



## COURSE OUTLINE

### 1. **Course:** CMMB 527, Immunology - Winter 2021

#### **Coordinator(s)**

<b>Name</b>	<b>Email</b>	<b>Phone</b>	<b>Office</b>	<b>Hours</b>
Dr Constance Finney	camfinne@ucalgary.ca	TBA	TBA	By appointment

#### **Section(s)**

Lecture 01: MWF 15:00 - 15:50 - Online

<b>Instructor</b>	<b>Email</b>	<b>Phone</b>	<b>Office</b>	<b>Hours</b>
Dr Bjoern Petri	TBA	TBA	TBA	TBA
Dr Constance Finney	camfinne@ucalgary.ca	TBA	TBA	By appointment

As with in person classes, students are expected to behave in a professional and respectful manner during online teaching and learning sessions, and when using course tools such as discussion boards. The chat function in an online program such as Zoom is reserved to ask questions in a respectful manner or to respond to questions posed in class. The chat function must not be used for posting disrespectful comments towards other students or the course instructor, nor be used for having side-conversations, including private chats. Please note that if the instructor downloads the chat history for the session, ALL chats (including private chats) will be included in the history. Please be sure to not type anything in the chat that you would not be comfortable with the instructional team seeing.

#### **In Person Delivery Details:**

Having "in person" lab sections this semester is something that Dr. Finney and the Department of Biological Sciences recognize as a critical part of your education in CMMB. We are excited to be able to work with you in person to show you the immunological techniques that are used by researchers!

This is only going to work if we all do our best to stay healthy throughout the semester. Please do your absolute best to minimize your risk of contracting COVID-19 by avoiding those who are ill and practicing physical distancing all of the time, not just on campus. Please make smart choices in your day-to-day lives and don't engage in activities with an increased risk of COVID-19 transmission, as this could place our ability to have in person labs in jeopardy.

We will provide you with a clear document regarding how labs will take place and the strategies we will be using to minimize any risk to you and the CMMB527 team (See D2L). In brief, we have limited each lab section to under 12 students (instead of the usual 20) and will therefore be having biweekly instead of weekly in person labs. Strict decontamination procedures will be in place at all times. We have also amended lab protocols so that experiments can be done by a single student instead of in groups, and minimized the use of shared equipment.

Please consider that if you are not required to take CMMB527 this year to graduate and you have concerns about in person teaching, you can take this course next year. We will only be finding alternatives to in person teaching activities should this be a requirement/recommendation from the government of Alberta, the University of Calgary or on a case by case basis for graduating students.

Assignments are linked to in person labs. For each in person lab, you will either have a worksheet to hand in at the end of the lab or a take home assignment (summary lab report, full lab report).

It is recommended that you work on lab exercises and participate during the lab sessions as much as you can. The GTAs and Dr Finney will be there to answer questions, moderate discussions and help you with the material and assignments. Lab exercises and readings are designed to be completed both asynchronously and synchronously. **Re-Entry Protocol for Labs and Classrooms:**

To limit the spread of COVID-19 on campus, the University of Calgary has implemented an Instructional Space Re-Entry Protocol that must be followed. Details are found in the [Covid-19 Protocol for Class and Lab re-entry.pdf](#) document. **Online Delivery Details:**

Some aspects of this course are being offered in real-time via scheduled meeting times. For those aspects you are required to be online at the same time.

To help ensure Zoom sessions are private, do not share the Zoom link or password with others, or on any social media platforms. Zoom links and passwords are only intended for students registered in the course. Zoom recordings and materials presented in Zoom, including any teaching materials, must not be shared, distributed or published without the instructor's permission.

This course has a registrar scheduled, synchronous final exam. The writing time is 2 hours + 50% buffer time.

