Applied and Environmental Microbiology 2022F (Biol. 4711)
Lecture: 11:30 am - 1:00 pm (Monday and Wednesday)
Lecture Room: AT1007
Office Hour: Monday 10:00 – 11:00 am (or by appointment)
Email: ktleung@lakeheadu.ca
Phone: 343-8010 ext. 8265

Outline of topics
1. Evolution of the biosphere
2. Physiological ecology: Microbial energetic and survival.
3. Quantification of environmental microbes (numbers, biomass and activity).
4. Molecular-based detection of microorganisms.
5. Microbial Diversity
6. Water treatments and bioremediation.
7. Microorganisms in aquatic and terrestrial environments.
8. Biogeochemical cycles.

Examinations
1st Mid-term exam: October 3 (Monday).
2nd Mid-term exam: November 7 (Monday)
Final exam: TBA.
Final date to register: September 19 (Monday).
Final date to withdraw: November 4 (Friday).

Mark distributions:
- 40% for 2 Mid-term Exams (20% for each exam).
- 20% for 4 Assignments.
- 40% for Final Exam.

Books and References
Text book:
Environmental Microbiology: From genomes to biogeochemistry, 2nd Ed (2016). By Eugene L. Madsen. Blackwell Publishing.

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. Altas and R. Bartha. Published by Benjamin/ Cummings.
3. Brock Biology of Microorganisms, by M.T. Madigan and J.M. Martinko. Published by Pearson/Prentice Hall.
4. Selective articles from journals.