

# **LMP1017H: Tissue Injury, Repair and Regeneration**

## **Description of the Course**

This seminar/reading and conference course is an interactive course designed to provide graduate students a basic understanding of tissue injury, repair and regeneration processes in major body tissues. Each week, we will invite leading guest speakers to present a seminar on their respective field of research related to tissue injury, repair and regeneration. The Invited Speaker will present a seminar on his/her research for one hour. During the next hour, students present and discuss a particular paper from the one to two papers that are chosen by the guest speaker on his/her topic. This will include a 15 minute presentation by one selected student followed by a 45 minute discussion/question period under the guidance of the mentor (guest speaker).

A total of two hours will be dedicated to each session, which will include the seminar by the Guest Speaker and student presentation/questions/discussion session, so the course is 26-hours over 13 weeks. The first class on September 5th will be an introductory session where students will choose one paper for the presentation and a different one for the dissertation. Classes will be held at the MSB Building Room 3278 on Tuesdays 10:00 am-12:00 pm.

## **Course Specifications**

### **Readings:**

During the first introductory lecture, one to two research articles (corresponding with the weekly Guest Speakers) will be circulated for students to select their respective topic for the oral presentation and term paper. Topics for the oral presentation and term paper will be different.

### **Research seminars presented by Guest Speakers:**

*45 minute seminar and 15 min discussion session*

The Guest Speaker will present a research seminar related to the topic of the research presentation to be discussed that day in class. **Students are required to attend these seminars and ask one (only one) question each during discussion time.**

## **Presentation of Assigned Papers and Class Participation**

### **Topic:**

You will choose one research article related to Tissue Repair and Regeneration, which will be selected from topics provided by the course coordinators. Different topics will need to be selected for your oral presentation and for the term paper.

### **Student Oral presentation:**

*Breakdown: 15 minutes for presentation, 45 minutes for questions/discussion*

Students will select one publication (provided by guest speakers) during the introductory session (Sept 5<sup>th</sup> 2017) and will be required to prepare an oral presentation for approximately 15 minutes. This will include an introduction, results and discussion of results of the paper; followed by a 30-45 minute discussion session. **All students are**

***expected to contribute to the discussion of papers. All students will be marked on their participation in each class, whether as presenter or discussant, or by asking one question during discussion session. Questions asked/answered by students at the end of seminars given by staff participants are included in this mark. Marking of each student will be performed by course coordinators using a consensus approach and not the Guest Speaker.***

Detailed guidelines for presentations will be handed out at the time the topics are selected (Introductory Lecture 1). The topic will be different from the one for your term paper. You will have access to a laptop computer and multimedia projector for the presentation; plan on approximately 10 slides in total (1 per minute). The professors and your fellow students will provide constructive comments about your presentation, in particular with respect to clarity, content, and your ability to discuss and answer questions. The comments will be provided to you with the mark for your presentation.

### **Term Paper**

*Maximum 7-8 pages double-spaced (page limit does not include references)*

Students will be expected to write a review (critique) of a publication selected by the course coordinators. The term paper is due on **December 5, 2017**. Please note that no extensions will be given for the submission of the term paper. Term paper will be marked out of 40-please see breakdown under evaluation criteria.

#### **Term Paper Specifications:**

Typed double-spaced, 12-point type size, preferably Arial or Times New Roman font with 1 inch margins all around. All pages should be numbered. Inserting figures/tables is not mandatory. But if you do, it should be included in 7-8 pages. Please do not insert more than 2 figures or tables. References should be included on an additional page, with a maximum of 20. The term paper should include the following sections: Abstract, Introduction, Methods, Results, Discussion and References.

#### **Abstract:**

200-250 words in which you summarize the topic, the specific subject of the research problem, the major findings, and conclusions

#### **Introduction:**

Provide background on the topic, summarize the present state of knowledge of the topic, and provide a clear description of the nature of the research problem that will be investigated in the Results section. Be selective with the background information that you include, as you are not writing a textbook. This section should be about 1-1½ pages long.

