

Cancer Biology

BIOL-4230-WA

Instructor: Dr. Ingeborg Zehbe, Research Chair, Biology Department

Office hour: Wednesday between 3pm and 4pm, CB 4018

Graduate Assistant: Mehran Masoom, MSc Candidate; the GA will be present during all lectures

Contact: Please contact Mehran Masoom (mlmasoom@lakeheadu.ca) for questions and inquiries

Time & Location: Wednesdays & Fridays: between 8:30am and 10:00am (AT 1007)

First Class: Jan 9, 2019

Textbook: *The Biology of Cancer – Second Edition*. Robert A. Weinberg. (2013)

Optional: *The Emperor of All Maladies: A Biography of Cancer*. Siddhartha Mukherjee. (2011)

Course Overview

The purpose of this course is to provide an introduction to the diverse field of cancer biology. This course possesses a clinical & research focus, but will also highlight additional concepts crucial for the students' understanding. Emphasis will be placed on engaging discussion and advancing topics in cancer research.

Lecture Structure

During the semester, lectures will be structured as formal lectures, preparatory seminars, lab tours, guest lectures, and group discussions.

Mark Breakdown

Participation	10%
Quizzes	5%
Mid-term exam	25%
Assignments (2)	30% (2 x 15%)
Final exam	30%

Participation and Quizzes

This is an interactive class where participation is highly encouraged. Participation will be graded based on in-class student involvement. This includes participating in class discussions (50%) as well as answering and asking questions during the debate (25%) and the colloquium (25%). In addition, quizzes will be administered throughout the lectures to monitor preparedness.

Assignments (A1 and A2)

Students will be given two Journal Club assignments during the course, which will include a preparatory seminar followed by moderated small-group journal article discussions.

Mid-term Exam

To be written in class and will be based off the material covered in the first half of the course.

Final Exam

To be written during the examination period and will be based off the material covered in the second half of the course.

Date & Time	Lecturer / Presenter	Topic
Jan 9/11	Dr. Ingeborg Zehbe	Course Introduction: Marking Scheme, Assignments, Overview of Cancer Biology
Jan 16/18	Dr. Ingeborg Zehbe & Mehran Masoom	Histopathology of Common Cancer Sites & <i>Debate</i> on Saving Lives and Life Quality through Screening?
Jan 23/25	Dr. Ingeborg Zehbe & Robert Jackson (PhD Candidate)	Oncogenes, Tumour Suppressors & Cell Immortalization
Jan 30/Feb 1	Dr. Ingeborg Zehbe & Robert Jackson & Mehran Masoom	<u>Assignment 1</u> (Journal Club): Pre-seminar on The Cancer Genome Atlas—Large Scale Dissection of Cancer & Moderated Journal Article Discussion
Feb 6/8	Dr. Ingeborg Zehbe	Tumour Microenvironment & Tumour Immunology
Feb 13/15	Dr. Ingeborg Zehbe & Mehran Masoom & other lab members	<i>Colloquium</i> : Pre-seminar on Cancer Research Methodology & Wet Lab Demonstration
Feb 20/22	N/A	– Reading Week –
Feb 27/Mar 1	Mid-term Exam	Material from first half of the course
Mar 6/8	Dr. Ingeborg Zehbe	Metastasis & Invasion
Mar 13/15	Dr. Ingeborg Zehbe & Mehran Masoom & Dr. Guillem Dayer	<u>Assignment 2</u> (Journal Club) on Agreed Topic: Pre-seminar & Moderated Journal Article Discussion
Mar 20/22	Dr. Ingeborg Zehbe	Stem Cells & Cancer Pathways
Mar 27/29	Dr. Ingeborg Zehbe & Robert Jackson & <u>Guest lecture</u> by Dr. Alla Reznik	Infectious Agents & Early Breast Cancer Detection
Apr 3/5	Dr. Ingeborg Zehbe & Mehran Masoom & <u>Guest lecture</u> by Dr. Pat Raply	Immunotherapy & Radiation Therapy
TBD	Final Exam	Material from second half of the course

Additional notes

Lakehead University has zero tolerance policy for academic dishonesty, including plagiarism. Class attendance is considered mandatory. Missed exams may only be written on an alternate date if a valid reason is provided. Late assignments will not be accepted. Use of non-class devices such as cell phones including iPhones is not allowed during class.