

Course Schedule - Internal Combustion Engines - Fall 2003

Day-Day of Week-Date	Topics	Text Reading
1 R 9-04-03	Introduction. Handouts.	Ch. 1 p. 1-15
2 F 9-05-03	Engine Types & Operation: CI, SI contrasted.	Ch. 1 p. 15-37
3 M 9-08-03	Introduction to Engine Design and Operating Parameters. Begin use of EES.	Ch. 2 p. 42-49
4 T 9-09-03	Road Load Power, MEP, SFC, F/A and A/F	Ch. 2 p. 49-54
5 R 9-11-03	Additional Operating Parameters and Review.	Ch. 2 p. 54-59
6 F 9-12-03	Engine Performance Tests. (Two groups alternate.)	Ch. 3 p. 62-72
7 M 9-15-03	Introduction to Combustion. Fuels and Stoichiometry. Combustion with EES.	Ch. 3 p. 62-72
8 T 9-16-03	Simple Combustion Calculations. Review.	Ch. 3 p. 62-72 Reread Ch. 1 & 2.
9 R 9-18-03	Test #1	
10 F 9-19-03	Types of Combustion Reactions	Ch. 3 p. 62 - 72 Ch. 4. p. 100-107
11 M 9-22-03	Combustion and the First Law. Enthalpies of Formation. Upper and Lower Heating Values	Ch. 3 p. 72-83 (Review your Thermo text.)
12 T 9-23-03	Combustion Basics. Second Law. Chemical Equilibrium.	Ch. 3. p. 83-92
13 R 9-25-03	Practical Calculations of Chemical Equilibrium. (Olikara and Borman) Use of EES.	Ch. 3. p. 83-92
14 F 9-26-03	Properties of Ideal Gas Mixtures. Use of EES in Property Computation.	Ch. 4. p. 107-116.
15 M 9-29-03	Mixture Properties with EES	Ch. 4. p. 116 - 130
16 T 9-30-03	Unburned Mixture Properties.	Ch. 4. p. 130 -135
17 R 10-02-03	Review for Test. Practice Test.	Ch. 4. p. 135 -140
18 F 10-03-03	Test #2	
19 M 10-06-03	Burned Mixture Properties	Ch. 4. p. 116-140
20 T 10-07-03	Otto Cycle Model.	Ch. 5. p. 161-172
21 R 10-09-03	Otto Cycle Models. Residual Mass.	Ch. 5. p. 161-177
22 F 10-10-03	Limited Pressure Cycle. Model Calculations.	Ch. 5. p. 161-177
23 M 10-13-03	Limited Pressure Cycle. Comparison of Models.	Ch. 5. p. 161-177
24 T 10-14-03	Fuel Air Cycles. Use of a Model to Predict Performance	Ch. 5. p. 177-183
	FALL BREAK	
25 M 10-20-03	Review.	Ch. 5
26 T 10-21-03	Fuel Air Cycles.	Ch. 5
27 R 10-23-03	Finite Heat Release Model.	Selected readings in Ch. 10
28 F 10-24-03	Test #3	

29	M	10-27-03	Model vs. Reality. Combustion.	Ch. 9.
30	T	10-28-03	Combustion in SI and CI.	Selections from Ch. 9 & 10
31	R	10-30-03	Emissions and Regulations.	Selections from Ch. 11
32	F	10-31-03	Performance. SI Engines. Vehicle Engine Interactions. Use of Performance Maps.	Selections from Ch. 6 and Ch. 15
33	M	11-03-03	Review and Performance Maps.	Selections from Ch. 15
34	T	11-04-03	TBA.	
35	R	11-06-03	TBA.	
36	F	11-07-03	--	
37	M	11-10-03	Test #4.	TBA
38	T	11-11-03	Societal Issues.	TBA
39	R	11-13-03	State of the Art IC Engines	TBA
40	F	11-14-03	Review and Evaluation	