

**Faculty of Science Course Syllabus
Department of Microbiology & Immunology
MICI 4218
Clinical Microbiology
Winter - 2025**

Course Coordinator and Instructor:

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Instructor(s):

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Dr. Todd Hatchette, Director, Microbiology, Infectious Diseases, Queen Elizabeth II HSC and Depts of Pathology, Medicine, Microbiology & Immunology Dalhousie University. Todd.hatchette@nshealth.ca

Lecture Time: 1:35 p.m. - 2:25 p.m., Mon, Wed, Friday

Lecture Location: Dentistry 3157

Tutorials / laboratories: NA

Course Description

This advanced course covers all aspects of clinical microbiology including bacteriology, virology, parasitology, mycology, and molecular diagnostics. The emphasis will be placed on bacteriology. Topics include epidemiology and transmission, laboratory management and identification, antimicrobial testing and resistance, treatment, and prevention of infectious diseases.

Course Prerequisites

A grade of B- or better in MICI 3119

Course Objectives / Learning Outcomes

- Understand the roles of the clinical diagnostic microbiology laboratory and responsibilities of medical microbiologists.
- Understand the importance of pre-analytical, analytical, and post-analytical steps required in laboratory testing.

- Describe techniques used in the identification of bacterial pathogens.
- Describe the use of molecular diagnostics in the clinical laboratory.
- Understand the principle of antimicrobial therapy.
- Describe mechanisms of antibiotic action / resistance and the drivers of resistance
- Understand the basic principles of infection control.
- Understand the role of vaccines and vaccine preventable disease.
- Describe the epidemiology and virulence factors of common pathogens.
- Describe common infectious diseases, their causative agents, diagnosis, and treatment.

Course Materials

NA

Course Assessment

Component	Weight (% of final grade)	Date
Tests/quizzes	Test-1 (25%)	Jan 31 st
	Test-2 (25%)	Mar 12 th
Final exam	Final (50%)	(Scheduled by Registrar)
Assignments NA		

Other course requirements

NA

Conversion of numerical grades to Final Letter Grades follows the Dalhousie Common Grade Scale

A+ (90-100)	B+ (77-79)	C+ (65-69)	D	(50-54)
A (85-89)	B (73-76)	C (60-64)	F	(<50)
A- (80-84)	B- (70-72)	C- (55-59)		

Course Policies

It is the student's responsibility to be aware of the time, date, and place of tests. Supplemental exams are provided **only** after consultation with RJD.

Course Content

Note: This course will be taught in-person and will not be recorded.

See list of attached lectures and schedule

University Policies and Statements

This course is governed by the academic rules and regulations set forth in the University Calendar and by Senate

Academic Integrity

At Dalhousie University, we are guided in all of our work by the values of academic integrity: honesty, trust, fairness, responsibility and respect (The Center for Academic Integrity, Duke University, 1999). As a student, you are required to demonstrate these values in all of the work you do. The University provides policies and procedures that every member of the university community is required to follow to ensure academic integrity.

Information: https://www.dal.ca/dept/university_secretariat/academic-integrity.html

Accessibility

The Advising and Access Services Centre is Dalhousie's centre of expertise for student accessibility and accommodation. The advising team works with students who request accommodation as a result of a disability, religious obligation, or any barrier related to any other characteristic protected under Human Rights legislation (Canada and Nova Scotia).

Information: https://www.dal.ca/campus_life/academic-support/accessibility.html

Student Code of Conduct

Everyone at Dalhousie is expected to treat others with dignity and respect. The Code of Student Conduct allows Dalhousie to take disciplinary action if students don't follow this community expectation. When appropriate, violations of the code can be resolved in a reasonable and informal manner—perhaps through a restorative justice process. If an informal resolution can't be reached, or would be inappropriate, procedures exist for formal dispute resolution.

