

Syllabus

CE 353 Physico-Chemical Principles of Environmental Engineering

Spring 2002

Instructors: Inez Hua 1101D CIVL
Office hrs: TBA
Chad T. Jafvert 3145D CIVL
Office hrs: 10:30 MWF; 5:30 Tues; 4:30 Thurs.

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Office hrs: TBA

Text: *Water Chemistry*, by Mark M. Benjamin, McGraw Hill, New York, 2002.

Description: Sem 1 or 2, Class 3, Lab 3, credits 4. Prerequisites: completion of freshman eng. req. This course presents basic physico-chemical aspects of air, water, and wastewater pollution, and pollution control methods. Topics covered in the course include: acid/base chemistry, solubility, colloidal chemistry, sorption processes, and oxidation-reduction. Selected physico-chemical processes and analytical procedures are discussed, demonstrated, and applied in the laboratory.

Schedule: Lecture: Tuesday and Thursday 3:00 - 4:15, CIVL 2113
Laboratory Lecture: Tuesday, 4:30 a.m., CIVL 2113
Lab Section Scheduled for Wednesday, 1:30-3:20, 3:30-5:20 p.m., CIVL 2146

Evaluation: Students will be evaluated by their performance on the following tasks, with the associated weighted percentage. Homework and laboratory reports will *not* be accepted past their due hour. Homework and laboratory reports will be due at the beginning of designated class and lab periods, respectively.

Exam 1 -	Feb 5	15%
Exam 2 -	March 5	15%
Exam 3 -	April 9	20%
Exam 4 -	Final Week	20%
Laboratory Reports -	As assigned	20%
Homework -	approx. biweekly	<u>10%</u>
		<u>100%</u>

Course Schedule:

<u>Lectures</u>	<u>Lab</u>	<u>Other comments</u>
Jan 8, 10	-	no Tuesday recitation, no lab
15, 17	Lab 1: Acid-Base Titrations	
22, 24	Lab 2: Buffer Design	21 st is MLK's Birthday
29, 31	Lab 3: Hardness Titrations	
Feb 5, 7	Exam on Tuesday – no lab	
12, 14	Lab 4: Alum Coagulation	
19, 21	Lab 5: Solubility	
26, 28	Lab 6: Kinetics - CSTRs	
March 5, 7	Exam on Tuesday – no lab	
12, 14	SPRING BREAK	
19, 21	Lab 7: Chemical Kinetics - Photolysis	
26, 28	Lab 8: Dissolved Oxygen	
April 2, 4	Lab 9: Ion Exchange	
9, 11	Exam on Tuesday – no lab	
16, 18	Lab 10: Activated Carbon	
23, 25	DEAD WEEK	no recitation, no lab
April 29-May 3	FINAL WEEK - Exam	