

CE 351 Week-by-Week Schedule (subject to minor adjustments as we go)

Spring 2018

Part 1. Pipe Systems

Week	Dates	Topics	Text Sections	Thursday Laboratory	Homework
1	1/22 - 1/26	Course overview Pipe systems Friction and local losses	1.1-1.3, 2.1-2.2 12.1, 12.3 4.3, 12.1.2, 12.2.3	Hydraulics Lab procedures Measurement errors and data analysis	Read Salzman <i>Drinking Water</i> excerpts - 1-page response \cee_drive\CE351_Spr2018
2	1/29 - 2/02	Parallel and branching pipes Pipe networks	4.5, 12.6	Flow-measuring devices & Bernoulli	HW1 - course folder
3	2/05 - 2/09	Pumps and pump curves Parallel and series pumps	12.2, 12.5	Determining pipe friction factors and flow in a parallel pipe network	Prob 12.6.4 - solve for both PVC <i>and</i> cast iron (at 65F). Also determine pressure drops in each pipe. Discuss results

Part 2. Open Channel Flow

Week	Dates	Topics	Text Sections	Thursday Laboratory	Homework
4	2/12 - 2/16	Uniform open channel flow Best hydraulic X-section	5.1, 15.3	Metzgar Solar Pumping System	HW3 - course folder
5	2/19 - 2/23	Channel design Specific energy	5.2	<i>Movie time - Exam week</i>	

Wednesday, Feb 21, Evening Exam 1

6	3/26 - 3/02	Critical flow, alt depths	5.2, 5.6	Open channel flow meas 1 - Weirs	HW5 - course folder
7	3/05 - 3/09	Flow transitions Weirs, Hydraulic Jump	5.4	Open channel flow meas 2 - Sullivan Park <i>weather dependent</i>	HW6 - course folder

Spring Break week! March 12 - 16

Week	Dates	Topics	Text Sections	Thursday Laboratory	Homework
8	3/19 - 3/23	Prob & stats in water resources Exceedence prob & return period	Ch 10	Open channel flow meas 3 - Streamflow and rating curves - <i>weather dependent</i>	HW7 - course folder

Part 3. Hydrology and Stormwater Management

9	3/26 - 3/30	Frequency Analysis Log-Normal and LP3 fits	Ch 10	visit to Nurture Nature Center Floods, Climate change, and art	Analysis of Del River & Little Lehigh Cr peak flows
10	4/02 - 4/06	Watersheds and hydrology	Ch 7	<i>Movie time - Exam week</i>	

Wednesday, April 4, Evening Exam 2**Thursday, April 5, Dr. Steve Pacala**

11	4/09 - 4/13	Stormwater design Precipitation and design storms	Ch 8	Groundwater flow at Metzgar <i>weather dependent</i>	
12	4/16 - 4/20	Stormwater runoff Friday - Moles trip to NYC?	Ch 8	Using GIS for watershed analysis (computer)	
13	4/23 - 4/27	Stormwater DB out 4/23 - no class	Ch 8	Runoff modeling (computer)	
14	4/30 - 5/04	Stormwater detention Stormwater detention	9.0 - 9.2, 15.4	Field trip to Beltzville Dam <i>weather dependent</i>	