Code: https://www.dal.ca/dept/university_secretariat/policies/student-life/code-of-student-conduct.html

Diversity and Inclusion – Culture of Respect

Every person at Dalhousie has a right to be respected and safe. We believe inclusiveness is fundamental to education. We stand for equality. Dalhousie is strengthened in our diversity. We are a respectful and inclusive community. We are committed to being a place where everyone feels welcome and supported, which is why our Strategic Direction prioritizes fostering a culture of diversity and inclusiveness

Statement: <http://www.dal.ca/cultureofrespect.html>

Recognition of Mi'kmaq Territory

Dalhousie University would like to acknowledge that the University is on Traditional Mi'kmaq Territory. The Elders in Residence program provides students with access to First Nations elders for guidance, counsel and support. Visit or e-mail the Indigenous Student Centre (1321 Edward St) (elders@dal.ca).

Information: https://www.dal.ca/campus_life/communities/indigenous.html

Important Dates in the Academic Year (including add/drop dates)

https://www.dal.ca/academics/important_dates.html

University Grading Practices

https://www.dal.ca/dept/university_secretariat/policies/academic/grading-practices-policy.html

Missed or Late Academic Requirements due to Student Absence (policy)

https://www.dal.ca/dept/university_secretariat/policies/academic/missed-or-late-academic-requirements-due-to-student-absence.html

Student Resources and Support

Advising

General Advising https://www.dal.ca/campus_life/academic-support/advising.html

Science Program Advisors: <https://www.dal.ca/faculty/science/current-students/academic-advising.html>

Indigenous Student Centre: https://www.dal.ca/campus_life/communities/indigenous.html

Black Students Advising Centre: https://www.dal.ca/campus_life/communities/black-student-advising.html

International Centre: https://www.dal.ca/campus_life/international-centre/current-students.html

Academic supports

Library: <https://libraries.dal.ca/>

Writing Centre: https://www.dal.ca/campus_life/academic-support/writing-and-study-skills.html

Studying for Success: https://www.dal.ca/campus_life/academic-support/study-skills-and-tutoring.html

Copyright Office: <https://libraries.dal.ca/services/copyright-office.html>

Fair Dealing Guidelines <https://libraries.dal.ca/services/copyright-office/fair-dealing.html>

Other supports and services

Student Health & Wellness Centre: https://www.dal.ca/campus_life/health-and-wellness/services-support/student-health-and-wellness.html

Student Advocacy: <https://dsu.ca/dsas>

Ombudsperson: https://www.dal.ca/campus_life/safety-respect/student-rights-and-responsibilities/where-to-get-help/ombudsperson.html

Safety

Biosafety: <https://www.dal.ca/dept/safety/programs-services/biosafety.html>

Chemical Safety: <https://www.dal.ca/dept/safety/programs-services/chemical-safety.html>

Radiation Safety: <https://www.dal.ca/dept/safety/programs-services/radiation-safety.html>

Scent-Free Program: <https://www.dal.ca/dept/safety/programs-services/occupational-safety/scent-free.html>

SERVICES AVAILABLE TO STUDENTS

The following campus services are available to help students develop skills in library research, scientific writing, and effective study habits. The services are available to all Dalhousie students and, unless noted otherwise, are free.

