

**Textbook:**

B. R. Munson, D. F. Young, T. H. Okiishi, W. W. Huebsch, "Fundamentals of Fluid Mechanics", 6<sup>th</sup> edition, John Wiley & Sons, Inc., 2009.

**Class Schedule:** M, T, W, R, F (9:50 – 11:30); EN4045

Date		Class Topic	Chapter	HW/Assignments	Due date
Jun 29, Mon	1	Introduction; Units; Mass & Weight; Ideal gas law. Fluid properties: Viscosity	1.1 – 1.6		
Jun 30, Tue	2	Fluid properties: Compressibility; Vapor Pressure; Surface Tension. Fluid Statics: pressure	1.7 – 1.9 2.1 – 2.4	<b>H1:</b> 1.9; 14*; 32; 64; 65; 96; 97	
Jul 1, Wed	3	Fluid Statics: pressure measurement; hydrostatic force; pressure prism	2.5 – 2.9	<b>A1</b>	
Jul 2, Thu	4	Fluid Statics: buoyancy	2.11	<b>H2:</b> 2.5; 10*; 36; 56; 61; 99; 104	
Jul 3, Fri		No class: holiday			
Jul 6, Mon	5	Bernoulli Equation: Newton's second law	3.1 – 3.4		<b>H1</b>
Jul 7, Tue	6	Bernoulli Equation: Example of use	3.5 – 3.6		
Jul 8, Wed	7	Bernoulli Equation: energy line; restrictions	3.7 – 3.8	<b>H3:</b> 3.7; 22; 33; 46*; 76; 79; 86	<b>H2</b>
Jul 9, Thu	8	Conservation of Mass and Linear Momentum	5.1 – 5.2.2		
Jul 10, Fri	9	Energy Equation: derivation and applications	5.3.1 – 5.3.2		
Jul 13, Mon	10	Energy Equation: comparison with Bernoulli equation; application to nonuniform flows	5.3.3 – 5.3.4	<b>H4:</b> 5.8; 20; 32*; 39; 96; 111; 120*	<b>H3</b>
Jul 14, Tue	11	Test: T1	1-7		
Jul 15, Wed	12	Dimensional Analysis	7.1 – 7.4		
Jul 16, Thu	13	Dimensional Analysis	7.6 – 7.7		
Jul 17, Fri	14	Modeling and Similitude	7.8 – 7.9	<b>H5:</b> 7.5; 12; 18*; 23; 29; 41; 56	<b>H4</b>
Jul 20, Mon	15	Presentation: A1		<b>A2</b>	<b>A1</b>
Jul 21, Tue	16	Viscous Flow in Pipes	8.1 – 8.3		
Jul 22, Wed	17	Pipe Flow: Major losses; non-circular conduits	8.4.1 & 8.4.3		
Jul 23, Thu	18	Pipe Flow: Minor losses; single pipes	8.4.2 & 8.5.1	<b>H6:</b> 8.5; 20; 47; 68; 84*; 98; 103	<b>H5</b>
Jul 24, Fri	19	Flow over Immersed Bodies	9.1 & 9.2.6		
Jul 27, Mon	20	Drag	9.3		
Jul 28, Tue	21	Lift	9.4	<b>H7:</b> 9.5; 42; 52; 66*; 83; 95; 98	<b>H6</b>
Jul 29, Wed	22	Test: T2	8-18		
Jul 30, Thu	23	Differential Analysis	6.1 – 6.2		
Jul 31, Fri	24	Navier-Stokes Equations	6.8 – 6.9		
Aug 3, Mon	25	Navier-Stokes Equations	6.9		<b>H7</b>
Aug 4, Tue	26	Pumps and turbines	12.1 – 12.4; 12.9		
Aug 5, Wed	27	Presentation: A2			<b>A2</b>
Aug 6, Thu	28	Review			
Aug 7, Fri	29	Final Exam	1-18 & 19-28		

\*Even-numbered HW to be submitted along with the odd-numbered ones.