

# BIOL 3493

## Introduction to Virology

**Course Summary:** This course covers the fundamental features of virology including the structure and classification of viruses. We will examine the processes of viral attachment, replication, expression and assembly, and discuss various virus-host interactions including transmission, latency, evolution and disease. Modern advances in virology will also be addressed such as antivirals, vaccines, prion diseases and viral ecology.

**Prerequisites:** BIOL 2023 (Biochemistry)

**Textbook:** Introduction to Modern Virology, 7<sup>th</sup> Ed. 2016. N.J. Dimmock, A.J. Easton & K.N. Leppard. Blackwell Publishing. An electronic copy is on reserve at the library.

**Instructor:** Dr. Janice Lawrence, her/hers/she

### Contact Information:

- 210 Bailey Hall
- Telephone: 506 458-7842
- Email: [jlawrenc@unb.ca](mailto:jlawrenc@unb.ca)

**Communication:** Please feel free to ask questions during the lectures! If you have a question, chances are at least half of the class is wondering the same thing. I make every effort to respond to email questions within 24 h, M-F, although if the question is a general one and all students may benefit from hearing the answer, I may wait and answer it during the next lecture. For questions of an individual/personal nature, please use email or send an email to book a TEAMS, phone, or in-person appointment.

### Course delivery:

- Live, in-person lectures will be held MWF 10:30-11:20, ADT/AST, and Powerpoint slides will be posted to D2L in advance.
- For those who are ill or are taking the course remotely, meeting links for TEAMS live-streams will be posted in D2L. If you need to attend remotely, you will be able to participate via audio when asked, and I will periodically check the chat thread during the lecture. Please leave your audio and video off unless instructed, and participate in a quiet space. I will record the live lectures and post a link to D2L if you need to watch on your own time. However, **midterms and CTV discussions require in-person attendance at the scheduled time.**
- D2L will be used for posting links to lectures, review questions, exams, information on assignments, grades, etc.

**Technical Support:** For general technical support, please contact Information Technology Services (ITS) Help Desk by phone (457-2222) or email, [its servicedesk@unb.ca](mailto:its servicedesk@unb.ca). For D2L Support please visit: <https://www.unb.ca/fredericton/cetl/tls/educational/d2l/student-resources.html>, and for D2L technical support, contact: [d2l@unb.ca](mailto:d2l@unb.ca)

**Lecture Schedule:**

<i>Monday</i>	<i>Wednesday</i>	<i>Friday</i>
	S7 Orientation	S9 L1: The Definition of a Virus I
S12 L2: The Definition of a Virus II	S14 L3: Structure	S16 L4: Classification
S19 L5: Evolution	S21 <b>CTV1</b>	S23 L6: Methodology
S26 L7: Attachment	S28 L8: Replication I	S30 L9: Replication II <b>Mini-Paper #1 Due</b>
O3 L10: Replication III & Review	O5 <b>Midterm 1 (L1-10)</b>	O7 <b>CTV2</b>
O10 <i>Thanksgiving</i>	O12 L11: Gene expression I	O14 L12: Gene expression II
O17 L13: Assembly	O19 L14: Immunity	O21 L15: Virus-cell interactions
O24 L16: Virus-host interactions	O26 <b>CTV3</b>	O27 L17: Latency <b>Mini-Paper #2 Due</b>
O31 L18: Transmission	N2 Review	N4 <b>Midterm 2 (L11-18)</b>
N7 <i>Reading Week</i>	N9 <i>Reading Week</i>	N11 <i>Reading Week</i>
N14 L19: Human Disease	N16 L20: Influenza	N18 <b>CTV4</b> <b>Mini-Paper #3 Due</b>
N21 L21: HIV & AIDS	N23 L22: Carcinogenesis and Tumor Viruses	N25 L23: Vaccines
N28 L24: Prions	N30 L25: Exotic & Emerging Viruses	D2 <i>Group Project Work – no class</i>
D5 <b>CTV5</b>	D7 Review <b>Group Leaflet Project Due</b>	

**Evaluation:**

1. Midterms & Final Exam 75%
  - 20% Midterm I
  - 20% Midterm II
  - 35% Final exam (of the 35%, 20% will be on the end-of-term material not covered by MTI & MTII, and the remaining 15% will cover the entire term)
2. Adopt-a-Virus Group Work+ 15%

- 3% x 3 (9% total) Group Mini-Papers on your adopted virus  
6% Group Project: leaflet for a public audience on your adopted virus
3. Current Topics in Virology Discussions 10%  
2% x 5 CTV discussions (discussion attendance and submission of research notes are required for full participation points)

+Late Submission Policy: Group Mini-Papers and Leaflet Projects will be assessed a 10% deduction for every day after the due date.

**Grading Scale:**

A+ (94 - 100) A (87-93) A- (80-86)  
B+ (75 - 79) B (70-74) B- (65-69)  
C+ (60 - 64) C (50-59)  
D (40-49)  
F (0 - 39)

**Land Acknowledgement:**

We recognize and respectfully acknowledge that UNB activities take place on unsundered and unceded traditional lands of Wolastoqiyk.