#### **Methods:**

Briefly, describe methods used in the study using subheadings. This section should be about 1-1½ pages long. Indicate the methodology used for the experiments, but do not go into the details of how the experiments were done. You can use subheadings for the different topics discussed.

**Results:** Present in your own words relevant results on the topic. You can use subheadings for the different topics discussed. Max 2 pages.

**Discussion:**

Summarize the major new findings, discuss their relevance to the current literature, and draw the major conclusions. You should discuss similarities, discordant or complementary results from the articles, and you may find creating a table or schematic diagram and including it in the paper will help you with your discussion. You should also briefly propose future studies relevant to the findings of this research paper.

**References:**

References should be numbered (1, 2, 3....) as they appear in the text- limit to 25 references.

Use the following format:

Kapoor M, Martel-Pelletier J, Lajeunesse D, Pelletier JP, Fahmi H: **Role of proinflammatory cytokines in the pathophysiology of osteoarthritis.** *Nature Review Rheumatology* 2011, 7(1):33-42.

If you are using reference management software, use the “American Journal of Pathology” format. If textbooks are used as references, first list all the authors as shown in the example above followed by the chapter title, title of the textbook, edition, year of publication and page numbers used.

**Evaluation Criteria**

1) 40%- Oral Presentation

- Total- 40 marks
  - *Presentation layout: 10*
  - *Presentation style: 10*
  - *Interpretation of results and critique: 20*

2) 20%- Class Participation and attendance

- Total- 20 marks
- Students are required to ask one question to the guest speaker and 1 question to the student presenter and will earn 10 marks for participation in this manner; another 10 marks is reserved for attendance

3) 40%- Term Paper

- **Due Date: December 5, 2017**
- Total- 40 marks
  - Abstract: 5 marks
  - Introduction: 5 marks
  - Methods: 5 marks
  - Results: 10 marks
  - Discussion including references: 15 marks

## Course Schedule

<b>Date</b>	<b>Time</b>	<b>Speakers</b>	<b>Topic</b>
Sept 5	MSB 3278 10am-12pm	Dr. Mohit Kapoor Dr. Sowmya Viswanathan	Introduction: Review of course information and selection of general subject for oral presentation (first hour) Discussion and distribution of dissertation subjects (second hour)
Sept 12	MSB 3278 10am-12pm	Dr. Rajiv Gandhi	Joint Restoration/Repair for End Stage Osteoarthritis: The Role of Hip and Knee Replacement Surgery
Sept 19	MSB 3278 10am-12pm	Dr. Marcus Butler	Melanoma
Sept 26	MSB 3278 10am-12pm	Dr. Boris Hinz	Fibrosis
Oct 3	MSB 3278 10am-12pm	Dr. Michael Sefton	Alternative foreign body response and wound repair
Oct 10	MSB 3278 10am-12pm	Dr. Nazia Selzner	Liver assessment and repair with ex vivo liver perfusion
Oct 17	MSB 3278 10am-12pm	Dr. Sowmya Viswanathan	Immunomodulatory and Regenerative Properties of Mesenchymal Stromal Cells that Makes them Attractive for Numerous Clinical Indications
Oct 24	MSB 3278 10am-12pm	Dr. Jeremy Sivak	Injury and Repair Mechanisms In the Eye
Oct 31	MSB 3278 10am-12pm	Dr. Terrence Yau	Cardiac Injury and Repair/Regeneration
Nov 7	MSB 3278 10am-12pm	Dr. Jason Rockel	Cartilage Repair and Regeneration
Nov 14	MSB 3278 10am-12pm	Dr. James Eubanks	Neurodegeneration
Nov 21	MSB 3278 10am-12pm	Dr. Lorraine Kalia	Protein aggregation and neurodegenerative diseases
Nov 28	MSB 3278 10am-12pm	Dr. Golnaz Karoubi	Lung injury, repair, and regeneration
Dec 5			<b>DISSERTATION DUE</b>