

Cancer Biology

BIOL-4230-WA/BIOL-5131-WA

Instructor: Dr. Ingeborg Zehbe

Graduate Assistant: Peter Villa, MSc Candidate

Contact: Please contact Peter Villa (pvilla@lakeheadu.ca) for questions and inquiries.

Time & Location: Tuesdays: 3 hour time slot between 8:30 and 11:30 am.
Lakehead University campus (RB3024)

On the first day of class, your GA will meet you at the main entrance to guide you through the hospital.

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

Recommended: *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 clinical cancer research.

Lecture Structure

During the semester, lectures will be structured in three components: formal lectures, special topic presentations (by student or guest), guest lectures and discussion/question periods.

Mark Breakdown

Participation	20%
Mid term exam	50%
Assignment	30%

Participation

Participation will be graded based on in-class student involvement. This includes post-lecture discussions as well as asking questions after student presentations. Presenting students will be responsible for sending core publications to the class before presenting.

Assignments (A1—A4)

Students will each give a 30 minute presentation during the course. Presentation topics will be selected/assigned during the first day of class. Presentation requirements will be further outlined in class.

Mid Term Exam

To be written in class and will be based off of lecture material.

Date	Lecturer / Presenter	Topic
Jan 6 th	Dr. Ingeborg Zehbe & Peter Villa (MSc candidate)	Course Introduction: marking scheme, assignments, overview of cancer bio and introduction to the Zehbe research lab
Jan 15 th	Dr. Ingeborg Zehbe & Melissa Togtema (PhD candidate)	Cancer Screening & Epidemiology & Personalized Medicine
Jan 19 th	Guest lecture 1: Dr. Prashant Jani	Common Cancers & Pathology
Jan 26 th	Dr. Ingeborg Zehbe	Tumor Immunology & Microenvironment
Feb 2 nd	Dr. Ingeborg Zehbe & Robert Jackson (PhD candidate)	Oncogenes, Tumor suppressors & Immortalization
Feb 9 th	Dr. Ingeborg Zehbe & Peter Villa	Infectious Agents & Cancer
Feb 16th	N/A	– Reading Week –
Feb 23 th	Mid Term Exam	Lectures 3 - 6
Mar 1 st	Dr. Ingeborg Zehbe & Robert Jackson & Peter Villa	Viral Evolution and Cancer
Mar 8 th	Dr. Ingeborg Zehbe & Peter Villa (A1 and 2)	Metastasis & Invasion, Stem Cells & Cancer Pathways
Mar 15 th	Guest lecture 2: Drs Campbell and Curiel	Cancer treatment: Cyclotron/Radiopharmacy and Ultrasound/HIFU
Mar 22 nd	Guest lecture 3: Pat Rapley	Cancer treatment: Chemotherapy & Radiation
Mar 29 th	Dr. Ingeborg Zehbe & Peter Villa & Melissa Togtema; (A3 and A4)	Cancer Immunotherapy

Additional notes

Lakehead University has a zero tolerance policy for plagiarism. Class attendance is considered mandatory. Missed exams may only be written on an alternate date if a valid reason is provided.