



COURSE OUTLINE

1. **Course:** CMMB 527, Immunology - Winter 2022

Coordinator(s)

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

Section(s)

Lecture 01 : MWF 15:00 - 15:50 in SB 144

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

To account for any necessary transition to remote learning in the winter 2022 semester, courses with in-person lectures, labs, or tutorials may be shifted to remote delivery for a certain period of time. In addition, adjustments may be made to the modality and format of assessments and deadlines, as well as to other course components and/or requirements, so that all coursework tasks are in line with the necessary and evolving health precautions for all involved (students and staff).

In Person Delivery Details:

LECTURE ORGANIZATION (recommended attendance)

CMMB 527 lecture content is designed to be read **asynchronously** through thematic online D2L modules. During the scheduled lecture time, we will have **synchronous online or in person** discussions and collaborative active learning activities to accompany the posted lecture module content. Please refer to your course schedules for the dates of our synchronous meetings. These will vary from once a week to three times a week.

Discussions can also take place asynchronously through the course discussion boards which we will monitor.

During the first week of the course, we will have a "Welcome to CMMB 527" lecture outlining the syllabus and course details. During the last week of the course we will have a review session to go over any material that is unclear. Attendance to both these sessions is highly recommended.

You should plan for approximately **3 hours to complete the course reading each week**, and up to **3 hours to participate in synchronous weekly discussions and activities**.

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

Synchronous (during scheduled lecture times): During each week of the semester, we will meet synchronously in person or on zoom as a class. During the first week of the semester, we will have a synchronous "Welcome to CMMB 527" lecture (Monday), as well as our first in class discussion (Friday). Until reading week, we will meet synchronously online on Fridays only. During the rest of the course (pandemic restrictions permitting), we will meet together in person for thematic discussions and practice assignments three times a week at the scheduled lecture times. If conditions are such that we must maintain online rather than in person learning, we will continue with weekly zoom meetings. Attendance is strongly recommended to all synchronous activities. To encourage discussion, sessions will not be recorded but notes will be made available upon request. During the last week of the course we will have a review session to go over all the material.

Workshops: Due to the interactive activities that require group participation, synchronous **attendance is strongly recommended** to these workshops, where we will go through and practice the types of assignments that will come up in your midterm and/or final exams. Attendance to all thematic discussions is strongly recommended. If you are unable to attend a session/workshop, please contact the instructor immediately. When possible, materials/notes from the sessions will be posted following the session.

LAB ORGANIZATION (mandatory attendance)

CMMB 527 labs will be online until reading week and in person (after reading week, if permitted). Lab exercises and readings are designed to be completed both asynchronously and synchronously. The labs are scheduled as synchronous activities on Thursdays (see Calendar on D2L for details).

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.

Asynchronous. For most labs, lab readings/videos will be provided before the lab sessions. In this case, you will be expected to complete the readings/watch the videos in your own time.

Synchronous. During the scheduled lab time, you will have some time with your GTAs and Dr Finney to go over the material and exercises. Attending the labs is mandatory. If you are unable to attend a lab session, please contact the instructor/GTAs immediately.

Re-Entry Protocol for Labs and Classrooms:

To limit the spread of COVID-19 on campus, the University of Calgary has implemented safety measures to ensure the campus is a safe and welcoming space for students, faculty and staff. The most current safety information for campus can be found [here](#). **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.

Changes in the COVID-19 pandemic guidelines during the semester may result in a switch from in person to online learning or vice versa.

Course Site:

D2L: CMMB 527 L01-(Winter 2022)-Immunology

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

Equity Diversity & Inclusion:

The University of Calgary is committed to creating an equitable, diverse and inclusive campus, and condemns harm and discrimination of any form. We value all persons regardless of their race, gender, ethnicity, age, LGBTQIA2S+ identity and expression, disability, religion, spirituality, and socioeconomic status. The Faculty of Science strives to extend these values in every aspect of our courses, research, and teachings to better promote academic excellence and foster belonging for all.

The Biological Sciences Equity Committee acknowledges there are persistent barriers that prevent such accessibility and hinder our progress towards EDI. Our representatives (faculty, staff, postdocs, graduate and undergraduate students) are committed to addressing any concerns and work towards proactive solutions that enact necessary change within the department. To submit anonymous questions, comments or concerns regarding EDI related issues, please reach out to our Chair, Constance Finney (constance.finney@ucalgary.ca), or a committee representative of your choice at <https://science.ucalgary.ca/biological-sciences/about/equity-diversity-and-inclusion>

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:

Course Component	Weight	Due Date (duration for exams)	Modality for exams	Location for exams
ELISA Lab Report ¹	10%	Ongoing		
Models and Fluorescence Lab Quiz ²	1%	Ongoing		
Cell Isolation Lab Worksheet ³	2%	Ongoing		

