BIOCHEMISTRY/ANATOMY 212
MOLECULAR MECHANISM OF CELL FUNCTION
TIMETABLE - WINTER 2024

Lecturers:
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Dr. Lawrance Kazak, McIntyre Building, Room 708, lawrence.kazak@mcgill.ca
Dr. Katie Cockburn, McIntyre Building, Room 915C, katie.cockburn@mcgill.ca
Location: Stewart Biology S1/3. **Mondays (M), Wednesdays (W)** & **Fridays (F)** from **10:35 am-11:25 am**
Prerequisite: BIOL 200 **Restrictions**: Not open to students who have taken or are taking BIOL 201

Date	Day	Lecture Title	Lecture	Lecturer
Jan. 05	F	Introduction to the course content	1	MVU
08	M	Thermodynamics and Equilibrium	2	MVU
10	W	Protein Folding in the Cell I	3	MVU
12	F	Protein Folding in the Cell II	4	MVU
15	M	Protein Folding in the Cell III	5	MVU
17	W	Protein Folding in the Cell IV	6	MVU
19	F	Membrane Proteins I	7	MVU
22	M	Membrane Proteins II	8	MVU
24	W	Membrane Proteins III	9	MVU
26	F	Membrane Proteins IV Quiz 1	10	MVU
29	M	Intracellular sorting I	11	MVU
31	W	Intracellular sorting II	12	MVU
Feb. 02	F	Intracellular sorting III	13	MVU
05	M	Intracellular sorting IV	14	MVU
07	W	Cell communication: Ligands and Receptors	15	AP
09	F	Cell Cycle I	16	AP
12	M	Cell Cycle II	17	AP
14	W	Cell Cycle III	18	AP
16	F	Cell Cycle IV	19	AP
19	**M**	Quiz 2 Preparation for midterm	20	TAs
20	**T**	**MIDTERM EXAM (Lectures 2-19) 6:30 - 8:30 PM**		
21	W	Cancer I	21	AP
23	F	Cancer II	22	AP
26	M	Cancer III	23	AP
28	W	Cancer IV	24	AP
March 01	F	Cell-Interactions and Extracellular Matrix I	25	DR
		WINTER READING BREAK MARCH 4- MARCH 8		
11	M	Cell-Interactions and Extracellular Matrix II	26	DR
13	W	Cell-Interactions and Extracellular Matrix III	27	DR
15	F	Cell-Interactions and Extracellular Matrix IV	28	DR
18	M	Cell-Interactions and Extracellular Matrix V	29	DR
20	W	Quiz 3 Organelle Functions and Metabolism I	30	LK
22	F	Organelle Functions and Metabolism II	31	LK
25	M	Organelle Functions and Metabolism III	32	LK
27	W	Organelle Functions and Metabolism IV	33	LK
April 03	W	Model Organisms & development I	35	KC
05	F	Model Organisms & development II	36	KC
08	M	Model Organisms & development III	37	KC
10	W	Quiz 4	38	Q&A
12	F	*No class – prepare for FINAL (Date TBD, Apr 15-30)*	39	TAs

Midterm Examination: Lectures 2 to 19 (inclusive)
Final Examination: Lectures 20 to 37 (inclusive)
MARKING SYSTEM: Mid-term, 40%; Final Examination, 40%, Quiz 5% each (total 20%)

Suggested Reading

- **Molecular Biology of the Cell; Bruce Alberts, Rebecca Heald, Alexander Johnson, David Morgan, Martin Raff, Keith Roberts, Peter Walter. Pub. Date: 2022 Publisher: Norton and Company.; Edition Number: 7**
- Molecular Cell Biology; Harvey Lodish, Paul Matsudaira, Arnold Berk, S. Lawrence Zipursky, Matthew P. Scott; ISBN: 0716743663; Format: Hardcover, 973pp; Pub. Date: 2016 Publisher: W. H. Freeman Company; Edition Number: 9
- Smart Biology _ Lecture1: From Atoms to Cells
- Professors will recommend additional readings. They will be indicated in the lecture content.

