
SANITARY MICROBIOLOGY
ENVR 516/316

Course Description

Covers microscopic life forms of sanitary significance, with emphasis on bacteria, viruses, algae, fungi, and protozoa. Includes a thorough coverage of water and wastewater microbiology, especially transmission of waterborne diseases, bacterial indicators of pollution, and the microbiology of wastewater treatment.

Prerequisite: Permission of Instructor

Class Schedule: 3 hours, one evening per week

Credits: 2-2-3

Course Faculty: **Adjunct Professor: Gary A. Burlingame**
Philadelphia Water Department
215-685-1417
Office Hours: By phone or arranged visit,
9-4 Monday – Friday
Off campus but available within
the city by public transportation.

Course Objectives:

- 1) Student will appreciate sanitary microbiology as it relates to water and wastewater engineering and environmental science.
- 2) Student will be familiar with the major microorganisms that are important to water and wastewater treatment.
- 3) Student will recognize the benefits and the disadvantages that microorganisms offer to water and wastewater practices.
- 4) Student will be familiar with how water and wastewater regulations address microorganisms of concern.
- 5) Student will be familiar with microorganisms that cause common water-related diseases.
- 6) Student will understand controls that can be used on microorganisms found in water and wastewater.

2)

Textbook: Problem Organisms in Water: Identification and Treatment (AWWA)

Topics Covered:

<u>Class</u>	<u>Date</u>	<u>Subject</u>	<u>Text</u>
1	9/28	Course and Subject Intro, History	-0-
2	10/5	Focus on Bacteria, Water Treatment	Ch. 1
3	10/12	Water Pollution Control, Nuisance Organisms	Chs. 2,3
4	10/19	Microorganisms of Significance	Ch. 4
5	10/26	MIDTERM	-0-
6	11/2	Disease Organisms	Ch. 11
7	11/9	Indicators, Drinking Water Regulations	Ch. 10
8	11/16	Water Pollution Control Regulations	Chs. 5/8
9	11/23	HOLIDAY	
10	11/30	Epidemiology	Chs. 6,7
11	12/7	Review	
12	12/14	FINAL & HOMEWORK Deadline	

Grades: Homework and Attendance = 20%
Midterm = 40%
Final = 40%

Computer Usage: Review of related web sites for information; course materials/handouts can be provided for computer use; homework should use word processing.