

Cancer Biology

BIOL-4230-WA

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

Office hour: upon request

Graduate Assistant: MSc Candidate Ashley Faulkner; the GA will be present during all lectures

Contact: Please contact Ashley (avfaulkn@lakeheadu.ca) for questions and inquiries

Time & Location: Mondays & Wednesdays: between 5:30 and 7 pm (**zoom**)

First Class: January 10th, 2022

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, debates, and guest lectures.

Mark Breakdown

Class attendance	3% (18 x 0.17)
Re-caps (30 min; Mondays)	12% (8 x 1.5%)
Mid-term exam	25%
Assignments (2)	30% (2 x 15%)
Final exam	30%

Participation and Re-caps

This is an interactive class where active learning is fostered! Participation is not only encouraged but also essential! Participation will be graded based on in-class student involvement. This includes class attendance as well as answering questions during weekly re-caps on Mondays. **For the re-caps on Mondays** [classes marked with *], **each student must email us one question by Thursday noon the week prior. An adequate selection of revised questions will be sent back to students on Friday by noon so that you can prepare for your following Monday class. During the re-cap sessions, we will only monitor and you will be required to speak when called!** Since we have a fairly large class this semester, only *some* of you will be called during each re-cap session but *all* of you will have to prepare the questions as you will not know whose turn it is each time! We will make sure though that everybody will be asked the same amounts of times during the semester. Notably, the re-cap session is for your own benefit and **you only qualify for each re-cap session if you've submitted questions on time**. Students not complying will not be called upon and obviously lose marks accordingly.

Expectations

Lakehead University has zero tolerance for academic dishonesty, including plagiarism. **Please refer to the policy of Lakehead University. Class attendance is mandatory.** Missed exams may only be written on an alternate date if a valid reason is provided. Use of non-class devices such as cell phones including iPhones is not allowed during class: all you need is your computer and tools to take notes.

Assignments (A1 and A2)

Students will be given two Journal Club assignments during the course, which will include a preparatory seminar followed by a written assignment.

Mid-term Exam

To be written in class as explained below.

Final Exam

To be written during the examination period as explained below.

Date & Time	Lecturer / Presenter	Topic
Jan 10/12	Dr. Ingeborg Zehbe	Course Introduction: Marking Scheme, Assignments & Overview of Cancer Biology
Jan 17*/19	Dr. Ingeborg Zehbe	Histopathology of Common Cancer Sites & Cancer Screening
Jan 24*/26	Dr. Ingeborg Zehbe	Oncogenes, Tumour Suppressors & Cell Immortalization
Jan 31*/Feb 2	Dr. Ingeborg Zehbe	Tumour Microenvironment & Tumour Immunology
Feb 7*/9	Dr. Ingeborg Zehbe	Metastasis & Invasion
Feb 14*/16	Dr. Ingeborg Zehbe & Ashley Faulkner	<u>Assignment 1</u> (Journal Club): Recap session and brief introduction how to complete A1— Journal Article Written Assignment (due on Feb 16, no class)
Feb 21-25	Reading week	
Mar 2	Mid-term Exam: <i>Material from first half of the course until week Jan 31/Feb 2</i>	
Mar 7/9	Drs. Ingeborg Zehbe & Alla Reznik	Infectious Agents and Cancer & Early Breast Cancer Detection
Mar 14/16*	Drs. Robert Jackson & Ingeborg Zehbe & Ashley Faulkner	Cancer Stem Cells and Cancer Pathways & Cancer Therapies outside the Standard-of-care
Mar 21*/23	Ashley Faulkner & Drs. Ingeborg Zehbe and Guillem Dayer	Immunotherapy & Current Cancer Biology Research
Mar 28*/30	Dr. Ingeborg Zehbe & Ashley	<u>Assignment 2</u> (Journal Club) on Agreed Topic: Q

	Faulkner	and A session & Journal Article Written Assignment (due on Mar 30, no class)
<i>TBD</i>	<i>Final Exam:</i> <i>Material from Feb 7/9 & second half of the course until week Mar 21/23</i>	