#### **LECTURE ORGANIZATION (recommended attendance, 'how to' sessions: mandatory attendance)**

CMMB 527 lecture activities are designed to be completed **asynchronously** through thematic online D2L modules with **synchronous** discussions and collaborative active learning activities during the scheduled lecture time. Lecture module content can also be discussed through the course discussion boards. During the first week of the course, we will have a synchronous "Welcome to CMMB 527" lecture. During the last week of the course we will have a review session. This is all detailed in your course schedule on D2L which will be posted in January 2021. You should plan for approximately **3 hours to complete asynchronous activities each week**, and **1 hour to participate in synchronous weekly discussions and activities**.

**Asynchronous Activities.** Online module materials will be posted at least one week before the class discussion so that you can work through and complete the assignments before the in class discussion (see Course Schedule on D2L).

**Course**

**Site:**

D2L: CMMB 527 L01-(Winter 2021)-Immunology

**Note:** Students must use their U of C account for all course correspondence.

**Course email and discussion board policy**

We will be using a D2L discussions for all general course questions. You can post questions and ideas, and respond to other student's ideas on this board. We hope this allows everyone to stay up to date on the course and have their questions answered quickly!

We will reply to student questions on the boards, and send emails between 9am-4:30pm Monday-Friday. We will do our best to read and respond to emails within 24 hours Monday-Friday, and emails received during the weekend by the following Tuesday. If you do not receive a response within the time-frame, please follow-up in email or "in person" (sometimes emails or discussion posts are lost in spam filters or mistakenly overlooked!).

**2. Requisites:**

See section [3.5.C](#) in the Faculty of Science section of the online Calendar.

**Prerequisite(s):**

Biology 311, 331, Cellular, Molecular and Microbial Biology 343; and 3 units from Cellular, Molecular and Microbial Biology 411, Biochemistry 431 or 443.

**3. Grading:**

The University policy on grading and related matters is described in [F.1](#) and [F.2](#) of the online University Calendar.

In determining the overall grade in the course the following weights will be used:

Component(s)	Weighting %	Date
Introduction to Dr Finney (asynchronous)	0.5%	By Friday 15th January (11am)
Quizzes (lectures, asynchronous)	8 % (8 x 1%)	Ongoing, see course schedule on D2L
Midterm Exam (asynchronous)	15%	Asynchronous to be handed in on the 12th (part A) & 24th Feb (part B) by 4pm - <i>note: no work will be required during reading week</i>
'HOW TO' worksheets (asynchronous)	3% (1x2%, 1x1%)	Jan 29th and March 15th, by the start of lecture (3pm)
Final Exam (synchronous)	35 %	Date set by registrar
Introduction Lab Quiz (synchronous)	0.5%	14th Jan (by the end of the lab session)
Assignments (labs, synchronous & asynchronous )	18 % (2%, 4%, 10%, 2%)	By the end of the lab session on Jan 21st/28th, Feb 4th/11th, March 4th/11th and March 25th/April 1st (first date group A, second date group B)
Final Lab Assignment (asynchronous)	20 %	Asynchronous to be handed in on the 8th April by 9am

The student cannot pass the course as a whole unless they have passed (>50%) at least one component of the lab-based examinations (quizzes or exam) and one component of the lecture-based examinations (midterm or final exam).

The following grading scheme identifies the maximum thresholds for letter grades that will be applied in this course: thresholds may be lowered to establish the final grade distribution.

The dates of when assignments need to be handed in may change in response to changes in the in person learning component of the class.

Each piece of work (reports, assignments, quizzes, midterm exam(s) or final examination) submitted by the student will be assigned a grade. The student's grade for each component listed above will be combined with the indicated weights to produce an overall percentage for the course, which will be used to determine the course letter grade.

The conversion between a percentage grade and letter grade is as follows.

	A+	A	A-	B+	B	B-	C+	C	C-	D+	D
Minimum % Required	92 %	88 %	84 %	80%	76%	72 %	68 %	64%	60%	56 %	50 %

This course will have a final exam that will be scheduled by the Registrar. [The Final Examination Schedule](#) will be published by the Registrar's Office approximately one month after the start of the term. The final exam for this course will be designed to be completed within 2 hours.

