. $\Theta$ Nov. 24	electromagnetic forces, accelerating reference frame	4.5, 5.1	7.2, 8.1	
19. T Nov. 29	accelerations in a rotating reference frame	5.2	8.2	
20. $\Theta$ Dec. 1	Coriolis theorem	5.3	8.3	A7
21. T Dec. 6	effects of earth's rotation, O'Neill cylinder, projectile motion	5.4, 5.5	8.4	
22. $\Theta$ Dec. 8	Foucault pendulum	5.6	—	A8

<sup>†</sup>See also on-line handout on [Newton's laws of motion](#).

<sup>‡</sup>See also on-line handout on [vector calculus](#).