

**MICR303  
Immunology  
Fall 2018**

**Class time/location:** Mon, Thurs, 11:30am-12:50pm. David Strong Building C103  
**Instructors:** Dr. Lisa Reynolds (Sept 6-Nov 1) Email: [lisareynolds@uvic.ca](mailto:lisareynolds@uvic.ca)  
Dr. Brad Nelson (Nov 5-Nov 19) Email: [bnelson@bccrc.ca](mailto:bnelson@bccrc.ca)  
Dr. Julian Lum (Nov 22-Dec 3) Email: [JLum@bccancer.bc.ca](mailto:JLum@bccancer.bc.ca)

**Office hours:** To be announced in class

**Prerequisites:**

MICR 200A and MICR 200B

**Textbook:** Janeway's Immunobiology, 9th Edition.

Textbook reading will be recommended to reinforce what is taught in class, and to provide extra details for those that are interested.

**Lecture Notes:** Lecture notes will be made available on the CourseSpaces site. Notes are arranged by topic. **Lecture notes are not complete**, and students will be responsible for all materials covered in the lectures.

**Course content:**

This course provides an overview of the mammalian immune system and its function during health and disease. Students will learn the key components of the immune system, how diverse pathogens or substances are recognised, how pathogen-specific effector responses are generated, how immunological memory is generated, how immune responses are kept in check, how inappropriate immune responses can lead to disease, and how the immune system can be harnessed therapeutically. Throughout the course, an emphasis will be placed on experimental approaches to probe the function of the immune system, including flow cytometry and the use of animal model systems.

**Topics:**

*A single topic may span multiple lectures.*

<b>Topic</b>	<b>Description</b>	<b>Instructor</b>
1. Introduction	Overview of immune system. Principles of innate and adaptive immunity.	Reynolds
2. Innate immunity	Anatomical barriers, antimicrobial peptides, complement, innate cell types and effector mechanisms.	Reynolds

3. Adaptive immunity	Antigens and antigen presentation, generation of lymphocyte antigen receptors, T cell activation, T cell subsets and effector mechanisms, antibodies and antibody production.	Reynolds
4. Immunological memory	Memory B and T cells, vaccination.	Reynolds
5. Generation of tolerance and regulatory mechanisms	Central and peripheral tolerance.	Reynolds
6. Immunity at mucosal surfaces	Mucosal immunology, host-microbiota interactions.	Reynolds
7. Immunity to infectious pathogens	Immunity to infectious pathogens and pathogen evasion of immune responses.	Reynolds
8. Immune-mediated disease	Autoimmunity, allergy.	Reynolds
9. Tumour immunology	Tumour immune environment, immunotherapy.	Nelson
10. Immunodeficiency	Immunodeficiency, HIV.	Lum
11. Immunometabolism	Metabolism and immune function.	Lum
12. Manipulation of immune responses	Technologies, tools and disease models.	Lum

**Evaluation:**

- Grading of short answer and longer answer exam questions on material presented in the course and assignment of a numerical mark to each question.
- Exams are based on material covered in lectures and in provided course materials (lecture slides).

<b>Evaluation</b>	<b>Date</b>
Midterm 1 (25%)	Monday October 1, 2018
Midterm 2 (25%)	Thursday November 1, 2018
Final exam (50%)	<b>To be announced</b>

- Students are responsible for ensuring that they are properly registered in the course.

- Students are expected to have met all pre/co-requisites for the course (see above).

**Grading:**

<b>A+</b> 90 -100	<b>B+</b> 77 - 79	<b>C+</b> 65 - 69	<b>F</b> < 50
<b>A</b> 85 - 89	<b>B</b> 73 - 76	<b>C</b> 60 - 64	<b>N **</b> < 50
<b>A-</b> 80 - 84	<b>B-</b> 70 - 72	<b>D</b> 50 - 59	

\*\* N grades

Students who have completed the following elements will be considered to have completed the course and will be assigned a final grade:

**Midterm 1, Midterm 2, Final exam.**

Failure to complete one or more of these elements will result in a grade of “N” regardless of the cumulative percentage on other elements of the course. An N is a failing grade, and it factors into a student’s GPA as 0. The maximum percentage that can accompany an N on a student’s transcript is 49.

## **DEPARTMENT INFORMATION AND POLICIES**

1. The Department of Biochemistry and Microbiology upholds and enforces the University's policies on academic integrity. These policies are described in the current University Calendar. All students are advised to read this section.
2. Cell phones, computers, and other electronic devices must be turned off at all times unless being used for a purpose relevant to the class. Students having a cell phone, tablet, or computer on their person during an exam will be assumed to have it for the purpose of cheating.
3. Any recordings of lectures may only be performed with written permission of the instructor, and are for personal use only. The instructor retains copyright to such recordings and all lecture materials provided for the class (electronic and otherwise); these materials must not be shared or reposted on the Internet.
4. Course materials, such as notes, problem sheets, quizzes, examinations, example sheets, or review sheets, may not be redistributed without the explicit written permission of the instructor.
5. Students are expected to be present for the midterm and final exams. Instructors may grant deferrals for midterm examinations for illness, accident, or family affliction, and students must provide appropriate documentation 48 hours after the midterm exam. The Department of Biochemistry and Microbiology considers it a breach of academic integrity for a student taking a deferred examination to discuss the exam with classmates. Similarly, students who reveal the contents of an examination to students taking a deferred examination are considered to be in violation of the University of Victoria policy on academic integrity (see current University Calendar). Deferral of a final exam must be requested with an Academic Concession form and submitted directly to Undergraduate Records. Deferred final exams for fall term courses will be arranged by the instructor. Deferred final exams for spring term courses will be arranged through Undergraduate Records and must be written before the end of the summer term as stipulated in the University Calendar.
6. Multiple choice scan sheets for machine scoring (bubble sheets) are considered the authentic exam answer paper and will be retained by the department for 1 year.
7. Professors may refuse to review/remark exams not written in indelible ink. In addition, requests for review/remark of a midterm exam must be made within one week of the exam being returned. Students are expected to promptly pick up midterm exams after marking has been completed, either in class or from the instructor.
8. Examination papers that have pages removed, or are mutilated will not be marked.
9. The instructor reserves the right to use plagiarism detection software or other platforms to assess the integrity of student work."

## **Centre for Accessible Learning**

Students with diverse learning styles and needs are welcome in this course. In particular, if you have a disability/health consideration that may require accommodations, approach the Centre for Accessible Learning (CAL) as soon as possible in order to assess your specific needs. <https://www.uvic.ca/services/cal/index.php>

## **Course Experience Survey (CES)**

We value your feedback on this course. Towards the end of term you will have the opportunity to complete a confidential course experience survey (CES) regarding your learning experience. The survey is vital to provide feedback regarding the course and our teaching, as well as to help the department improve the overall program for students in the future. When it is time for you to complete the survey, you will receive an email inviting you to do so. If you do not receive an email invitation, you can go directly to your [CES dashboard](#). You will need to use your UVic NetLink ID to access the survey, which can be done on your laptop, tablet or mobile device. We will remind you nearer the time but please be thinking about this important activity.