Course Description

Throughout this introductory course to the molecular mechanisms of cell functions, you will learn fundamental aspects of protein biochemistry and cell biology. Emphasis is made on proteins because they perform a diverse range of cellular functions and provide structure to the cell. Learning about proteins will help to understand the internal organization of cells in compartments and their communication, the communication of cells with other cells and the extracellular environment, the mitochondrial production of metabolic energy, and the regulation of cell division. These concepts will be used to introduce multicellular organism development and how the misregulation of molecular events can lead to disease, using cancer as an example.

Instructional Methods in this Course

- In-person lectures are recorded* and available on MyCourses.

  * *© Instructor generated course materials (e.g., handouts, notes, summaries, exam questions, etc.) are protected by law and may not be copied or distributed in any form or in any medium without explicit permission of the instructor. Note that infringements of copyright can be subject to follow-up by the University under the Code of Student Conduct and Disciplinary Procedures.*
- In-person review sessions (by Teaching Assistants).
- The instructional approach is based on student **attendance** and **participation**.
- Post your questions on the discussion board to help solve your classmates' doubts, and engage them, TAs, and Professors in the discussion about course subjects. Your post also allows us to identify concepts that are not clear and improve the course in the upcoming year.

Evaluation (1 Midterm 40%; 1 Final 40%; 4 Quizzes 20%)

40% Midterm

The midterm exam is designed to be answered in 3h - or less – and is administered **in-person**.

If you miss writing the midterm exam, you MUST BRING a medical note to the main office, room 905, McIntyre Medical Sciences Building within 1 WEEK of the exam date. In this case, a make-up midterm will be scheduled within the 2 weeks from the midterm date. If a legitimate (please make note: the note should provide a VALID medical condition) doctor's note is not provided, students will receive zero.

40% Final

The Final exam is designed to be answered in 3h - or less – and is administered **in-person.**

Students unable to write the Final exam must contact the Exam Center and register for a deferred exam.

20% Quizzes

The quizz can be taken in 7 min we are allocating 15 min to cover univeresal asstement.

- *OSD students must register with the OSD office for accommodations (https://www.mcgill.ca/osd/).*
- *Unless otherwise indicated by the instructor, **all assessments must be written INDIVIDUALLY**. The Midterm and Final exams are not meant to be collaborative work. Answers will be vetted for cheating and/or plagiarism using a text-matching software. Any suspicious case will be submitted to the Faculty of Science Disciplinary Officer.*
- *In the event of extraordinary circumstances beyond the University's control, the content and/or evaluation scheme in this course is subject to change.*
- *In accord with McGill University's Charter of Students' Rights, students have the right to submit in English or in French any written work that is to be graded (except in courses where knowledge of a language is one of the objectives of the course).*

Grading:

*The department of Biochemistry will **NOT** revise/upgrade marks except on sound academic grounds*. Once computed, the marks in this course will **NOT** be altered/increased. Decimal points will be "rounded of" as follows: if the final aggregate mark is computed to be 79.5%, the mark will be reported as 80% (an A-); a final aggregate mark of 79.4% will be reported as 79% (a B+). These marks are **FINAL and NON-NEGOTIABLE.***

Useful resources

- **Student Rights and Responsibilities**

https://www.mcgill.ca/students/srr/academicrights

McGill University values academic integrity. Therefore, all students must understand the meaning and consequences of cheating, plagiarism and other academic offences under the Code of Student Conduct and Disciplinary Procedures (see http://www.mcgill.ca/students/srr/honest/ for more information).

- **McGill Academic Calendar** (add/drop, withdrawal and other deadlines)

Https: //www.mcgill.ca/study/2021-2022/important-dates

Deferred Final and Supplemental

The Deferred Final (worth like the Final) and Supplemental (worth 100% of the grade) are managed by Exam Center and are usually written during March break for Fall courses and in August for Winter courses. Students unable to attend the final exam must contact the Exam Center and follow the procedure stated here https://www.mcgill.ca/exams/. In some cases, a valid medical note may be required.