

McGill University
Department of Microbiology & Immunology

MICROBIAL PHYSIOLOGY AND GENETICS

MIMM 323 (CRN 726)

Fall Term 2022

Coordinator: **Dr. G. T. Marczynski**
Lecturers 1 to 24: Dr. G. T. Marczynski Room 403A Lyman Duff Building 398-3917
Email: gregory.marczynski@mcgill.ca
Lecturers 25 to 36: **Dr. B. Turcotte** Email: bernard.turcotte@mcgill.ca

Tomlinson (TEAM) awardees: **Zilan (Lilian) Li, Andre Male Armida,
Wimmy Miller, Angela Nelson**

Teaching Assistant (TA): **Sophia Stegeman**

Lecture time: **Monday, Wednesday, Friday 9:35 AM -10:25 AM**
Place: **DUFF THTR 1**

<u>Lecture #</u>	<u>Date</u>	<u>Day</u>	<u>Topics</u>	<u>Quiz</u>	<u>Text</u>
Lect #1	Aug. 31	W	Intro, Text & Microbial Life: Origin and Discovery		Ch. 1
Lect #2	Sept. 2	F	Observing Microbial Cells		Ch. 2
	Sept. 5	M	Labor Day		
Lect #3	Sept. 7	W	Microscopy, Cell Structure/Function		Ch. 2
Lect #4	Sept. 9	F	Cell Structure		Ch. 3
Lect #5	Sept. 12	M	Cell Structure		Ch. 3
Lect #6	Sept. 14	W	Bacterial Culture,	Quiz #1	Ch. 4
Lect #7	Sept. 16	F	Bacterial Culture, Growth, and Development		Ch. 4
Lect #8	Sept. 19	M	Environmental Growth		Ch. 5
Lect #9	Sept. 21	W	Environmental Growth		Ch. 5
Lect #10	Sept. 23	F	Genomes and Chromosomes		Ch. 7
Lect #11	Sept. 26	M	Genomes and Chromosomes		Ch. 7
Lect #12	Sept. 28	W	Transcription, Translation and Proteins	Quiz #2	Ch. 8
Lect #13	Sept. 30	F	Transcription, Translation and Proteins		Ch. 8
Lect #14	Oct. 3	M	Genome Change and Evolution		Ch. 9
Lect #15	Oct. 5	W	Genome Change and Evolution		Ch. 9
Lect #16	Oct. 7	F	Regulation		Ch.10
	Oct. 10	M	Thanksgiving		
	Oct. 12	W	Reading Break (no class)		
Lect #17	Oct. 13	Thurs	Regulation	Quiz #3	Ch.10

Lecture #	Date	Day	Topics	Quiz	Text
Lect #18	Oct. 17	M	Energetics and Catabolism		Ch.13
	Oct. 19	W	Midterm Exam		
Lect #19	Oct. 21	F	Energetics and Catabolism		Ch.13
Lect #20	Oct. 24	M	Organotrophy, Lithotrophy, Phototrophy		Ch.14
Lect #21	Oct. 26	W	Organotrophy, Lithotrophy, Phototrophy		Ch.14
Lect #22	Oct. 28	F	Biosynthesis		Ch.15
Lect #23	Oct. 31	M	Biosynthesis		Ch.15
Lect #24	Nov. 2	W	Food Microbiology	Quiz #4	Ch.16
Lect #25	Nov. 4	F	Bacterial “two-component” regulation		Course Pack
Lect #26	Nov. 7	M	Bacterial immunity: CRISPR-Cas systems		Course Pack
Lect #27	Nov. 9	W	CRISPR-Cas systems: Applications		Course Pack
Lect #28	Nov. 11	F	Yeast: cell structure and protein sorting		Course Pack
Lect #29	Nov. 14	M	Yeast mating and switching		Course Pack
Lect #30	Nov. 16	W	Yeast mating and switching	Quiz #5	Course Pack
Lect #31	Nov. 18	F	Regulation of gene expression in yeast		Course Pack
Lect #32	Nov. 21	M	Regulation of gene expression in yeast		Course Pack
Lect #33	Nov. 23	W	Analysis of gene expression: DNA microarrays		Course Pack
Lect #34	Nov. 25	F	Global analysis of the yeast genome		Course Pack
Lect #35	Nov. 28	M	Yeast and aging	Quiz #6	Course Pack
Lect #36	Nov. 30	W	Fungal pathogens		Course Pack
	Dec. 2	F	Review		

Grading:

Written assignments (Podcast Essays)	18%
Six (6) Quizzes	24%
One mid-term exam:	28%
Final Exam	30%

Podcast Essays will be done through *myCourse* and this will be explained in lectures.

Quizzes will be time limited and require short written answers in class or on Crowdmark.

The midterm exam will also be time limited and require short written answers on Crowdmark.

Texts and required readings

Microbiology: An Evolving Science (Fifth Edition)

Slonczewski, Foster and Gillen, 2020 W W Norton & Co.

Option to buy at McGill Bookstore or online access <http://nortonebooks.com/welcome.asp>

Course Pack 2022 containing required reading for Dr. Turcotte's lectures will be available online.

Polling: will use Slido.com

In the event of extraordinary circumstances beyond the University's control, the content and/or evaluation scheme in this course is subject to change.

The Department of Microbiology and Immunology is taking steps to assist students who need to miss a midterm examination due to medical or analogous reasons in order to limit the need to approach multiple professors for accommodations. Students must email the Student Affairs Officer (undergrad.microimm@mcgill.ca) within 1 week of the scheduled midterm, or else will receive a grade of zero for the midterm. This email must explain the reasons for missing the exam and must include a valid medical note in the case of a medical reason. The Student Affairs Officer will evaluate any non-medical situations and reserves the right to make final decisions regarding what accommodations are reasonable and appropriate in the circumstances. Please consult the Student Wellness Hub for sources of support (<https://www.mcgill.ca/wellness-hub/>)

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 www.mcgill.ca/integrity for more information).