

Applied and Environmental Microbiology (BiolApplied and Environmental Microbiology (Biol. 4711)
Lecture: 1:00-2:30 pm, Tue and Thur. (AT 1007)
Office Hours: 11:00-12:00 noon, Monday or by appointment.
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Outline of topics

1. Microbial evolution and systematics.
2. Survival of microbes in the environment.
3. Quantification of environmental microbes (numbers, biomass and activity).
4. Molecular-based detection of microorganisms.
5. Biotechnological aspects of environmental microbiology: water treatments and bioremediation.
6. Microorganisms in aquatic, terrestrial and agricultural environments.
7. Biogeochemical cycles.

Examinations

Two mid-term exams: Oct. 6 and Nov. 3.
Final exam: To be arranged.

Mark distributions for the 3 exams are 20, 20 and 30%. 12% for a term paper and 15-minute oral presentation (To be arranged). 18% for quizzes (22/9, 29/9, 20/10, 27/10, 17/11, 24/11).

Books and References

1. Environmental Microbiology, by R.M. Maier, I.L. Pepper and C.P. Gerba. Published by Academic Press.
2. Microbial Ecology, 4th edition, by R. Atlas and R. Bartha. Published by Benjamin/ Cummings. (Reference)
3. Brock Biology of Microorganisms, by M.T. Madigan and J.M. Martinko. Published by Pearson/Prentice Hall. (Reference)
4. Selective articles from journals.