Revised Course Outline Biochemical Regulation MBIO3450

Dr. Ivan Oresnik
Office/Lab 524/105 Buller Building
Ph. 204-474-7587
Email Ivan.Oresnik@umanitoba.ca
Web address http://home.cc.umanitoba.ca/~oresniki/

Time and Place: Lectures will take place on Monday, Wednesday, and Friday. 10:30-11:20 AM. With the current pandemic situation, the University followed public health guidance and asked courses to be delivered remotely where possible. The University continues to monitor the developments of the latest pandemic situation and will provide an update as to whether in-person activities can be safely offered as per public health guidelines after February 26. Initial lectures (until February 26) will be given on via Zoom. The link will be provided in UM Learn. The on-line lectures will be recorded and will remain accessible during the week of the lecture. If live lecturing resumes, the place of the lectures will be announced and posted on UM Learn.

Office Hours: By appointment via Zoom

Objective:
The overall objective of this course is to introduce mechanisms of regulation of genetic and biochemical processes and highlight how they play a role to bacterial processes.

Course evaluation:

Midterm Exam	30%	Predominantly short answer on Zoom
Assignment	20%	
Final Exam	50%	

Deferred exams: There will not be a deferred Midterm exam. If you are not able to write the midterm exam please let me know. The marks will be distributed onto the final exam.

Lecture	Topic
1-12	What is regulation? Gene structure RNAP, Sigma Factors, Transcription Sigma 54
	Mid-term Monday February 28, 2022.
14-30	Negative Regulation Catabolite repression Positive Regulation Two component systems Regulation by Oxygen (Nitrogen Fixation) Porin Regulation

Cyclic-di-GMP
Methods to study gene regulation
Quorum Sensing

The current list of topics can be modified as the term progresses. There is no assigned textbook. Readings will be assigned as necessary.

Approximate grading scheme:

Letter grades are assigned taking into consideration the grade distribution in the class and the University of Manitoba's descriptors A^+ (Outstanding), A (Excellent), B^+ (Very Good), B (Good), C^+ (Satisfactory), C (Adequate), D (Marginal), F (Failure); see http://umanitoba.ca/student/records/grades/686.html

The grading scheme generally but not exactly follows that used by the Rady College of Medicine https://umanitoba.ca/faculties/health_sciences/medicine/admissions/8847.html.

A+ (>90%), A (80-89.9%), B+ (75-79.9%), B (70-74.9%), C+ (65-69.9%), C (60.0-64.9%), D (50-59.9%), F (<50%).

Student Responsibilities

It is your responsibility to make sure that all eligibility requirements are met to be registered in this class. This means:

- You have taken the appropriate prerequisites, as noted by the calendar description, or have documented permission from the instructor to waive these prerequisites.
- You have not previously taken, and are not concurrently registered in this course and another that has been identified as "not to be held with".

It is your responsibility to make sure you understand the rules regarding cheating and plagiarism at the University of Manitoba.

- Read the Faculty of Science Statement on Academic Misconduct (can be found below)
- Refer to the student discipline bylaw and academic integrity information in the University of Manitoba Academic calendar: (http://umanitoba.ca/calendar)
- Read statements on academic misconduct, including plagiarism, cheating and examination impersonation found on the Faculty of Science webpages: (http://umanitoba.ca/faculties/science/undergrad/resources/webdisciplinedocuments.html)

.

- **In cases of cheating during examinations, the test in question will be given a grade of 0% and the student will be reported to the appropriate authorities for disciplinary action.**

Faculty of Science Statement on Academic Misconduct

The Faculty of Science and The University of Manitoba regard acts of academic misconduct in quizzes, tests, examinations, laboratory reports or assignments as serious offences and may assess a variety of penalties depending on the nature of the offence.

Acts of academic misconduct include, but are not limited to bringing unauthorized materials into a test or exam, copying from another individual, using answers provided by tutors, plagiarism, and examination personation.

Note: ***cell phones, pagers, PDAs, MP3 units or electronic translators are explicitly listed as unauthorized materials, and must not be present during tests or examinations.***

Penalties that may apply, as provided for under the University of Manitoba's Student Discipline By-Law, range from a grade of zero for the assignment or examination, failure in the course, to expulsion from the University. The Student Discipline By-Law may be accessed at: http://umanitoba.ca/admin/governance/governing_documents/students/student_discipline.html

Suggested minimum penalties assessed by the Faculty of Science for acts of academic dishonesty are available on the Faculty of Science web-page: http://umanitoba.ca/faculties/science/undergrad/resources/webdisciplinedocuments.html

All Faculty members (and their teaching assistants) have been instructed to be vigilant and report all incidents of academic dishonesty to the Head of the Department.