

CE 251 Fall 2018 Schedule

CE 251, Fall 2018 Weekly Schedule (subject to minor changes as necessary)

Week	Class topic(s)	Text Section(s)	Homework Due (based on 11 th Ed)	Other...
1 (8/27 - 8/31)	Scope of course Dimensions, units, etc Fluid forces and properties	Ch 1 & 2 Appendix	1.31, 1.33, 1.43, 1.44, 1.51, 2.18 (due Fri)	
2 (9/3 - 9/7)	Fluid statics Differential eqtn of statics	3.1 – 3.3	2.5, 2.12, 2.13, 2.17, 2.23 (see eqtn 2.4), 2.26, 2.33 (note “plot”, <i>not</i> sketch), 2.35, 2.36, 2.39, 2.46 2.48, 2.53, 2.54	Monday is Labor Day - we celebrate by working :(
3 (9/10 - 9/14)	Pressure forces on submerged surfaces Buoyancy	3.4 – 3.6	3.3, 3.5, 3.13, 3.16, 3.18, 3.23, 3.28, 3.35, 3.36, 3.38, 3.42, 3.47	
4 (9/17 - 9/21)	Point velocity, mean velocity, and flow rate Control volumes and continuity	Ch 5 (not 5.5)	3.61, 3.64, 3.65, 3.67, 3.72, 3.73 (also solve the problem if the water surface is at the midpoint of the dome), 3.75, 3.79, 3.85, 3.86	
5 (9/24 - 9/28)	Pressure variation in flowing fluids: Bernoulli equation	Ch 4 (not 4.6)	5.7, 5.12, 5.18, 5.48, 5.54, 5.65, 5.68, 5.70, 5.75, 5.77	
6 (10/1 - 10/5)	Applications of Bernoulli's equation	Ch 4/5	None – prep for exam instead	NO CLASS FRIDAY

Wed 10/3	Evening Exam 1 - 7:00-9:00PM (Chapters 2, 3, 5)
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7 (10/8 - 10/12)	- Fall Break (Mon) - Review Exam 1 Finish Benoulli	Ch 6 (not 6.6)		Fall Break week
8 (10/15 - 10/19)	Momentum and forces in flowing fluid	Ch 6 (not 6.6)	4.14, 4.26, 4.45, 4.46, 4.55, 4.75, 4.78, 5.86, 5.90, 5.95	Moles Trip on Friday (CE juniors)
9 (10/22 - 10/26)	More momentum	Ch 7	Draw CVs, vectors, Bernoulli points 6.13, 6.16, 6.23, 6.27&28, 6.37, 6.45, 6.55, 6.60, 6.75, 6.76	Eng Open House on Fri
10 (10/29 - 11/2)	The Energy Equation HGLs, EGLs	Ch 7	7.4, 7.5, 7.17, 7.23, 7.31, 7.33, 7.44, 7.49, 7.58, 7.63, 7.68, 7.71	Halloween
11 (11/5 - 11/9)	Dimensional analysis & Similitude	Ch 8	7.79, 7.82	

Wed 11/7	Evening Exam 2 - 7:00-9:00PM (Chapters 4, 6, 7)
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12 (11/12 - 11/16)	Review Exam 2 Boundary layers, surface drag	9.4 – 9.6	8.4, 8.8 (pi-group = dimensionless grouping of variables, 8.10, 8.30, 8.40, 8.41, 8.47, 8.57, 8.63	
13 (11/19 - 11/23)	Finish up friction drag - Thanksgiving Break (Wed-Fri) -	11.2 – 11.6		Thanksgiving week
14 (11/26 - 11/30)	Pressure (form) Drag and terminal velocity	10.1 – 10.2	9.4 (we did this back in Ch 2 – ans in back is wrong!), 9.33, 9.35, 9.43, 9.44, 9.47, 9.48, 9.52	
15 (12/3 - 12/7)	Pipe flow: laminar and turbulent friction Moody diagram	10.3 - 10.7	11.11, 11.14, 11.20, 11.48, estimate the drag on your car when going 75 mph at 75F, and estimate its maximum coasting speed down a 5% grade with $C_{rr} = 0.01$ – list sources of data (Ans should be 75-125 mph)	
	Do these problems as practice for final		10.12, 10.31, 10.42, 10.47 (actual ID = 2.47"), 10.59	
	FINAL EXAM (Chapters 8, 9/11, 10) – as scheduled by registrar			