Service	Support Provided	Location	Contact
General Academic Advising	Help with <ul style="list-style-type: none"> - understanding degree requirements and academic regulations - choosing your major - achieving your educational or career goals - dealing with academic or other difficulties 	Killam Library Ground floor Rm G28 Bissett Centre for Academic Success	In person: Killam Library Rm G28 By appointment: <ul style="list-style-type: none"> - e-mail: advising@dal.ca - Phone: (902) 494-3077 - Book online through MyDal
Dalhousie Libraries	Help to find books and articles for assignments Help with citing sources in the text of your paper and preparation of bibliography	Killam Library Ground floor Librarian offices	In person: Service Point (Ground floor) By appointment: Identify your subject librarian (URL below) and contact by email or phone to arrange a time: http://dal.beta.libguides.com/sb.php?subject_id=34328
Studying for Success (SFS)	Help to develop essential study skills through small group workshops or one-on-one coaching sessions Match to a tutor for help in course-specific content (for a reasonable fee)	Killam Library 3rd floor Coordinator Rm 3104 Study Coaches Rm 3103	To make an appointment: <ul style="list-style-type: none"> - Visit main office (Killam Library main floor, Rm G28) - Call (902) 494-3077 - email Coordinator at: sfs@dal.ca or - Simply drop in to see us during posted office hours All information can be found on our website: www.dal.ca/sfs
Writing Centre	Meet with coach/tutor to discuss writing assignments (e.g., lab report, research paper, thesis, poster) <ul style="list-style-type: none"> - Learn to integrate source material into your own work appropriately - Learn about disciplinary writing from a peer or staff member in your field 	Killam Library Ground floor Learning Commons & Rm G25	To make an appointment: <ul style="list-style-type: none"> - Visit the Centre (Rm G25) and book an appointment - Call (902) 494-1963 - email writingcentre@dal.ca - Book online through MyDal We are open six days a week See our website: writingcentre.dal.ca

Clinical Microbiology MICI 4218 Jan – April 2024 1:35 p.m. - 2:25 p.m DEN 3157. Mon, Wed, Friday

#	Date	Professor	Topic
1	Jan 6	Dr. Davidson	Intro and using the clinical laboratory
2	Jan 8	Dr. Davidson	Gram Positives
3	Jan 10	Dr. Davidson	Gram Negatives
4	Jan 13	Dr. Davidson	Antimicrobials (principles of use)
5	Jan 15	Dr. Davidson	Antimicrobials (Spectrum of activity, Mech of action/resistance)
6	Jan 17	Dr. LeBlanc	Intro to Virology
7	Jan 20	Dr. Davidson	Antimicrobials (susceptibility testing) + Anaerobes - atypicals
8	Jan 22	Dr. Davidson	Rapid ID / MALDI / Blood cultures
9	Jan 24	Dr. Davidson	AROs
10	Jan 27	Dr. LeBlanc	Molecular Diagnostics
11	Jan 29	Dr. Patriquin	Infection Control
12	Jan 31	Dr. Davidson	EXAM
13	Feb 3	Dr. Davidson	UTIs
14	Feb 5	Dr. Davidson	RTIs (bacterial)
	Feb 7		MUNROE DAY
15	Feb 10	Dr. LeBlanc	vRTIs (viral)
16	Feb 12	Dr. Patriquin	Toxins
17	Feb 14	Dr. Hatchette	Approach to Infectious Diseases
	Feb 17		STUDY WEEK
	Feb 19		STUDY WEEK
	Feb 21		STUDY WEEK
18	Feb 24	Dr. Davidson	CNS (bacterial)
19	Feb 26	Dr. LeBlanc	CNS (viral)
20	Feb 28	Dr. Davidson	STI (bacterial)
21	Mar 3	Dr. LeBlanc	STI (viral)
22	Mar 5	Dr. Davidson	GI (bacterial)
23	Mar 7	Dr. LeBlanc	GI (viral)
24	Mar 10	Dr. Davidson	Review
25	Mar 12	Dr. Davidson	EXAM
26	Mar 14	Dr. Davidson	SSTIs
27	Mar 17	Dr. Patriquin	Tb / Mycobacteria
28	Mar 19	Dr. LeBlanc	Bioterror
29	Mar 21	Dr. LeBlanc	Viral Hemorrhagic Fevers
30	Mar 24	Dr. LeBlanc	Blood-borne viruses (HIV / Hep)
31	Mar 26	Dr. LeBlanc	Childhood viruses
32	Mar 28	Dr. LeBlanc	Spirochetes / Tick-borne
33	Mar 31	Dr. Simms	Parasitology
34	Apr 2	Dr. Simms	Mycology
35	Apr 4	Dr. Davidson	Snow day
36	Apr 7	Dr. Davidson	Review

