

Chemical Engineering 412
Class Schedule and Assignments (Subject to Change)
Winter 2026

Class	Date	Topic	Reading	HW#	Problems
1	Th--Jan 8	Introduction/ Fundamentals	1.1-1.3.1	--	--
		Modern Physics Concepts	2.1-2.2.5		
2	T--Jan 13	Quantum Mechanics	2.3-2.5.3	1	1-1, 1-8, 1-17, 1-28
3	Th--Jan 15	Atomic and Nuclear Models	3.1-3.2.7	2	2-1, 2-3, 2-8, 2-9, 2-22, WP1
		Nuclear Energetics	4.1-4.7		
4	T--Jan 20	Radioactivity (I)	5.1-5.9	3	3-8, 3-9, 3-10, 4-1
5	Th--Jan 22	Radioactivity (II)	5.1-5.9	4	4-5, 4-10, 4-12, 5-4, 5-6, 5-7
		Radioactivity (III)	6.1-6.7.3		
6	T--Jan 27	Binary Nuclear Reactions (I)	6.1-6.7.3	5	5-9, 5-11, 5-18, 5-23, 5-25, 5-29
7	Th--Jan 29	Binary Nuclear Reactions (II)	6.1-6.7.3	6	6-2, 6-10, 6-15
		Radiation Interactions with Matter (I)	7.1-7.5.4		
8	T--Feb 3	Radiation Interactions with Matter (II)	7.1-7.5.4	7	6-18, 7-1, 7-16
9	Th--Feb 5	Radiation Detectors/Measurement (I)	8.1-8.7.9	8	WP1.5, WP2
		Exam 1			
10	T--Feb 10	Radiation Detectors/Measurement (II)	8.1-8.7.9	--	--
11	Th--Feb 12	Nuclear Materials	--	9	8-1, 8-2, 8-5
		Radiation Doses (I)			
12	T--Feb 17	*** MONDAY CLASSES ***	--	--	--
13	Th--Feb 19	Radiation Doses (II)/ Hazard Assessment	9.1-9.8.2	10	9-2, 9-7
14	T--Feb 24	Medical Applications	14.1-14.5.11	11	WP3, WP4
15	Th--Feb 26	Nuclear Industry and Research (I)	13.1-13.6.7	12	9-13, 9-18, 9-20
16	T--Mar 3	Nuclear Industry and Research (II)	13.1-13.6.7	13	14-2, 14-5, 14-6, 14-7
		Exam 2 Review			
16	Th--Mar 5	Exam 2			
18	T--Mar 10	Nuclear Reactor Theory (I)	10.1-10.11	14	13-1, 13-2, 13-11, 13-12
19	Th--Mar 12	Nuclear Reactor Theory (II)	10.1-10.11	15	10-10, 10-13, 10-15, 10-21, WP5
20	T--Mar 17	Nuclear Reactor Theory (III)	10.1-10.11	16	10-22
21	Th--Mar 19	Nuclear Reactor Theory (IV)	11.1-11.5.6	17	WP6
22	T--Mar 24	Nuclear Reactor Theory (V)	11.1-11.5.6	18	10-25, 10-33, WP7, WP8
23	Th--Mar 26	Nuclear Power (I)	11.1-11.5.6	19	11-2, 11-3, 11-7
		Nuclear Power (II)	12.1-12.10.1		
24	T--Mar 31	Other Nuclear Power Systems	11.6-11.7.3	20	11-9, 11-10, 11-17, 11-18
25	Th--April 2	Nuclear Fuel Cycle	--	21	WP9, WP10
26	T--April 7	Exam 3	--	22	WP11
27	Th--April 9	Nuclear Accidents (I)	Notes (web)	--	--
28	T--April 14	Nuclear Accidents (II)	Notes (web)	23	WP12, WP13
W--April 22		Final Exam 11:00 AM-2:00 PM			