The final exam will be administered using an on-line platform. Per section [G.5](#) of the online Academic Calendar, timed final exams administered using an on-line platform, such as D2L, will be available on the platform. **Due to the scheduling of the final exams, the additional time will be added to the end of the registrar scheduled synchronous exam to support students. This way, your exam schedule accurately reflects the start time of the exam for any synchronous exams. E.g. If a synchronous exam is designed for 2 hours and the final exam is scheduled from 9-11am in your student centre, the additional time will be added to the end time of the synchronous exam. This means that if the exam has a 1 hour buffer time, a synchronous exam would start at 9 am and finish at 12pm.** - updated April 6, 2021

Most assignments for the course are asynchronous, which means you will be able to do them in your own time. You will be given a minimum of 24 hours to complete these assignments, however, to give you an idea of what the time allocation would have been pre-online teaching:

- Quizzes: should take approximately 15 minutes to complete.
- Midterm: should take approximately 1 hour to complete once you have read/understood the paper that is provided to you at least one week prior to the midterm.
- 'HOW TO' worksheets: these will be provided to you one week prior to the hand in date and should take you 2-3 hours to work through.

#### 4. Missed Components Of Term Work:

The university has suspended the requirement for students to provide evidence for absences. Please do not attend medical clinics for medical notes or Commissioners for Oaths for statutory declarations.

In the event that a student legitimately fails to submit any online assessment on time (e.g. due to illness etc...), please contact the course coordinator, or the course instructor if this course does not have a coordinator to arrange for a re-adjustment of a submission date. Absences not reported within 48 hours will not be accommodated. If an excused absence is approved, then the percentage weight of the legitimately missed assignment could also be pro-rated among the components of the course.

#### 5. Scheduled Out-of-Class Activities:

There are no scheduled out of class activities for this course.

#### 6. Course Materials:

**The readings for this course will be posted on D2L.**

*The recommended textbook is Kuby, Immunology.* The textbook should be used to clarify anything that is not clear in the lecture notes and which your GTAs/Dr Finney have not been able to help you understand. **YOU DO NOT NEED TO PURCHASE THIS TEXTBOOK.**

In order to successfully engage in their learning experiences at the University of Calgary, students taking online, remote and blended courses are required to have reliable access to the following technology:

- o A computer with a supported operating system, as well as the latest security, and malware updates;
- o A current and updated web browser;
- o Webcam/Camera (built-in or external);
- o Microphone and speaker (built-in or external), or headset with microphone;
- o Current antivirus and/or firewall software enabled;
- o Stable internet connection.

For more information please refer to the UofC [ELearning](#) online website.

## 7. Examination Policy:

All assignments/exams are open book. You may use any course materials when working on activities and assignments related to this course. However, no other aids are allowed on quizzes/midterms/final exams/lab worksheets/final lab exam, including accessing internet resources such as search engines (Google, etc.), other websites, shared documents (Google docs etc.) or chat servers (Discord, WhatsApp, etc.), etc., and you are specifically prohibited from working with or contacting any other individuals while you complete these assignments. Violation of these rules is considered academic misconduct with penalties as described in the University Calendar section K.

You will be given opportunities to work with other students during synchronous lecture and laboratory sessions, provided with a course discussion board to ask and answer questions with your peers and the instructional team. Outside research is expected for you asynchronous lab assignments and your 'how to' worksheets. All work completed as part of lecture and laboratory modules is your own. Collaboration is a learning goal of this course and it is expected that everyone is learning how to collaborate and share ideas while maintaining academic integrity.

The final exam will be held online and synchronous at the registrar-scheduled time. The exam is intended to be completed within 2 hours with an additional 50% buffer time provided (total of 3 hours). One week in advance of the synchronous registrar-scheduled final exam, students will be given a scientific paper to read that will form the basis of the final exam.

Students should also read the Calendar, [Section G](#), on Examinations.

## 8. Approved Mandatory And Optional Course Supplemental Fees:

There are no mandatory or optional course supplemental fees for this course.

