CE 521 Environmental Biotechnology - Fall 2006

Week	Date	Topic	Reading Assignment
		Fundamentals of Microbiology	
1	Aug 22, 24	Introduction/The Cell	1-15, 65-79
2*	Aug 29, 31	Energy and Metabolism, Genetics	85-115, 116-141
3*	Sep 5, 7	Microbial Groups	217-288
4*	Sep 12, 14	Quantifying Microorganisms and Their Activity	290-340
5	Sep 19, 21	Microbial Transformations/First Exam	387-440
		Public Health Microbiology	
6*	Sep 26, 28	Effect of Microbes on Human Health	342-382
7*	Oct 3, 5	Indicator Microorganisms and Disinfection	382-385, 662-668
		Water and Wastewater Treatment	
8*	Oct 10, 12	Potable Water Treatment	659-662/notes
9*	Oct 17, 19	Wastewater Treatment/Field Trip	577-617/notes
10*	Oct 24, 26	Wastewater Treatment/Stoichiometry and Kinetics Lab	617-633/notes
11	Oct 31, Nov 3	Wastewater Treatment/Biological Nutrient Removal/2nd Exam	633-636
12	Nov 7, 9	Sludge Treatment/BioWin lab	636-659
13	Nov 14, 16	Anaerobic Processes	notes
	Nov 21, 23	**Thanksgiving Break**	
14	Nov 28, 30	Student Reports	
15	Dec 5, 7	Student Reports	
	TBA	Final Exam	

Text: Environmental Biology for Scientists and Engineers, Vaccari, Strom, and Alleman, Wiley and Sons, 2006

Supplementary texts: Biological Wastewater Treatment, 2nd ed., by Grady, Daigger, and Lim, Marcel Dekker, 1999

Grading:		
	2 exams @ 20% each	40%
	Final exam	25%
	Weekly Abstracts and Class Participation	15%
	Term Paper	20%

Assignments:

1. Prepare a one page critique of a current (2005-2006) literature article every week (except exam weeks). This paper will be due every Tuesday at class time (see * weeks). Email submission is preferred.
2. Conduct a literature review and prepare a term paper (10 to 15 pages) on a selected topic (not related to your thesis) involving an environmental biotechnology application. The term paper topic will be due September 5, outline due Sept. 12, list of references and citation search due Sept 26, first draft due Oct. 31 and final paper will be due Nov. 16. These are strict deadlines and missed dates will cause a decrease in the term paper grade.
3. In small groups (2- 4), lead a discussion of a current environmental research article. Each group will be responsible for leading at least one discussion. It is expected that everyone in the class will have critically read the article prior to the discussion. Literature discussions will be held on Thursdays.The lead group will be responsible for providing a written summary of the discussion, due the following week.

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