**APPENDIX  
GENERAL CLASS POLICIES**

**1. Masks:**

Students must wear masks at all times in the lecture hall. This means eating/drinking are not permitted at any time. The instructor will remove their mask for lecturing when all students are sitting, and replace their mask when students are coming into/leaving the lecture hall. **If you have a condition that prevents you from wearing a mask, please register with the Student Accessibility Centre.** The SAC will then contact your instructors to ensure they are aware of your exemption.

**2. Attendance for Classes/Discussions/Midterms:**

No one should attend any class activity if they have two or more COVID/cold/flu symptoms. All lectures will be available in real-time through TEAMS, and will be recorded and available through a link in D2L. Discussions will be held in-person when possible, and available through break-out rooms in TEAMS when required.

Midterm exams will be held using D2L, and **students must write their exams in the lecture hall at the scheduled time or at a remote, invigilated site.** This means students will need to bring a laptop with wireless connection to the midterms. **Please make sure you can access D2L in the classroom on your personal computer prior to the first midterm, and contact the instructor well in advance if you don't have access to a laptop.**

### **3. Group Work:**

When working in teams, work submitted for grading may be distributed as agreed upon by all team members, but all members of a team are expected to contribute equitably and grades will be altered accordingly when evidence suggests sizeable discrepancies in contributions. If there are any issues with group members not contributing equitably toward a project, you must inform me as soon as possible.

### **4. Missed Class/Discussion/Midterm:**

Class:

- If a student misses a regular lecture they do not need to inform the instructor of their absence.
- Students are responsible for all material and all announcements made during lectures. If you have to miss a lecture it is your responsibility to obtain any information missed.

CTV Discussion/Midterm Exam:

- If a student misses a class discussion, or midterm exam for legitimate reasons (i.e., unavoidable/unpredictable absence) the student must inform the instructor immediately upon return to class to receive academic accommodation or they will be assessed a zero for that assignment. Supporting documentation may be required to receive accommodation.
- Legitimate reasons for missing a class discussion, midterm include: illness, religious holidays, family emergency and other unavoidable situations.

### **5. Respect for Diversity:**

It is my intent that students from all diverse backgrounds and perspectives be well served by this course, that students' learning needs be addressed both in and out of class, and that the diversity that the students bring to this class be viewed as a resource, strength and benefit. It is my intent to present materials and activities that are respectful of diversity: gender identity, sexuality, disability, age, socioeconomic status, ethnicity, race, nationality, religion, and culture. Your suggestions are encouraged and appreciated. Please let me know ways to improve the effectiveness of the course for you personally, or for other students or student groups.

Given the controversial topics discussed during our CTV series, **it is imperative that there be an atmosphere of trust and safety in the classroom.** I will attempt to foster an environment in which each class member is able to hear and respect each other. It is critical that each class member show respect for all worldviews expressed in class. Please be respectful of others' emotions and be mindful of your own. Let me know if something said or done in the classroom, by either myself or other students, is particularly troubling or causes discomfort or offense.

## **6. Services for Students with Disabilities**

If you are a student with a disability of any type (physical, mental, learning, medical, chronic health, sensory; visible or invisible) you are strongly encouraged to register with the UNBF Student Accessibility Centre (SAC) (<http://www.unb.ca/fredericton/studentservices/academics/accessibility/>) so that you may receive appropriate services and accommodations. Once you are registered with SAC, I will be notified via the UNBF SAC Accommodation Letter of your specific accommodations. If you would like to discuss your particular needs, please email me to book a time for a confidential appointment.

## **7. Privacy:**

The recordings of your classes are for your personal use for course purposes only and not to be shared with others. Be respectful of your peers and instructors. Sharing of any personal information, including but not limited to personal views and opinions with others, other than for course purposes, is not permitted and may violate UNB's Policy for the Protection of Personal Information and Privacy. Personal opinions, views, and commentary provided in the course of online delivery may be considered personal information, which requires the consent of the person who provided it in order to share it ethically and legally.

**The content shared by faculty and instructors is subject to copyright and cannot be shared without the explicit permission of the copyright owner,** which may include but not be limited to the course instructor, their colleagues, textbook publishers, and multimedia vendor.

## **8. Plagiarism:**

The University of New Brunswick places a high value on academic integrity and has a policy on plagiarism, cheating and other academic offences.

Plagiarism includes:

1. quoting verbatim or almost verbatim from any source, including all electronic sources, without acknowledgement;

2. adopting someone else's line of thought, argument, arrangement, or supporting evidence without acknowledgement;
3. submitting someone else's work, in whatever form without acknowledgement;
4. knowingly representing as one's own work any idea of another.

Examples of other academic offences include: cheating on exams, tests, assignments or reports; impersonating somebody at a test or exam; obtaining an exam, test or other course materials through theft, collusion, purchase or other improper manner, submitting course work that is identical or substantially similar to work that has been submitted for another course; and more as set out in the academic regulations found in the Undergraduate Calendar.

Penalties for plagiarism and other academic offences range from a minimum of F (zero) in the assignment, exam or test to a maximum of suspension or expulsion from the University, plus a notation of the academic offence on the student's transcript.

For more information, please see the Undergraduate Calendar, Section B, Regulation VII.A, or visit <http://nocheating.unb.ca>. It is the student's responsibility to know the regulations.

**9. Security: Do not share your D2L login details with ANYONE. Students have had their identities stolen (i.e., SIN, banking details, etc.) by providing other parties with access to their D2L accounts.**