Cells and Organs Lab Worksheet ⁴	2%	Ongoing		
Immunohistochemistry and Immunofluorescence Lab Summary ⁵	4%	Ongoing		
Diagnostics Lab Quiz ⁶	1%	Ongoing		
Introduction - Syllabus Quiz ⁷	1%	Jan 14 2022		
Safety - Academic Misconduct Quiz ⁸	1%	Jan 14 2022		
Theme 2 Quiz ⁹	1%	Jan 19 2022		
Theme 3 Quiz ¹⁰	1%	Jan 26 2022		
Theme 4 Quiz ¹¹	1%	Feb 04 2022		
Theme 5 Quiz ¹²	1%	Feb 11 2022		
Theme 6 Quiz ¹³	1%	Feb 14 2022		
Midterm ¹⁴	15%	Mar 02 2022 at 03:00 pm (50 Minutes)	in-person	SB144
Theme 8 Quiz ¹⁵	1%	Mar 21 2022		
Theme 9 Quiz ¹⁶	1%	Mar 28 2022		
Theme 10 Quiz ¹⁷	1%	Apr 04 2022		
Lab Exam ¹⁸	20%	Apr 07 2022		
Registrar Scheduled Final Exam	35%	Will be available when the final exam schedule is released by the Registrar	in person	Will be available when the final exam schedule is released by the Registrar

¹ Due a week after lab. Asynchronous, submitted on D2L

² This timed assessment will be available on D2L during your online lab session. You will have the duration of the lab to complete and submit it.

³ This timed assessment will be available on D2L during your online lab. You will have the duration of the lab to complete and submit it.

⁴ This timed assessment will be available on D2L during your online lab session. You will have the duration of the lab to complete and submit it.

⁵ Due a week after lab. Asynchronous, submitted on D2L

⁶ This timed assessment will be available on D2L during your online lab session. You will have the duration of the lab to complete and submit it.

⁷ Asynchronous, available on D2L

⁸ Asynchronous, available on D2L

⁹ Asynchronous, available on D2L

¹⁰ Asynchronous, available on D2L

¹¹ Asynchronous, available on D2L

¹² Asynchronous, available on D2L

¹³ Asynchronous, available on D2L

¹⁴ If pandemic restrictions are maintained, the midterm will be moved online. This timed assessment will be available on the 2nd March at 3pm until the 4th March at 4pm on D2L (This time frame includes two scheduled 50 mins lecture slots over which you can complete the assignment). The assessment is designed to take you 50 minutes of writing time with 25 mins of buffer time. It must be completed and submitted by the 4th March at 4pm.

¹⁵ Asynchronous, available on D2L

¹⁶ Asynchronous, available on D2L

¹⁷ Asynchronous, available on D2L

¹⁸ This exam is scheduled to take place in person in Lab BI123. If pandemic restrictions remain, this exam will be moved online and run asynchronously. This timed assessment will be available on D2L on the 7th April at 9am and will be available for 24 hours (you have a scheduled 3 hour lab session during this period where you can complete your exam). The assessment is designed to take you 2 hrs of writing time with 1 hour of buffer time. It must be completed and submitted by 9am on April 8th.

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 Registrar Scheduled Final exam that will be delivered in-person and on campus. [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 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).

If you experience an issue that affects your ability to complete the online assessments, which can include (but is not limited to) issues with technology, time zone issues, caregiving responsibilities, or distractions within your test-taking environment, you will need to contact your instructor as soon as possible.

The University of Calgary offers a [flexible grade option](#), Credit Granted (CG) to support student's breadth of learning and student wellness. Faculty units may have additional requirements or restrictions for the use of the CG grade at the faculty, degree or program level. To see the full list of Faculty of Science courses where CG is not eligible, please visit the following website: <https://science.ucalgary.ca/current-students/undergraduate/program-advising/flexible-grading-option-cg-grade>

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, one possible arrangement is that the percentage weight of the legitimately missed assignment could also be pro-rated among the components of the course. This option is at the discretion of the coordinator and may not be a viable option based on the design of this course.

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

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

6. **Course Materials:**

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:

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

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

7. **Examination Policy:**

No aids are allowed on tests or examinations.

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.

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 or call [403-210-9355](tel:403-210-9355).
- c. **Sexual 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 (syva@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/legal-services/sites/default/files/teams/1/Policies-Sexual-and-Gender-Based-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:

It is the student's responsibility to request academic accommodations according to the University policies and procedures listed below. The student accommodation policy can be found at: <https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Student-Accommodation-Policy.pdf>

Students needing an accommodation because of a disability or medical condition should communicate this need to Student Accessibility Services in accordance with the Procedure for Accommodations for Students with Disabilities: <https://www.ucalgary.ca/legal-services/sites/default/files/teams/1/Policies-Accommodation-for-Students-with-Disabilities-Procedure.pdf>.

Students needing an accommodation in relation to their coursework or to fulfil requirements for a graduate degree, based on a Protected Ground other than Disability, should communicate this need, by filling out the [Request for Academic Accommodation Form](#) and sending it to Lisa Gieg by email imgieg@ucalgary.ca preferably 10 business days before the due date of an assessment or scheduled absence.

f. Freedom of Information and Privacy: This course is conducted in accordance with the Freedom of Information and Protection of Privacy Act (FOIP). 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.

g. Student Union Information: [VP Academic](#), Phone: [403-220-3911](tel:403-220-3911) Email: suvpaca@ucalgary.ca. SU Faculty Rep., Phone: [403-220-3913](tel:403-220-3913) Email: sciencerep@su.ucalgary.ca. [Student Ombudsman](#), Email: 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.

i. Copyright of Course 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 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 - Jan 21 2022 09:44

Department Approval

Electronically Approved - Jan 22 2022 21:20

Associate Dean's Approval