## 9. Writing Across The Curriculum Statement:

For all components of the course, in any written work, the quality of the student's writing (language, spelling, grammar, presentation etc.) can be a factor in the evaluation of the work. See also [Section E.2](#) of the University Calendar.

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## 10. Human & Living Organism Studies Statements:

Students will not participate as subjects or researchers in human studies.

See also [Section E.5](#) of the University Calendar.

**STUDIES IN THE BIOLOGICAL SCIENCES INVOLVE THE USE OF LIVING AND DEAD ORGANISMS.** Students taking laboratory and field-based courses in these disciplines can expect involvement with and experimentation on such materials. Students perform dissections on dead or preserved organisms in some courses. In particular courses, students experiment on living organisms, their tissues, cells, or molecules. Sometimes field work requires students to collect a variety of living materials by many methods, including humane trapping.

All work on humans and other animals conforms to the Helsinki Declaration and to the regulations of the Canadian Council on Animal Care. The Department strives for the highest ethical standards consistent with stewardship of the environment for organisms whose use is not governed by statutory authority. Individuals contemplating taking courses or majoring in one of the fields of study offered by the Department of Biological Sciences should ensure that they have fully considered these issues before enrolling. Students are advised to discuss any concern they might have with the Undergraduate Program Director of the Department.

Students are expected to be familiar with [Section SC.4.1](#) of the University Calendar.

## 11. Reappraisal Of Grades:

A student wishing a reappraisal, should first attempt to review the graded work with the Course coordinator/instructor or department offering the course. Students with sufficient academic grounds may request a reappraisal. Non-academic grounds are not relevant for grade reappraisals. Students should be aware that the grade being reappraised may be raised, lowered or remain the same. See [Section I.3](#) of the University Calendar.

a. **Term Work:** The student should present their rationale as effectively and as fully as possible to the Course coordinator/instructor within **ten business days** of either being notified about the mark, or of the item's return to the class. If the student is not satisfied with the outcome, the student shall submit the Reappraisal of Graded Term work form to the department in which the course is offered within 2 business days of receiving the decision from the instructor. The Department will arrange for a reappraisal of the work within the next ten business days. The reappraisal will only be considered if the student provides a detailed rationale that outlines where and for what reason an error is suspected. See sections [I.1](#) and [I.2](#) of the University Calendar

b. **Final Exam:** The student shall submit the request to Enrolment Services. See [Section I.3](#) of the University Calendar.

## 12. Other Important Information For Students:

a. **Mental Health** The University of Calgary recognizes the pivotal role that student mental health plays in physical health, social connectedness and academic success, and aspires to create a caring and supportive campus community where individuals can freely talk about mental health and receive supports when needed. We encourage you to explore the mental health resources available throughout the university community, such as counselling, self-help resources, peer support or skills-building available through the SU Wellness Centre (Room 370, MacEwan Student Centre, [Mental Health Services Website](#)) and the Campus Mental Health Strategy website ([Mental Health](#)).

- b. **SU Wellness Services:** For more information, see [www.ucalgary.ca/wellnesscentre](http://www.ucalgary.ca/wellnesscentre) or call [403-210-9355](tel:403-210-9355).

#### **Sexual**

- c. **Violence:** The Sexual Violence Support Advocate, Carla Bertsch, can provide confidential support and information regarding sexual violence to all members of the university community. Carla can be reached by email ([svsa@ucalgary.ca](mailto:svsa@ucalgary.ca)) or phone at [403-220-2208](tel:403-220-2208). The complete University of Calgary policy on sexual violence can be viewed at (<https://www.ucalgary.ca/policies/files/policies/sexual-violence-policy.pdf>)
- d. **Misconduct:** Academic integrity is the foundation of the development and acquisition of knowledge and is based on values of honesty, trust, responsibility, and respect. We expect members of our community to act with integrity. Research integrity, ethics, and principles of conduct are key to academic integrity. Members of our campus community are required to abide by our institutional [Code of Conduct](#) and promote academic integrity in upholding the University of Calgary's reputation of excellence. Some examples of academic misconduct include but are not limited to: posting course material to online platforms or file sharing without the course instructor's consent; submitting or presenting work as if it were the student's own work; submitting or presenting work in one course which has also been submitted in another course without the instructor's permission; borrowing experimental values from others without the instructor's approval; falsification/fabrication of experimental values in a report. Please read the following to inform yourself more on academic integrity:

