

Pathogenic Bacteriology Outline (Biology 3711, 2025W)

Lecture: 8:30 - 10:00 am (Monday and Wednesday)

Room: AT-1007

Instructor: Kam Leung CB 4024 (ktleung@lakeheadu.ca)

Office Hours: 11 am -12 noon, Monday (Or by appointment)

TA: Rishnika Boteju (rboteju1@lakeheadu.ca)

Outline of topics

1. Introduction: General background of bacterial pathogenesis
2. Immunology
 - First line of defense against bacterial infections.
 - Second line of defense against bacterial infections.
 - Vaccination.
3. Approaches and methods in studying bacterial diseases.
4. Bacterial strategies against the human immune system.
5. Bacterial Exotoxins.
6. Antimicrobial compounds and antibiotic resistance.
7. Selected bacterial pathogens (may be changed depending on the progress of the course):
 - *E. coli*
 - *Staphylococcus*, *Streptococcus* (*Enterococcus*) and *Streptococcus pneumoniae*
 - Food-borne pathogens: *Salmonella*, *Listeria* and *Campylobacter*.
 - Sexually transmitted bacterial infections: *Neisseria*, *Chlamydia* and *Treponema pallidum*
 - *Pseudomonas aeruginosa* and other opportunistic pathogens

Important dates

1st midterm exam (In-person closed book exam, 1h 15min) (20%): Jan. 27 (Mon)

2nd midterm exam (In-person closed book exam, 1h 15min) (20%): February 26 (Wed)

Assignments (20%): 4 assignments (5% each).

Final exam (In-person closed book exam, 3h) (40%): TBA

First class: Jan. 6 (Monday)

Last day to Add: Jan. 17 (Friday).

Last day to Drop: March 7 (Friday).

Last class: April 2 (Wednesday).

Textbook

Textbooks are not required. However, the following references are recommended. The references are available in the Lakehead University Library or posted in D2L.

- Salyers and Whitt. 2011. Bacterial Pathogenesis: A molecular approach (3rd Edition). ASM Press, Washington, D.C.
- Selected journal articles.