CE 4810/ENVE 4810 ENGINEERING HYDROLOGY
Fall 2009

University of Connecticut
Department of Civil & Environmental Engineering

Course Information

Instructor:	Dr. Clement Alo
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Class Meeting Time:	Mon, Wed, Fri, 10:00am -10:50am, Castleman 201
Office Hours:	Mon, Wed, Fri, 9:00am-9:45am, or at other times by appointment, Bronwell 303
Text:	*Hydrology and Floodplain Analysis (Fourth Edition),* Bedient, P. B., W. C. Huber, and B. E. Vieux, Prentice Hall.
Field Trips:	One or two trips to water resource projects and measurement stations will be scheduled.
Homework:	Homework assignments should be turned in at the beginning of lecture. Discussion or collaboration is allowed as that can help the learning process. However any evidence of direct copying will result in a zero homework grade for all parties involved. Copying from solution manuals will also result in a zero homework grade.
Exams:	There will be two mid-term exams and a final exam. Formulae sheets will be provided during exams.
Term Project:	Students (in groups of 4 or 5) will complete a guided project with written report. The project will involve carrying out a series of experiments with a Hydrology Apparatus in the Environmental Monitoring laboratory (CAST 114).
Grading:	Homework/Project: 30% Midterm Exam #1: 20% Midterm Exam #2: 20% Final Exam: 30%
Course Objective:	To gain a broad understanding of the main scientific theories and principles governing processes in the hydrologic cycle (precipitation, infiltration, runoff, evapotranspiration etc.), and to be able to quantify major hydrologic components and apply key concepts to several practical areas of engineering hydrology and related design aspects.

Tentative Schedule

Week Period	Topics	Reading
8/31-9/2	Introduction; Water Distribution over the Earth; Hydrologic Cycle; Watershed; Water Balance	Bedient et al: 1.1-1.2
9/4-9/9	Atmospheric Circulation & Water Vapor	Bedient et al: 1.3
9/11-9/16	Precipitation Formation Mechanisms; Point Measurement; Areal Precipitation; Design Storms	Bedient et al: 1.4
9/18-9/28	Flood Frequency Analysis Return Period; Probability Distributions; Methods of Flood (Storm) Frequency Analysis	Bedient et al: 3.1-3.6
9/30-10/7	Evaporation and Transpiration Concepts; Measurement and Estimation Techniques	Bedient et al: 1.7
10/9	Summary and review for Midterm Exam I	
10/12	Midterm Exam I	
10/14-10/21	Infiltration Concepts; Infiltration Equations	Bedient et al: 1.8
10/23-10/30	Streamflow Characteristics; Measurement Techniques	Bedient et al: 1.5
11/2-11/4	Hydrological Analysis Rainfall-Runoff Relationship Lab session in CAST 114	Bedient et al: 2.1-2.2
11/6	Review for Midterm Exam II	
11/9	Midterm Exam II	
11/11-11/20	Hydrological Analysis	Bedient et al: 2.3-2.6

	Hydrograph Analysis Unit Hydrograph Theory; Synthetic Unit Hydrograph; Applications of Unit Hydrographs	
	Lab session in CAST 114	
11/22-11/28	THANKSGIVING RECESS	
11/30-12/7	Flood Routing Hydrologic and Hydraulic Routing; Hydrologic River Routing; Hydrologic Reservoir Routing	Bedient et al: 4.1-4.3
12/9-12/11	Summary and review for Final Exam	
	Final Exam	