

## **Pathogenic Bacteriology Outline (Biology 3711, 2024W)**

**Lecture:** 5:30 - 7:00 pm, (Monday and Wednesday)

**Room:** AT1006

**Instructor:** Kam Leung CB 4024 ([ktleung@lakeheadu.ca](mailto:ktleung@lakeheadu.ca))

**TA:** Dhanushya Jeyakumar ([djeyakum@lakeheadu.ca](mailto:djeyakum@lakeheadu.ca))

**Office Hours:** 3-4 pm, Monday.

### **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. Selective 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**

First midterm exam (In-person closed book exam, 1h 15min) (20%): Jan. 31 (Wed)

Second midterm exam (In-person closed book exam, 1h 15min) (20%): March 6 (Wed)

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

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

First class: Jan. 8 (Monday)

Last day to Add: Jan. 19 (Friday).

Last day to Drop: March 8 (Friday).

Last class: April 8 (Monday).

### **Textbook**

Salyers and Whitt. 2011. Bacterial Pathogenesis: A molecular approach (3<sup>rd</sup> Edition).  
ASM Press, Washington, D.C.