IMM435 Practical Immunology

2021 Course Syllabus

Course Coordinator:	Dr. G. Ehrhardt
Tutor:	Dr. Y. Dimitriou

Contact information:

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Office hours: Monday 1-5 pm (MSB-7316) – *please email in advance for appointment*

Class time: Wednesday, 10 am - 4:00 pm

Location: Introduction Lectures: MSB, room number TBD, students will be notified
Laboratories: MSB-2284 and MSB-2383

In this course, students will be introduced to molecular and cellular biology experimental techniques used to address immunological questions. IMM435 aims to instruct students in the design of controlled experiments as well as in performing the experiments and in the analysis of experimental results. Each experiment will be preceded by a lecture giving the relevant background information. During each laboratory session, the tutor and 2 TAs will be present at all times.

Method of evaluation:

Lab Reports	80%
Mid-Term Test	5%
Final Exam	15%

Missed Term Test Policy:

This course follows the University of Toronto's Policies on missed tests and assignments, and requires students to complete an Absence Declaration on ACORN for illness-related circumstances.

Other reasons for missing laboratory experiments will require prior approval by the course coordinator. If approval is not granted in advance for non-medical reasons, then 0% will be recorded for the laboratory experiment.

THERE ARE NO MAKE UP MID-TERM TESTS

Course schedule:

Date	Lab	Title	Topic/Methods	Lab report due
Sep. 15	1	Introduction/ Organization	Introduction to "Practical Immunology" Use of animals in research Visit of animal facility (DCM)	
Sep. 22	2	Cells of the immune system	Preparation of murine tissues, cell counting, flow cytometry	1
Sep. 29	3a	B cell activation	RNA preparation, proliferation assay	2
Oct. 6	3b	B cell activation (cont'd)	Complete Lab 3a, RT-PCR qRT-PCR	
Oct. 13	4	Analysis of Ig Protein structure	SDS-PAGE, analysis of protein gel patterns	3
Oct. 20	5a	Protein interactions	Stimulation of B cells, Immunoprecipitations	4
Oct. 27	5b	Term Test	Complete Lab 5a	4
Nov. 3	6	Immune cells in blood	Detection of plasma cells	5
Nov. 17	7	Detection of IgM mutants	ELISA, use of mutants for structure/function analysis	6
Nov. 24	8a	T cell activation	Western blotting, phospho-specific antibodies	7
Dec. 1	8b	T cell activation (cont'd)	Complete Lab 8a final exam preview	
Dec. 8	9	NKT cell activation *in vivo*	Intracellular cytokine analysis flow cytometry	8
TBA		final exam		9