

BIOL 4801 - Environmental Microbiology

Fall 2026 Syllabus, Section 01, CRN 41656,

Credit hours: 4

Instructor

Carl Johnston

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Public Instructor Information

Instructor Title: Professor

Instructor Professional Qualifications: Ph.D.

Instructor Office Location: Ward Beecher 4006

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Course Description

4801. Environmental Microbiology. The occurrence, detection, and control of microbes, including bacteria and viruses, in food, water, and the environment. Two hours lecture, four hours lab. Prereq.: BIOL 3702. 4 s.h.

THIS AN AGILE-HYBRID CLASS. Which means: During portions of the semester students are responsible to learn material posted in Blackboard on their own. Students can email cjohnston@ysu.edu with any questions or to request an appointment to clarify the material.

Course Readings

Group	Title	Author	ISBN
Optional	Microbiology	Brokers	

1) Textbook not required, however you should read/review relevant sections in any microbiology textbook.

2) You must read scientific articles, videos, and/or lecture topics as assigned and/or posted in Blackboard.

The course readings are subject to change in the event of extenuating circumstances, research developments, current events, and/or to ensure better learning.

Tentative schedule (can be changed at Dr. Johnston discretion) and to allow field work (weather dependent)

Week of	Reading(s)	Proposed Topic	Due/To Prepare for Class
8/24	n.a. First meet to go over course		Meet in class
8/31	Ch 1 -Ch 4		1) Introduction, 2) Public Health, Posted in Blackboard!
9/7	Ch 1 - Ch 4		3) Biogeochemical cycles, posted in Blackboard
9/14	Ch 1 - Ch 4		4) Eutrophication, Posted in Blackboard
9/21	Review in class Ch 1 - Ch 4		Meet in classroom - review/ discuss
9/28	Test 1 (Ch 1 - Ch 4)		Meet in class- take test
10/5	Techniques in laboratory		Meet at the lab
10/12	Techniques in laboratory		Meet at the lab
10/19	Independent Research		Meet for experimental design/ field/lab
10/26	Fecal coliform paper		Read FC paper (posted on Blackboard) / field/ lab
11/2	Fecal coliform discussion		Meet in class- discuss FC paper/ field /lab

11/9	Vibrio paper reading	Read, summarize, understand Vibrio paper (Blackboard)/ field / lab
11/16	Vibrios discussion	Meet in class -discuss Vibrio paper / lab/ field
11/23	PAH paper	Read, understand PAH paper (Blackboard)/ lab/ field t
11/30	PAH discussion paper	Meet in class- discuss PAH paper/ lab report

The course schedule, policies, procedures, and assignments in this course are subject to change in the event of extenuating circumstances, by mutual agreement, and/or to ensure better learning.