

**BIOLOGY 459 (CRN 10392)**  
**HUMAN MICROBIAL DISEASES:**  
**MOLECULES TO COMMUNITIES**  
**September – December 2019**  
**COURSE OUTLINE**

**LECTURER:**

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**Lectures: Tu, Wed, Fri 12:30-13:20**

**Room: ECS 116**

**LEARNING OUTCOMES**

1. Understand the interaction between microorganisms and humans as hosts at various levels of complexity: individual, population, and community.

2. case report

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**COURSE DESCRIPTION.**

An introduction to human infectious diseases and the biology and ecology of pathogenic bacteria and viruses. Basic principles of epidemiology of infectious diseases. Methods of control: antibiotics, antivirals and vaccines. Classification, pathogenicity, molecular diagnostic, epidemiology of various types of human infectious diseases (respiratory, digestive, etc.).

**EVALUATION**

1. MID-TERM EXAM 1: (25 pts)

2. MID-TERM EXAM 2: (30 pts)

3. FINAL EXAM: (40 pts)

4. ASSIGNMENT: (5 pts)

Case Study Report (3 pages)

## 5. BONUS (5 pts)

1) Critical review of a peer-reviewed research article in epidemiology of infectious diseases. 2-page report and a 5-slide Powerpoint presentation. (5 pts)

Grading scheme: A<sup>+</sup> (90%-100%), A (85-89.9%), A<sup>-</sup> (80-84.9%), B<sup>+</sup> (77-79.9%), B (73-76.9%), B<sup>-</sup> (70-72.9%), C<sup>+</sup> (65-69.9%), C (60-64.9%), D (50-59.9%), F (<50%)

### **TEXTBOOKS**

Bramadat, P., M. Guay, J. Bettinger, R. Roy (Eds). 2017. Public Health in the Age of Anxiety. Religious and Cultural Roots of Vaccination Hesitancy in Canada. University of Toronto Press, Toronto. (PHAA in Lectures schedule)

### **Selected Articles**

Coursepack is now available on-line through Library. List of various articles to be discussed and read in class.

### **Additional References**

Pearson Custom Library for the Biological Sciences. 2015. BIOL 459 Human Microbial Diseases. (Chapters from Tortora et al. 2013) (Pearson in Lectures schedule)

Tortora, G.J., B.R. Funke, C.L. Case. 2013. Microbiology: an Introduction. 11<sup>th</sup> Ed. Pearson, Boston.

McNeil, W.H. 1998. Plagues and Peoples. Anchor Books (Random House): New York, NY. 365 p.

Schulte, P.A. and F.P. Perera (Eds.). 1993. Molecular Epidemiology. Principles and Practices. Academic Press, San Diego, CA.

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