

BIOL 462/633: Immunology
Department of Biology, Concordia University

Course Instructor Information:

Instructor: Dr. Brandon Helfield

Email: brandon.helfield@concordia.ca (please put BIOL 462/633 in the title of the email)

Office: SP-367.23

Office-hours: Email to setup an appointment

Teaching Assistant: N/A**Format:**

This class will be delivered in a **blended** format. Each week will consist of ~150 minutes of material for which students are responsible, approximately 50% of which will be delivered **in person** and 50% **online**. Specifically, each week will consist of a 75 minute in-person lecture in **CJ 1.125** from **17h45-19h00**. The remaining 75 minutes will be recorded lectures and material available on Moodle.

Course Description for BIOL 462/633 (3 credits):

Prerequisites: BIOL 266, 364, 367. The role of the immune system in maintenance of body homeostasis is presented with particular reference to cells and tissues of the immune system, their organization as well as their structural and functional relationships. Topics include: maturation and differentiation of B and T lymphocytes; structure and properties of antibodies; immune responses to antigens; genetic aspects of antibody synthesis; immunological considerations in disease. Lectures only.

Objectives:

- Learn structural features of the components of the immune system and their functions
- Learn immunology-related vocabulary
- Learn to apply your immunology knowledge towards solving problems
- Become comfortable discussing immunology-related concepts both in written and oral format

Textbook:

The required textbook for this course is Kuby Immunology 8th edition. Any additional readings (papers, class notes) will be put on Moodle.

Grading:

- Quiz 1 (**12.5%**): In-person quiz in **CJ 1.125** LOY. Duration: 60 minutes (**17h45-18h45PM**).
- Quiz 2 (**12.5%**): In-person quiz in **CJ 1.125** LOY. Duration: 60 minutes (**17h45-18h45PM**).
- Presentation (**25%**): Group presentation (groups of 4 undergrads or individual grad students). This will be a journal review and will be conducted in-person on Nov. 25th and Dec. 2nd (17h45-20h15) in **CJ 1.125** LOY. There will be no lectures during these weeks. Details on Moodle.

- **Final (50%):** The final exam will take place during Concordia's final exam period and will be cumulative: it will cover material presented throughout the course – although it will be weighted more towards the later material.

Grading System:

% Grade	Letter Grade	% Grade	Letter Grade
92-100	A+	63-66	C
85-91	A	60-62	C-
80-84	A-	57-59	D+
77-79	B+	53-56	D
73-76	B	50-52	D-
70-72	B-	0-49	F
67-69	C+		

Class Schedule (Tentative and may change based on class progress):

Week # (Dates)	Topic	Format	Textbook
#1 (Sept 7th)	Intro to Immunology and the Cells/Organs of the Immune System	Part 1: 17h45-19h00 in CJ 1.125 Part 2: Recorded (Moodle)	Ch. 2
#2 (Sept 14th)	Innate Immunity #1: Antimicrobial Peptides & Complement	Part 1: 17h45-19h00 in CJ 1.125 Part 2: Recorded (Moodle)	Ch. 4 (p. 113-120); Ch. 5
#3 (Sept 21rd)	Innate Immunity #2: Inflammation and PRRs	Part 1: 17h45-19h00 in CJ 1.125 Part 2: Recorded (Moodle)	Ch. 4 (p. 120-160)
#4 (Sept. 28th)	Quiz #1 (1hr in-person) / Antigen, Antibody Structure and Function	Quiz in-person (17h45-19h00) Part 2: Recorded (Moodle)	Ch. 3 (p. 69-84); Ch. 12 (p.433-448)
#5 (Oct. 5th)	Antibody Diversity / Experimental Techniques / Signaling Primer	Part 1: 17h45-19h00 in CJ 1.125 Part 2: Recorded (Moodle)	Ch. 6 (p. 205-229); Ch. 20
#6 (Oct 12th)	B-cell Development	Part 1: 17h45-19h00 in CJ 1.125 Part 2: Recorded (Moodle)	Ch. 9
#7 (Oct 19th)	Quiz #2 (1 hr in-person) / T cell, TCR, and MHC function overview	Quiz in-person (17h45-19h00) Part 2: Recorded (Moodle)	Ch. 6 (237-244), Ch. 7 (p. 249-275)
#8 (Oct 26th)	MHC and Antigen Presentation	Part 1: 17h45-19h00 in CJ 1.125 Part 2: Recorded (Moodle)	Ch. 7
#9 (Nov. 2nd)	T-cell Development	Part 1: 17h45-19h00 in CJ 1.125 Part 2: Recorded (Moodle)	Ch. 8
#10 (Nov. 9th)	T-cell Activation and B-cell Activation	Part 1: 17h45-19h00 in CJ 1.125 Part 2: Recorded (Moodle)	Ch. 10, 11, Ch. 14 (first section)
#11 (Nov. 16th)	Cancer and the Immune System	Part 1: 17h45-19h00 in CJ 1.125 Part 2: Recorded (Moodle)	Ch. 19
#12 (Nov. 23th)	Group Presentations (#1-6)	17h45-20h15 in CJ 1.125	n/a
#13 (Nov. 30th)	Group Presentations (#7-12)	17h45-20h15 in CJ 1.125	n/a

In the event of extraordinary circumstances and pursuant to the Academic Regulations the University may modify the delivery, content, structure, forum, location and/or evaluation scheme. In the event of such extraordinary circumstances, students will be informed of the changes.

Academic Honesty:

This course has a zero-tolerance policy for any cheating, plagiarism, or falsification of any documents. From Concordia's Code of Conduct, "academic offences include, the carrying out, or attempting to carry out or participating in:

- plagiarism — the presentation of the work of another person, in whatever form, as one's own or without proper acknowledgement;
- the contribution by one student to another student of work with the knowledge that the latter may submit the work in part or in whole as his or her own;
- unauthorized collaboration between students;
- multiple submission — the submission of a piece of work for evaluative purposes when that work has been or is currently being submitted for evaluative purposes in another course at the University or in another teaching institution without the knowledge and permission of the instructor or instructors involved;
- the obtention by theft or any other means or use of the questions and/or answers of an examination or of any other resource that one is not authorized to possess;
- impersonation — assuming the identity of another person or having another person assume one's own identity;
- the falsification of a document, in particular a document transmitted to the University or a document of the University, whether transmitted or not to a third party, whatever the circumstances;"

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