[Student Handbook on Academic Integrity](#)  
Student Academic Misconduct [Policy](#) and [Procedure](#)  
[Research Integrity Policy](#)

Additional information is available on the [Student Success Centre Academic Integrity page](#)

- e. **Academic Accommodation Policy:** Students needing an accommodation because of a disability or medical condition should contact Student Accessibility Services in accordance with the procedure for accommodations for students with disabilities available at [procedure-for-accommodations-for-students-with-disabilities.pdf](#).

Students needing an accommodation in relation to their coursework or to fulfill requirements for a graduate degree, based on a protected ground other than disability, should communicate this need, preferably in writing, to the Associate Head, Undergraduate of the Department of Biological Sciences, Heather Addy by email [addy@ucalgary.ca](mailto:addy@ucalgary.ca) or phone 403 220-6979. Religious accommodation requests relating to class, test or exam scheduling or absences must be submitted no later than **14 days** prior to the date in question. See [Section E.4](#) of the University Calendar.

#### **Freedom of Information and**

- f. **Privacy:** This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIPPA). Students should identify themselves on all written work by placing their name on the front page and their ID number on each subsequent page. For more information, see [Legal Services](#) website.

#### **Student Union**

- g. **Information:** [VP Academic](#), Phone: [403-220-3911](tel:403-220-3911) Email: [suvpaca@ucalgary.ca](mailto:suvpaca@ucalgary.ca). SU Faculty Rep., Phone: [403-220-3913](tel:403-220-3913) Email: [sciencerep@su.ucalgary.ca](mailto:sciencerep@su.ucalgary.ca). [Student Ombudsman](#), Email: [ombuds@ucalgary.ca](mailto:ombuds@ucalgary.ca).
- h. **Surveys:** At the University of Calgary, feedback through the Universal Student Ratings of Instruction ([USRI](#)) survey and the Faculty of Science Teaching Feedback form provides valuable information to help with evaluating instruction, enhancing learning and teaching, and selecting courses. Your responses make a difference - please participate in these surveys.

#### **Copyright of Course**

- i. **Materials:** All course materials (including those posted on the course D2L site, a course website, or used in any teaching activity such as (but not limited to) examinations, quizzes, assignments, laboratory manuals, lecture slides or lecture materials and other course notes) are protected by law. These materials are for the sole use of students registered in this course and must not be redistributed. Sharing these materials with anyone else would be a breach of the terms and conditions governing student access to D2L, as well as a violation of the copyright in these materials, and may be pursued as a case of student academic or [non-academic misconduct](#), in addition to any other remedies available at law.

#### **Course Description**

Comprehensive overview of the immune system and how immune responses are generated and regulated in the context of infectious diseases. Topics include both fundamental cellular and molecular immunology. Dysregulated responses, such as autoimmunity, immunodeficiencies, transplants, and allergies will also be covered.

#### **Learning Objectives**

By the end of this course (CMMB527: Immunology), successful students will be able to:

#### **Course Outcomes:**

- Compare and contrast components of the immune system
- Illustrate how the immune system evolved, and how it develops within vertebrates
- Distinguish innate from adaptive immune responses
- Demonstrate proficiency in basic immunological laboratory techniques such as the ELISA assay
- Differentiate between immune assays and defend the use of a particular assay in a given situation

- Relate immune responses to real-world examples, such as infectious disease, transplants and allergies

Electronically Approved - Apr 06 2021 16:48

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**Department Approval**

Electronically Approved - Apr 07 2021 09:38

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**Associate Dean's Approval**