

Parasitology MIMM 413, 2023 Schedule

Course Coordinators: Greg Matlashewski and Momar Ndao

Lecturers:

Dr. G. Matlashewski (398-7479) greg.matlashewski@mcgill.ca

Dr. M. Ndao (McGill Centre for Tropical Disease (514 934-1934 ext 44536) momar.ndao@mcgill.ca

Lectures (A): Monday, Wednesday (10:30 - 11:25 a.m.), Duff Amphitheatre

Laboratory (L): Thursday, Lab (1:30 – 4:30 pm); The prelab talk will be held in Duff Amphitheatre and this will be followed by a laboratory session held in teaching Laboratories on the C-Floor.

Prerequisite: None, but it is advisable to have previously taken an immunology related course.

Course description:

The course will provide an overview of current challenges in global health related to infectious diseases and the major role parasitic diseases play in global health problems. The course will further investigate the molecular and cellular interactions between parasites and their hosts, and provide an appreciation of the scope and relevance of parasitism in terms of parasite biology and disease. Lectures will cover the major groups of parasites and will illustrate aspects such as host invasion and strategies used by parasites to avoid the host immune system. The lectures will emphasize how this information can be utilized to develop new methods of control including diagnosis, drug and vaccine development. The lab component will illustrate morphological features of parasitic groups and the molecular basis for diagnosis of infection by PCR and serology.

Learning objectives:

On completion of this course, students will:

- Gain an appreciation of the diversity of parasitic infections.
- Know the major groups of parasites and their influence upon human biology and health.
- Have an appreciation of the different mechanisms used by parasites to infect and survive in their hosts, at the molecular and immunological levels.
- Identify major human parasites, the diseases they cause and understand their life cycles.
- Learn basic laboratory principals in diagnosis by microscopy, PCR and serology.

Grading: Final (all term lectures): 55%, Midterm 25%, Lab 20% (Reports 10%, Lab exam 10%)

Schedule

Jan 4	W	Origin of Infectious Diseases	G. Matlashewski
Jan 5	Th	Lab lecture	G. Matlashewski
Jan 9	M	Emerging infectious disease	G. Matlashewski
Jan 11	W	Leishmaniasis-1	G. Matlashewski

Jan 12	Th	Lab 1: PCR diagnosis	G. Matlashewski
Jan 16	M	Leishmania-2	G. Matlashewski
Jan 18	W	Malaria-1	G. Matlashewski
Jan 19	Th	Lab 2: CRISPR diagnosis	G. Matlashewski
Jan 23	M	Malaria-2	G. Matlashewski
Jan 25	W	African Trypanosomiasis	G. Matlashewski
Jan 26	Th	Lab 3: Malaria Diagnosis: Microscopy	G. Matlashewski
Jan 30	M	Chagas Disease	G. Matlashewski
Feb 1	W	Protozoan Vaccines	G. Matlashewski
Feb 2	Th	Lab 4: Protozoan Microscopy	G. Matlashewski
Feb 6	M	NTD elimination	G. Matlashewski
Feb 8	W	Vectors	G. Matlashewski
Feb 9	Th	Lab 5: Antigen SDS-PAGE	G. Matlashewski
Feb 13	M	Midterm	
Feb 15	W	Ascariasis and Toxocariasis	M. Ndao
Feb 16	Th	Lab 6: Antigen Western	G. Matlashewski
Feb 20	M	Schistosomiasis	M. Ndao
Feb 22	W	Trichinellosis	M. Ndao
Feb 23	Th	Lab 7: Antigen ELISA	G. Matlashewski
Feb 27-Mar 3		Study Break	
Mar 6	M	Echinococcosis	M. Ndao
Mar 8	W	Lymphatic Filariasis	M. Ndao
Mar 9	Th	Lab 7: Helminth-1	M. Ndao

Mar 13	M	Taeniasis	M. Ndao
Mar 15	W	Amebiasis	M. Ndao
Mar 16	Th	Lab 8: Helminth Lab- 2	M. Ndao
Mar 20	M	Cryptosporidiosis	M. Ndao
Mar 22	W	Strongyloidiasis	M. Ndao
Mar 23	Th	Lab 9: Lab slide review	
Mar 27	M	Giardiasis	M. Ndao
Mar 29	W	Toxoplasmosis	M. Ndao
Mar 30	Th	Lab Exam	
Apr 3	M	Helminth Vaccines	M. Ndao
Apr 5	W	Review	

McGill Policy Statements

"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". For more information, see www.mcgill.ca/students/srr/honest/ Approved by Senate on 29 January 2003. "In accord with McGill University's Charter of Students' Rights, students in this course have the right to submit in English or in French any written work that is to be graded." *"Conformément à la Charte des droits de l'étudiant de l'Université McGill, chaque étudiant a le droit de soumettre en français ou en anglais tout travail écrit devant être noté (sauf dans le cas des cours dont l'un des objets est la maîtrise d'une langue)."* Approved by Senate on 21 January 2009.

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In keeping with McGill's preparedness planning strategies with respect to potential pandemic or other concerns, the Administration suggests that this course outline contain the statement: "In the event of extraordinary circumstances beyond the University's control, the content and/or evaluation scheme in this course is subject to change." Additional policies governing academic issues which affect students can be found in the McGill Charter of Students' Rights. Revised Sept. 2012

Students unable to attend the mid-term exam due to medical or non-medical reasons must submit a request for missing the exam WITHIN 1 week of the scheduled mid-term. Students must make the request by completing the missed mid-term exam webform available on the MIMM Department website. The Department will evaluate any medical and non-medical situations and reserves the right to make any final decisions regarding what accommodations are reasonable and appropriate in the circumstances. For more information on submitting a request, please go to the Department website at <https://www.mcgill.ca/microimm/>.