Wk/Le	Day	Date	Reading Before Class	Topic
1/1	M	Nov 28		Course preliminaries, applications of thermodynamics and fluid mechanics
1/2	W	Nov 30	5-4, ES 201 notes	Review: mass, linear momentum, energy, entropy, steady-state devices
1/3	F	Dec 2	3-1 to 3-4	Pure substance: state postulate of a simple compressible substance, P-v-T surface, phase change
2/4	M	Dec 5	3-5	Pure substance: quality in 2-phase region, property tables
2/5	W	Dec 7	Table A-4 to A-13	Pure substance: property table lookup, examples
2/6	F	Dec 9	3-6, 3-7, 3-9, 3-10, 7-7, 7-9	Ideal gas: compressibility chart, Δu, Δh & Δs when specific heats are not constant
3/7	M	Dec 12		Ideal gas: examples, applications
3/8	W	Dec 14		More examples and applications
3/9	F	Dec 16	7-4 to 7-6, 7-12	Isentropic processes: T-s diagrams, adiabatic efficiencies
4/10	M	Dec 19		**Exam 1** (Lessons 1-8)
				Winter Recess Dec 21 to Jan 3
4/11	W	Jan 4	8-7, 8-10, 8-11	Simple power cycles
4/12	F	Jan 6	8-14, 8-16 to 8-18	Other applications
5/13	M	Jan 9	2-8, 2-9	Hydrostatics: definition of a fluid, pressure and pressure gradient, manometers
5/14	W	Jan 11	11-1 to 11-3	Hydrostatics: pressure distributions on submerged surfaces, force and moment calculations of hydrostatic pressure distribution, centroid, center of pressure
5/15	F	Jan 13	11-4	Hydrostatics: Buoyance, Archimedes' Principle
6/16	M	Jan 16	12-1, ES 201 notes	Mechanical energy balance: key assumptions, applicability, losses
6/17	W	Jan 18	12-2, 12-3	Mechanical energy balance: relation between entropy production and losses, Bernoull's equation as an ideal scenario
6/18	F	Jan 20		**Exam 2** (Lessons 9-15)
7/19	M	Jan 23	12-4	Mechanical energy balance: applications
7/20	W	Jan 25		More examples and applications
7/21	F	Jan 27	10-5, 14-1 to 14-3	Internal flow: boundary layer development, entry length of a pipe
8/22	M	Jan 30	14-4, 14-5	Major loss: friction factor, Moody diagram, examples
8/23	W	Feb 1	14-6	Minor loss: examples
8/24	F	Feb 3	15-1, 15-2	External flow: boundary layer development, skin friction drag on a flat plate, analysis based on conservation of linear momentum, concept of momentum deficit
9/25	M	Feb 6	15-5	Skin friction: laminar versus turbulent boundary layers, empirical determination of skin friction drag
9/26	W	Feb 8	15-3 to 15-4, 15-6	Pressure drag: slender versus blunt bodies, flow separation, pressure drag, empirical determination of total (skin friction + pressure) drag on various objects, examples
9/27	F	Feb 10		**Exam 3** (Lessons 16-23)
10/28	M	Feb 13	15-7	Lift: origin of lift, lift coefficients, stall, examples and applications
10/29	W	Feb 15		More examples on lift and drag
10/30	F	Feb 17		Course wrap up, evaluations