

## **IMM430H1/IMM1430H: “Clinical Immunology”**

**I. Course Coordinators:** Dr. Shannon Dunn, [sdunn@uhnresearch.ca](mailto:sdunn@uhnresearch.ca) (January only) and Dr. Stuart Berger, [stuart.berger@utoronto.ca](mailto:stuart.berger@utoronto.ca) (February onwards). Office hours are available upon request.

**II. Description:** This course will address the underlying pathogenesis as well as highlight the challenges of treating or preventing immune-related conditions such as autoimmunity, cancer, HIV, and transplantation and graft rejection. Some lectures will address the genetics and cellular pathogenesis of autoimmune diseases such as Multiple sclerosis, Type I Diabetes, and Systemic lupus Erythematosus. Other lectures will overview some underappreciated roles of the immune system in disease.

**III. Location:** Tuesdays 3-5 pm MSB room 2170

### **IV. Marking Scheme (will differ for students in IMM430 vs. IMMI430)**

***Undergraduate Students (IMM430H1):***

30% core writing assignment, 35% midterm exam, 35% final exam.

***Graduate Students (IMM1430H):***

20% core writing assignment, 20% graduate writing assignment, 30% midterm exam, 30% final exam.

**V. Lecture Format:** 60-90 min lecture. Each lecture will be provided by a different lecturer who’s research specialty is in the area of the material. The lecture notes may or may not be provided by the lecturer (at his/her discretion). Be prepared to take notes in class.

**VI. Exams:** The midterm and final will both consist of short-answer questions based entirely on the lecture material. The midterm and final will be the same for undergraduate and graduate students. The midterm will cover material up to and including that presented on February 14<sup>th</sup> and is not restricted (will be handed back). The final exam will be based only on material covered after the midterm and is restricted (will not be handed back). There are no sample exams from past years to study from.

**VII. Text:** Lecture notes and notes taken in class. Notes may or may not be posted on Blackboard prior to the lecture, depending on the lecturer’s preference. Note that some professors provide paper handouts in class, but do not post notes on blackboard. It is your responsibility to attend lectures and to make notes based upon the class material. Most lecturers permit voice recorders.

**VIII. Marks:** Marks will also be uploaded on Blackboard. To access the course materials, go to the following website <https://weblogin.utoronto.ca/> and login with your UTORid and password. Course materials can be accessed under IMM430H1 or IMM1430H.

**IX. Missed Test Policy:** If you miss the midterm, you will have to re-write the exam within a timely fashion (as soon as you are feeling better) and you will have to have a valid reason and provide appropriate supportive documentation. The format of the midterm will be the same as that administered in the formal exam session. Students who miss the final exam for a valid reason may petition to the Faculty of Arts and Science to write the deferred exam in the summer months. The format of the deferred exam will be the same as that administered in the formal exam session.

**X. Re-mark Policy:** You will receive your marked midterm and can take up any corrections of the midterm with the TAs assigned to the relevant lecture in question. The TA will inform the course coordinator of a mark change. The final can only be viewed or remarked by Dr. Berger after petitioning the Faculty of Arts and Science. There will be no re-mark of the writing assignments.

**XI. Lecture Dates and Topics:**

January 10: Dr. Shannon Dunn “Multiple Sclerosis” TA: *Darrin Gao*

January 17: Dr. Jayne Danska “Microbiome in immune-mediated disease” TA: *Darrin Gao*

January 24: Dr. Andrzej Chruscinski “Heart transplantation” TA: *Darrin Gao*

January 31: Dr. Tamjeed Siddiqui “Microglia in disease” TA: *Angela Zhou*

February 7: Dr. Rupert Kaul “HIV” TA: *Angela Zhou*

February 14: Dr. Thomas Eiwegger “Allergy” TA: *Angela Zhou*

February 21: Reading week

February 28: Midterm (in class)

March 7: Dr. Joan Wither “Systemic Lupus Erythematosus” TA: *Paulina Drohomyrecky*

March 14: Dr. Josef Penninger “Osteoimmunology” TA: *Paulina Drohomyrecky*

March 21: Dr. Dan Winer “Obesity and insulin resistance” TA: *Paulina Drohomyrecky*

March 28: Dr. Eyal Grunebaum “Primary immunodeficiencies” TA: *Eddy Chen*

April 4: Dr. Tracy McGaha “Tumor Immunology” TA: *Eddy Chen*

## Contact Information for Lecturers

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**XII. Other Important Dates:** March 1<sup>st</sup> is the last day to drop Winter session courses for graduate students.

