

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

Spring 2014

Part 1. Pipe Systems

Week	Dates	Topics	Text Sections	Laboratory	Homework
1	1/27 - 1/31	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 Flow-measuring devices	Read Salzman <i>Drinking Water</i> excerpts - 1-page response see <i>shared\cee_drive\CE351</i>
2	2/03 - 2/07	Parallel and branching pipes Pipe networks	4.5, 12.6	Determining pipe friction factors and flow in a parallel pipe network	HW1 - course folder
3	2/10 - 2/14	Pumps and pump curves Parallel and series pumps	12.2, 12.5	Metzgar Solar Pumping System 1 -system overview -pump curve -tasks and planning	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	Laboratory	Homework
4	2/17 - 2/21	Uniform open channel flow Best hydraulic X-section	5.1, 15.3	visit to Nurture Nature Center Floods, Climate change, and art (no evening lab)	HW3 - course folder
5	2/24 - 2/28	Channel design Specific energy	5.2	Movie time - Exam week	

Wednesday, Feb 26, Evening Exam 1

6	3/03 - 3/07	Critical flow, alt depths	5.2, 5.6	Open channel flow meas 1 - Weirs	HW5 - course folder
7	3/10 - 3/14	Flow transitions Weirs, Hydraulic Jump	5.4	Open channel flow meas 2 - Sullivan Park	HW6 - course folder

Spring Break week! March 17 - 21

Week	Dates	Topics	Text Sections	Laboratory	Homework
8	3/24 - 3/28	DB at conf - NO CLASS Monday 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	3/31 - 4/04	Frequency Analysis Log-Normal and LP3 fits Note: 4/03 is last FE review session	Ch 10	Metzgar Solar Pumping System 2 -install	Analysis of Del River & Little Lehigh Cr peak flows
10	4/07 - 4/11	Watersheds and hydrology FE exam prep Friday - Moles trip to NYC?	Ch 7	Movie time - Exam week	

Wednesday, April 10, Evening Exam 2

11	4/14 - 4/18	Stormwater design Precipitation and design storms Role of groundwater	Ch 8	Groundwater flow direction at Metzgar Continue work on solar pump system	
12	4/21 - 4/25	Stormwater runoff	Ch 8	Using GIS for watershed analysis (computer)	
13	4/28 - 5/02	Stormwater	Ch 8	Runoff modeling (computer)	
14	5/05 - 5/09	DB at conf - NO CLASS Monday Stormwater detention	9.0 - 9.2, 15.4	Field trip to Beltzville Dam (no evening lab)	