

## SC/BIOL3155 3.0 Virology (W15)

**PRE-REQUISITES:** SC/BIOL 2020 & SC/BIOL 2021

**COURSE DIRECTOR:** K. A. White – B304 Farquharson (3<sup>rd</sup> floor), x40890, kawwhite@yorku.ca

**LECTURES:** LAS - B, Tue & Thur 5:30 – 7:00 pm

**TEXT:** “*Fundamentals of Molecular Virology*” by Nicholas H. Acheson, **2<sup>nd</sup> Edit** (pub. by Wiley, **c2011**)  
Three (3) copies are on reserve in the Steacie Library - call number: **PCOP.2681**

**COURSE DESCRIPTION:** This course focuses on **cellular, molecular, and structural aspects** of Virology. The goal is to understand how viruses hijack host cells and redirect cellular energy to perform virus-related tasks – like the **synthesis of viral proteins and replication of viral genomes**. The course material investigates the highly regulated host- and virus-specific **steps that lead to successful infections**. **Molecular processes and concepts** will be emphasized using **prototypical viruses** selected from different virus families.

The majority of material will be derived from the course text “*Fundamentals of Molecular Virology*” and the **Chapters, Figures and Tables to be covered are listed on the back of this page**. In some cases, additional **supplementary material** will be **posted** on the **course’s Moodle website** (see below) for downloading and printing. Remember to **bring printed copies** of the **lecture notes** and **supplementary materials** to class.

**COURSE WEBSITE:** Moodle – Used **ONLY** for the following:

1. Course Outline
2. Lecture Notes
3. Supplementary Information
4. Old tests
5. W15 Test Answers
6. Posted Exam Marks

<https://moodle.yorku.ca>

**COURSE EVALUATION:** **Two (2) midterm tests** (25% each, **non-cumulative**) – dates **T.B.A.**  
**One (1) final exam** (50%, **cumulative**) – during official exam period

Regular **tests and exam** will include both **multiple choice** (~40% of evaluation) and **written answer** (~60% of evaluation) questions. The **final exam** will contain approximately 50% new and 50% old material.

**IMPORTANT:** **No make-up tests** for **missed midterms** – weight will be transferred to final exam (e.g. final will be worth 75%, or 100%). For **missed midterms** an “**Attending Physician’s Statement**” will need to be **completed by a Physician** and **handed in to me or a grade of zero** will be awarded. (To get the necessary APS form, go to <http://www.registrar.yorku.ca/exams/deferred> and then click on grey tab labeled: “**Steps/Forms**”)

For a **missed final exam**, you will need to submit an “**Academic Petition Form**” ([http://www.registrar.yorku.ca/pdf/petition\\_package.pdf](http://www.registrar.yorku.ca/pdf/petition_package.pdf)) take the **filled in Deferred Standing Agreement** form, a **filled in Attending Physicians Statement** and a **filled in Course Performance** form to the undergrad office (Farq. 108). The undergrad office will provide you with further instructions on how to file your petition. **Note**, the **questions** on the deferred final exam **will be different** from the regular exam and the **format** of the deferred final exam could also be different.

**IMPORTANT GENERAL INFORMATION FOR STUDENTS:** *i.e.* Academic Honesty/ Integrity, Ethics Review Process, Access/Disability, Student Conduct, Religious Observance Accommodation. Information on these and other important policies are posted at:  
<http://www.yorku.ca/secretariat/policies/>

**SC/BIOL3155 3.0 Virology (W15) (continued)**

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**Chapters to be covered:**

**Chapter**..... **Title** ..... (**Figures / Tables / Postings**)

**Introduction:**

- 1..... Introduction to Virology ... (Figures: 1.1, 1.3–1.7; Tables: 1.1, 1.2)
- 2..... Virus Structure ..... (Figures: 2.1, 2.2, 2.5, 2.9, 2.11, [1.1., 8.3]; Posting: #1)
- 3..... Virus Classification..... (Figure: 3.1–3.3; Tables: 3.1–3.7)
- 4..... Virus Entry..... (Figures: 4.1, 4.2, 4.4, 4.5, [1.1, 11.3]; Posting: #2)

**Bacteriophages:**

- 5..... ssRNA bacteriophages .... (Figures: 5.1, 5.2, 5.4–5.8; Table: 5.1; Posting: #3)
- 8..... Bacteriophage Lambda .... (Figures: 8.1–8.7, 8.9; Posting: #4)

**Small DNA Viruses:**

- 22..... Papillomaviruses ..... (Figures: 22.1–22.6; Tables: 22.1, 22.2)

**Larger DNA Viruses:**

- 24..... Herpesviruses ..... (Figures: 24.1–24.4, 24.7–24.9, [4.5]; Tables: 24.1–24.3)

**Positive-strand RNA viruses:**

- 12..... Flaviviruses ..... (Figures: 12.2–12.6, [11.5]; Tables: 12.1, 12.2, Posting #5)
- 13..... Togaviruses ..... (Figures: 13.1–13.5; Tables: 13.1–13.3)
- 14..... Coronaviruses ..... (Figures: 14.1–14.6; Table: 14.1, 14.2)

**Negative-strand RNA viruses:**

- 18..... Influenza viruses ..... (Figures: 18.2–18.8, [4.5]; Table: 18.1)

**Retroviruses:**

- 28..... Retroviruses ..... (Figures: 28.1–28.9; Table: 28.1)
- 29..... HIV-I ..... (Figures: 29.1–29.7; Table: 29.3)

**Antiviral agents:**

- 36..... Antiviral Chemotherapy ..... (Figures: 36.1–36.10, [2.9])

**SUCCESS** = 1 - Read the chapter to be covered before class  
2 - Attend class and pay attention  
3 - Review class notes while they are still fresh in your mind