February 14<sup>th</sup>—Graduate writing assignment due (IMM1430 students only).

March 13<sup>th</sup> -- Last day for undergraduate students to drop the course without affecting the academic record and GPA.

March 14<sup>th</sup>—Core writing assignment due by the end of class.

After these deadlines a mark is recorded for each course, whether course work is completed or not (a “0” is assigned for incomplete work), and calculated into the GPA.

### **XIII. Core writing assignment (Undergraduate and Graduate Students):**

Students will write a scientific essay on the following topic:

“PD/PD-L1 blockade for the treatment of melanoma or other malignancies”

(due date is by end of class on March 14<sup>th</sup> and will be time-stamped). If you do not make this deadline, you will lose 10% of your mark and additional 10% for every day that the paper is late.

Each essay can elaborate on other aspects of this therapy, but should attempt to address the following questions or aspects:

- What is this immune-based therapy and what immune pathway does it target (i.e. mechanism of action)?
- What is the role for PD-L1/PD-1 signaling in the normal immune system?
- What is the history of development of this therapy? What key experiments lead to the use of these agents to treat cancer?
- Discuss some of the key preclinical studies done (i.e., studies done in animal models).
- Describe some of the key clinical trials (i.e., landmark studies done in humans).
- How are these drugs used in the clinic presently? Are there other diseases that may benefit from treatment with the therapy?
- Are there any safety concerns of using this therapy?

The writing assignment will be marked by the TAs. The following general marking rubric will be applied:

A maximum of 50% of marks will be awarded for thoroughness of research  
A maximum of 50% of marks will be awarded for organization of material, clarity of writing, formatting, and presentation.

TAs will each mark one quarter of the papers. Each TA will assign a grade based on the rubric and how the paper compares to others within his/her pile. The course coordinator will ensure that each TA is marking similarly by adjusting the grades such that the median grade is the same for each TA. There will be no re-mark of the papers.

#### ***Paper format requirements:***

- The expectation is that the paper will be written like a scientific review paper.

The paper should consist of 10 to 12 pages, not including tables, figures and the bibliography. Tables and figures are not required, but can be included (maximum 3 in total Non-original tables and figures will not be marked and need to be properly cited or a deduction will be applied for improper citation (see Referencing source material).

The paper needs to be double-spaced, Font: 12 pt Times, one-inch margins. Page numbers should be included on all pages with the exception of the cover page. The cover page should include the student's name, student number and title of

the report.

Referencing/Citations and source material:

- Quotations are not permitted
- When you have derived concepts from source material (which is expected), you must reference that source material in the text using a superscripted number<sup>1</sup>.
- Your bibliography will then contain an enumerated list of references.
- Reference style in the bibliography will be similar to that in pubmed:  
1. Peiris, J.S., K.Y. Yuen, A.D. Osterhaus, and K. Stohr. The severe acute respiratory syndrome. 2003. N. Engl. J. Med. 349:2431-2441.

**Note:** Your term paper will be subject to “Turnitin” or other originality check software. You will be given the chance to check your originality report prior to the final submission of your paper. Those papers flagged by Turnitin will be individually reviewed by the course coordinator. If there is evidence of extensive paraphrasing or direct lifting of written material from primary research articles, the course coordinator will deduct marks from the term paper using his/her discretion.

#### **XIV. Graduate writing assignment (Students in IMM1430 only):**

Students will write a scientific essay on the following topic:

“Discuss the role of the immune system in rheumatoid arthritis.”

The expectation is that the paper will be written like a scientific review paper. The topic is very broad and students can use this freedom to explore aspects of rheumatoid arthritis that are most interesting to them.

(due date is by end of class on February 14<sup>th</sup> and will be time-stamped). If you do not make this deadline, you will lose 10% of your mark and additional 10% for every day that the paper is late.

The marking rubric and paper format is the same as for the undergraduate writing assignment. The paper will be marked by one TA. There will be no re-mark of the paper.

#### **XV. Teaching Assistants: are senior graduate students in the Department of Immunology.**

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