

MGY440H1 F – Virus-Host Interactions 2021

This course builds on the broad knowledge gained in third-year virology courses to explore selected aspects of the intricate dance between viruses and their hosts, with a view to understanding how viruses cause disease. Course material is taken from recent research papers and changes from year to year. Selected topics in a given year are likely to represent two or three of the following themes: virus entry, intracellular trafficking, activation of host cell signaling pathways in response to infection, assembly and release of progeny virus, viral and host determinants of tissue tropism within the host and virus transmission between hosts.

Classes are meant to be interactive and student presentations are an important part of the course. Each student, or pair of students, depending on class size, presents a published paper selected by the instructor for its relevance to the topic being discussed.

Students learn to evaluate primary papers in developing an understanding of the experimental approaches involved and analyzing the data. By the end of the course, students should be able to pull together information from different papers to write about certain topics (e.g. the influence of bacteria on viral infections), in such a way that the answers would make sense to a scientifically literate person who has not taken the course.

Given the interactive nature of the course, with student presentations and group discussion, this course is meant to be taken in-person. We will fit comfortably in the assigned classroom with ample spacing.

If you have questions, please e-mail me at <martha.brown@utoronto.ca>

Background information:

Fields Virology (6th edition) 2013 – online version available through U of T library

Flint, SJ et al. Principles of Virology – Molecular Biology, Pathogenesis and Control of Animal Viruses. (5th edition) 2020 (4th edition in Gerstein library)

<https://viralzone.expasy.org>

Viral Zone

www.virology.net/garryfavweb.html

All the Virology on the World Wide Web

www.microbe.tv

Hot topics in microbiology (including virology) with links to “This week in Microbiology” and “This week in Virology”)

Assessment:

Midterm test #1 (Oct.)	10%
Midterm test #2 (Nov.)	10%
Oral presentation	25%
Participation	5%
Final exam (cumulative 3 hr)	50%