

# Cancer Biology

## BIOL-4230-WA

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

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

**Graduate Assistant:** Aristide Mokale, PhD Candidate; the GA will be present during all lectures

**Contact:** Please contact Aristide Mokale (amokale@lakeheadu.ca) for questions and inquiries

**Time & Location:** Tuesdays & Thursdays: between 1:00 and 2:30 pm (**BB-1054**)

**First Class:** 7 Jan 2020

**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, colloquiums, and guest lectures.

### 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.

<b>Date &amp; Time</b>	<b>Lecturer / Presenter</b>	<b>Topic</b>
Jan 7/9	Dr. Ingeborg Zehbe	Course Introduction: Marking Scheme, Assignments, Overview of Cancer Biology
Jan 14/16	Dr. Ingeborg Zehbe	Histopathology of Common Cancer Sites & <i>Debate</i> on Saving Lives and Life Quality through Screening?
Jan 21/23	Dr. Ingeborg Zehbe	Oncogenes, Tumour Suppressors & Cell Immortalization
Jan 28/30	Drs. Ingeborg Zehbe & Guillem Dayer & Aristide Mokale	<u>Assignment 1</u> (Journal Club): Pre-seminar on The Cancer Genome Atlas—Large Scale Dissection of Cancer & Moderated Journal Article Discussion
Feb 4/6	Dr. Ingeborg Zehbe	Tumour Microenvironment & Tumour Immunology
Feb 11/13	Drs. Ingeborg Zehbe & Guillem Dayer	<i>Colloquium</i> : Pre-seminar on Cancer Research & World Café style discussion
<b>Feb 18/20</b>	<b>N/A</b>	<b>– Reading Week –</b>
Feb 27	<b>Mid-term Exam</b>	<b>Material from first half of the course</b>
Mar 3/5	Dr. Ingeborg Zehbe	Metastasis & Invasion
Mar 10/12	Drs. Ingeborg Zehbe & Guillem Dayer & Aristide Mokale	<u>Assignment 2</u> (Journal Club) on Agreed Topic: Pre-seminar & Moderated Journal Article Discussion
Mar 17/19	Dr. Ingeborg Zehbe	Stem Cells & Cancer Pathways
Mar 24/26	Drs. Ingeborg Zehbe & Alla Reznik	Infectious Agents & Early Breast Cancer Detection
Mar 31/Apr 2	Drs. Ingeborg Zehbe & Pat Raply	Immunotherapy & Radiation Therapy
<b>TBD</b>	<b>Final Exam</b>	<b>Material from second half of the course</b>

### **Additional notes**

Lakehead University has zero tolerance policy for academic dishonesty, including plagiarism. Please refer to the policy of Lakehead University. Class attendance is considered 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.