

IMM 428H/1428H Molecular Immunology 2017

*This course will focus on the molecular and cellular biology of immune recognition. The course will emphasize historical and recent experimental evidence leading to our current understanding of immune recognition. Undergraduate students will be graded on two non-cumulative term tests worth 30% each and a 40% non-cumulative final exam. Graduate students will have an additional essay component- see below. All exams are long answer and emphasize problem solving. **Term tests are held during class time as specified below.***

All classes will be held in Rm 4171 of the Medical Sciences Bldg. Thursdays from 3-5

Date	Lecture Subject	Prof.
Sept. 7	Introduction to the course content and operational procedures. Xray crystallography/Antibody structure	THW JPJ
Sept.14	VDJ recombination	AM
Sept. 21	Affinity maturation and class switch	AM
Sept. 28	TERM TEST 1: Held in class, during class time 1.5hr 30%	AM JPJ
Oct. 5	Assays used to measure MHC restriction/T cell recognition Antigen Processing MHC I and II	THW
October 12	Antigen processing MHC I and II continued	THW
October 19	T cell activation and Costimulation	THW
Oct 26	TERM TEST 2: held in class during class time 1.5 hr 30%	THW
NOVEMBER Nov 2	Carlyle NK and ILCs lecture 1	JC
Nov 6-10	Fall reading week –no lectures	
Nov. 16	NK and ILC lecture 2	JC
Nov 23	Innate signaling receptors	DP
Nov. 30 (last lecture)	Innate signaling receptors	DP
TBA	Organize Review session after Dec 6 – tentatively on Dec 7 which is makeup class day	DP, JC

Reference Material: Although there is no required text for this course, any recent edition of Janeway, Travers *et al.* Immunobiology text (e.g. 8 or 9th Edition), which most of you already have, will serve as a "first resource" for you. Instructors will be providing you with reference lists of key papers or reviews that they will be discussing. In fourth year courses we expect you to

start reading some of the primary literature. Immunology is an experimental science and you will find that in this course it is not just facts and concepts that are being relayed, but also that the experimental foundations for these facts and concepts are stressed. Thus you may have to consult the primary literature to clarify in your mind an experimental approach which was discussed in class but which you did not fully grasp because you were unfamiliar with it. **We don't expect you will need to look at all of the references provided, but people who don't look at ANY of them may not achieve the mark that they had expected to get.**

Handouts of lecture power points will be made available to students through the Portal.

Review Sessions: Although you are always free to seek out individual instructors for clarification of the lecture material, be it by phone, e-mail, or in person, for the past several years the classes have found it useful that we held some group review sessions at which one or more of the instructors were present to answer questions posed by the students. These are strictly optional and no new material is deliberately presented. A group review session will be held a few days before each term test- to be arranged by the TA for each section. A third session covering the remainder of the course will be held in December at a time mutually agreeable to the instructors and the majority of the class.

Examinations: There will be two term tests and one final exam. Exams are not cumulative, but it is possible that techniques covered in an early exam could come up again in another context.

Term test 1: will be worth **30%** of the final mark and will cover the first 6hrs of the course. It will be a 1.5 hr examination held during class time. The questions will be a combination of problems, essays and short answers on the material covered by Dr. Julien (10% of course) Dr. Martin's lecture (20%).

Term test 2: will be worth **30%** of the final mark and will cover Dr. Watts' lectures.

Final exam will be held in the Faculty of Arts and Science Christmas examination period, **December 11-20 2017**. This exam is worth **40%** of the final mark. It is anticipated that the marks distribution for the final exam will be as follows: **DP: 20%, JC 20%**.

Drop date

Undergraduates: Nov. 6, 2017

Graduate students: Oct 30, 2017

Missed tests: Students who miss an examination must produce a note signed by a qualified physician justifying their absence; otherwise a mark of zero will be assigned for that examination. The student must inform the course instructor and a (different) make-up exam will be arranged.

Final exam schedule (exam period is Dec 11-20): Don't finalize your end of term travel plans until the date of the December examination is known.

Molecular Immunology for Graduate Students: IMM 1428H

IMM1428 is available as a graduate course. Note: Students in the Immunology graduate program cannot use IMM1428 as part of their graduate credit requirement.

TERM PAPER FOR GRADUATE STUDENTS: For students enrolled in IMM1428H there will be an additional component in evaluating your performance in this course. You will be required to write a term paper of 10-12 double spaced pages in length on any major topic in the course.

You may not, however, choose a topic that is closely related to your own research area. You are free to discuss possible topics with any of the instructors and you must obtain approval from the course coordinator (Watts) for your essay topic in advance. We are looking for an essay that demonstrates your critical thinking/evaluation of a focused area in any topic touched on in the course not in your immediate research area. This approval must be obtained by **Nov. 15, 2017**. For grading purposes, the essay will contribute 20% of the final aggregate mark, the balance being made up of the final exam and the two term tests. Please send by email as attachment by due date of **December 7, 2017**. *Students are required to hand in the academic integrity checklist with their essays* (see link below under academic integrity statement). Essay will be graded by the course coordinator with potential input from another faculty member with expertise in the area.

Academic integrity statement: “Academic integrity is fundamental to learning and scholarship at the University of Toronto. Participating honestly, respectfully, responsibly, and fairly in this academic community ensures that the U of T degree that you earn will be valued as a true indication of your individual academic achievement, and will continue to receive the respect and recognition it deserves.” See

<http://www.artsci.utoronto.ca/osai/instructors/downloadable-templates/ai-statements-checklist> .

Instructors:

TW: Tania H. Watts, Ph.D. course coordinator

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JPJ: Jean-Philippe Julien, Ph.D.

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DP: Dana Philpott, Ph.D.

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JC: James Carlyle

Department of Immunology, University of Toronto
Sunnybrook Research Institute 2075 Bayview Ave (S-232)

TAs:

TA part I (Julien and Martin lectures) Clare So clare.so@mail.utoronto.ca

TA part II (Watts lectures) Tlan Sun, tian.sun@mail.utoronto.ca

TA part II (Philpott, Carlyle lectures): Mark Gower mark.gower@mail.utoronto.ca