

Chemical Engineering 374
Class Schedule and Assignments (Subject to Change)
Fall 2024

Class	Date	Topic	Reading	Quiz#	HW#	Problems (4 th edition)
1	W--Sep 4	Introduction	-	--	--	
2	F--Sep 6	Fluid Properties	2.1-2.6	--	1	1-3, 1-12, 1-38, 1-43
3	M--Sep 9	Fluid Statics	3.1-3.2	1	2	2-12, 2-25W, 2-44, 2-81, 2-83W
4	W--Sep 11	Press. Forces on Surfaces (buoyancy)	3.3-3.6	2	3	3-28, 3-26W, 3-50, OEP-1
5	F--Sep 13	Property Balance Math	4.1, 4.6	3	4	3-17, 3-69, 3-74, 3-101
6	M--Sep 16	Integral Mass Balance	5.1-5.2	4	5	4-17, 4-89, 4-92
7	W--Sep 18	Integral Momentum Balance	6.1-6.4	5	6	5-7, 5-12, 5-W1, 5-W2, OEP-2
8	F--Sep 20	Integral Energy Balance	5.3, 5.5	6	7	See web - 6-16, 6-24W, 6-32W, 6-87
9	M--Sep 23	Bernoulli Equation	5.4	7	8	5-24, 5-25
10	W--Sep 25	Bernoulli Applications	5.4	8	9	5-34, 5-61, 5-47W, 5-60, OEP-3
11	F--Sep 27	Mechanical Energy (recorded)	5.6	9	10	5-49, 5-52, 5-57, 5-W3
12	M--Sep 30	Review	8.1-8.4	10	11	8-23, 8-36, 8-38, 8-39
13	W--Oct 2	Exam1	--	--	--	--
14	F--Oct 4	Exam Review	--	--	--	--
15	M--Oct 7	Dimensional Analysis	7.1-7.3	--	12	5-80, 5-91, 5-88
16	W--Oct 9	Scaling (recorded)	7.4-7.5	11	13	7-35, 7-55, 7-62, OEP-4
17	F--Oct 11	Laminar Pipe Flow	8.1-8.4	12	14	See webpage
18	M--Oct 14	Turbulent Pipe Flow (recorded)	8.5	13	--	--
19	W--Oct 16	Minor Losses (recorded)	8.6	14	15	8-32, 8-34, 8-44, 8-46, OEP-5
20	F--Oct 18	Single Pipelines (recorded)	8.5	15	16	8-45, 8-60, 8-62, 8-64
21	M--Oct 21	Pipe Networks	8.7	16	17	8-81, 8-145, 8-136
22	W--Oct 23	Flow Meters	8.8	17	18	8-100, 8-91, See web page, OEP-6
23	F--Oct 25	Review		18	19	8-114, 8-119, 8-112
24	M--Oct 28	Exam 2 / Safety	--	--	--	--
25	W--Oct 30	Test Module (Experiments)	--	--	--	--
26	F--Nov 1	Differential Balances	9.1-9.2, 9.4	--	20	See Webpage - <u>Project Proposals Due</u>
27	M--Nov 4	Navier-Stokes Equations	9.5-9.6	19	21	9-23, 9-34W, 9-33, 9-28
28	W--Nov 6	Boundary Layers	10.6: 530-540	20	22	9-87W, 9-90, 9-98, OEP-7
29	F--Nov 8	Submerged Flows	11.1-11.6	21	23	10-83, 10-100
30	M--Nov 11	Pump Systems	14.1-14.2 (not 783-789)	22	24	11-31, 11-39, 11-73, 11-61
31	W--Nov 13	Pump Scaling	14.3	23	25	14-29, 14-41, 14-60, 14-62, OEP-8
32	F--Nov 15	Turbines	14.4-14.5	24	26	14-71, 14-91, 14-102, web-prob
33	M--Nov 18	Review		25	27	14-84, 14-108 (fig 14-89), 14-120
34	W--Nov 20	Exam 3 / Environment		--	--	--
35	F--Nov 22	Exam 3 review		--	28	OEP-9
36	M--Nov 25	Non-Newtonian Flows	Notes (see web)	--	29	See Webpage
37	W--Nov 27	***** HOLIDAY *****				
38	F--Nov 29	***** HOLIDAY *****				
37	M--Dec 2	Compressible Flow	12.1-12.3	26	--	--
39	W--Dec 4	CFD	15.1	27	--	--
40	F--Dec 6	CFD	15.3	28	30	OEP-10
41	M--Dec 9	Project Presentations		29	31	See webpage
42	W--Dec 11	Project Presentations	--	31	32	12-6, 12-22, 12-28, 12-43
44	S--Dec 14	Final Exam 7:00 AM-10:00 AM				