

December 6, 2005

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TO: Engineering Faculty
FROM: The Faculty of the School of Civil Engineering
RE: Changes in Undergraduate Level Course

The faculty of the School of Civil Engineering has approved the following changes in the title and description of an undergraduate level course. This action is now submitted to the Engineering Faculty with a recommendation for approval.

From: **CE 456 Wastewater Treatment**
Sem. 1. Class 3, cr. 3
Prerequisites: C E 352, C E 353. Authorized equivalent courses or consent of instructor may be used in satisfying course pre-requisites.

Fundamental concepts and design procedures for the treatment of municipal and industrial wastewaters. Problem assessment; determination of effluent quality, preliminary treatment; biological, physical, and chemical treatment methods; and utilization and disposal of residues. Field trips required.

To: **CE 456 Water and Wastewater Treatment**
Sem. 1. Class 3, cr. 3
Prerequisites: C E 352, C E 353. Authorized equivalent courses or consent of instructor may be used in satisfying course pre-requisites.

Fundamental concepts and design procedures for the treatment of municipal and industrial water and wastewaters. Problem assessment; determination of water and wastewater characteristics, biological, physical, and chemical treatment methods, process design, and disposal of residues.

Reason: The proposed changes in the title and description reflect a broader coverage of the topic. Inclusion of water treatment in this course is needed to better prepare our undergraduate engineering students for civil engineering practice.

M. Kathy Banks
Professor and Interim Head

Fall, 2006
CE 456 - Water and Wastewater Engineering

Instructor: M. K. Banks

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Office Hours: Posted or by appointment

<u>Week of</u>	<u>Topic</u>	<u>Chapter</u>
08/21	Introduction	1
08/28	Water and Wastewater Quality	Handouts
09/04	Water Treatment Overview	1
09/11	Coagulation/Flocculation	2
09/18	Sedimentation	3
09/25	Filtration	4
09/27	EXAM 1	
10/02	Disinfection	17
NO CLASS - 10/9 AND 10/10 – FALL BREAK		
10/11	Ion Exchange and Membranes	7 and 8
10/16	Wastewater Characteristics	Handouts
10/23	Preliminary Treatment	3
10/30	Primary Treatment	3
11/03	EXAM 2	
11/06	Secondary Treatment	11
11/13	Secondary Treatment	14
11/20	Sludge Treatment and Disposal	13 and 15
NO CLASS – 11/22, 11/23, 11/24 – THANKSGIVING BREAK		
11/27	Advanced Treatment	Handouts
12/04	Advanced Treatment	Handouts

Grading

There will be three exams assigned 250 points each. The weekly homework will be assigned 250 points. Grades will be determined as follows:

<u>Grade</u>	<u>Total Points</u>
A	>900
B	>800
C	>700
D	>600
F	<600

Unannounced quizzes will be given throughout the semester. Quiz points will be added to your total points. The quizzes will total no more than 100 points.

Textbook

Unit Operations and Processes in Environmental Engineering by Tom Reynolds.