

Sahyun Physics 344 Modern Physics Tentative Sched Spring 2023 Updated 1/30/2023

Texts: Krane, Modern Physics, 3rd ed., OpenStax University Physics Vol. 3

Week	Class	Date	Topic/Lab	Book Sections	Assigned Reading Pages	Assignment
1	1	Mon 23-Jan	Course Introduction; MATLAB, Python, LabArchives and LaTeX			
	2	Wed 25-Jan	1. Classical Physics I	1.1 1.4	1-20	
		Fri 27-Jan	Lab 1: Speed of Light			
2	3	Mon 30-Jan	2. Relativity I	2.1 - 2.5	25-44	H01: Q1.7 P1.1, 1.6, 1.13
	4	Wed 1-Feb	2. Relativity II	2.6-2.9	44-63	H02: Q2.1 P2.3, 2.7, 2.17
		Fri 3-Feb	Lab 2: Relativity			
3	5	Mon 6-Feb	3. EM Waves	3.1 - 3.4	69-87	H03: Q2.6 P2.25, 2.43
	6	Wed 8-Feb	3. Compton effect	3.4 - 3.6	87-97	H04: Q3.2 P3.3, 3.9, 3.17
		Fri 10-Feb	Lab 3: Photoelectric Effect			
4	7	Mon 13-Feb	MATLAB Project 1: Blackbody curve			
	8	Wed 15-Feb	4. Wave Properties	4.1-4.3	101-113	H05: Q3.15 P3.25, 3.31
		Fri 17-Feb	Lab 4: Blackbody			
5	9	Mon 20-Feb	4. Heisenburg	4.4-4.7	113-128	H06: Q4.3 P4.3, 4.8, 4.13
	10	Wed 22-Feb	5. Schrodinger Equation	5.1-5.3	133-143	H07: Q4.13 P4.20, 4.29
		Fri 24-Feb	Lab 5: Compton Scattering			
6	11	Mon 27-Feb	Exam 1 (1-4)			
	12	Wed 1-Mar	5. Schrodinger Applications	5.4-5.6	144-165	H08: Q5.5 P5.5, 5.9, 5.15
		Fri 3-Mar	Lab 6: e/m and SEM			
7	13	Mon 6-Mar	6. Atoms	6.1-6.4	169-183	H09: Q5.12 P5.21, 5.27
	14	Wed 8-Mar	6. Frank-Hertz	6.5-6.8	183-193	H10: Q6.3 P6.1, 6.5, 6.15
		Fri 10-Mar	Lab 7: Atomic Spectra			
8	15	Mon 13-Mar	7. H Atom	7.1-7.4	197-210	H11: Q6.15 P6.23,6.31
	16	Wed 15-Mar	7. H Atom II	7.5-7.9	211-221	H12: Q7.9 P7.3, 7.7, 7.15
		Fri 17-Mar	Lab 8: Franck Hertz			
9	17	Mon 20-Mar	8. Pauli Exclusion	8.1-8.4	225-240	H13: Q7.16 P7.25, 7.27
	18	Wed 22-Mar	8. Elements	8.4-8.7	240-252	H14: Q8.3 P8.1, 8.7, 8.9
		Fri 24-Mar	Lab 9: Zeeman			
10			Spring Break			
11	19	Mon 3-Apr	MATLAB Project 2: Atom Shell Models			
	20	Wed 5-Apr	12. Nuclur Structure	12.1-12.5	369-382	H15: Q8.13 P8.13, 8.15
		Fri 7-Apr	Lab 10: EFNMR/NMR			
12	21	Mon 10-Apr	12 Radioactive Decay	12.6-12.10	382-402	H16: Q12.1 P12.3, 12.5, 12.15
	22	Wed 12-Apr	13 Nuclear Reactions	13.1 -13.4	407-422	H17: Q12.21 P12.30, 12.35
		Fri 14-Apr	Lab 10: EFNMR/NMR			
13	23	Mon 17-Apr	Exam 2 (chapter 4-8) - Online			
	24	Wed 19-Apr	13 Fusion	13.5-13.7	422-436	H18: Q13.9 P13.3,13.11,13.19
		Fri 21-Apr	Lab 11: Radioactivity			
14	25	Mon 24-Apr	14 Elementary Particles	14.1-14.4	441-458	H19: Q13.20 P13.22, 13.31
	26	Wed 26-Apr	14 Standard Model	14.5-14.8	458-473	H20: Q14.1 P14.1, 14.7, 14.19
		Fri 28-Apr	Lab Assessment Activity			
15	27	Mon 1-May	15 Cosmology	15.1 - 15.5	477-493	H21: Q14.21 P14.23, 14.27
	28	Wed 3-May	15 General Relativity	15.6-15.10	493-514	H22: Q15.4 P15.1, 15.3, 15.5
		Fri 5-May	MATLAB Project 3: General Relativity			
16	29	Mon 8-May	Final 12:15 pm - 2:15 pm Online			