Biochemistry 4455G Translational Concepts in Cancer Biology
Bachelor of Medical Sciences Program
Department of Biochemistry, Schulich School of Medicine and Dentistry, Western University

Calendar Description: This course will emphasize the translation of cancer research discoveries into clinical practice, emphasizing critical thinking, research design and evaluation of data from the literature and ethics. A Community-Engaged Learning (CEL) component in the curriculum will integrate students in a small group / team learning context through coordination with relevant community partners associated with cancer research, support and care. Students will engage with community partners associated with cancer research, patient support and care, and will work on a team project relevant to the partners’ needs. Biochemistry 4455G was offered as an elective course in January 2018, available for students having the prerequisite Biochemistry 4450A. Biochemistry 4455G will be the capstone course in a BMSC Honors Specialization module in Biochemistry and Cancer Biology when offered in January 2019.

Prerequisite(s): Biology 2581B, Biochemistry 3381A
Prerequisite Biochemistry 4450A
Extra Information: 2 lecture/sessional hours per week in the WALS classroom; 0.5 course.

NO REQUIRED TEXTBOOK

Location of Class: Tuesdays 6:30 – 8:30 am, UCC 66, WALS

WALS Policies: Western’s Active Learning Spaces (WALS and WALS-Flex) are Bring Your Own Device (BYOD). If necessary, there are some designated laptops (1 per pod) available in WALS. To use the Internet, students must sign in using their UWO ID. Food is not allowed in WALS. Drinks are not allowed at the tables

Instructor Contact Information:
Course Coordinator: Dr. David Rodenhiser  drodenhi@uwo.ca
Location: Victoria Hospital/Cancer Program; Vic A4-134
Email: Office Hours: by appointment  Phone: 519-685-8600 X52198

CEL Coordinator: Kelly Hollingshead  khollin2@uwo.ca
-acts as a liaison between students, faculty members, and local community organizations

If you or someone you know is experiencing distress, there are several resources here at Western to assist you. Please visit: http://www.uwo.ca/uwocom/mentalhealth/ for more information on these resources and on mental health.
Please contact the course instructor if you require material in an alternate format or if you require any other arrangements to make this course more accessible to you. You may also wish to contact Services for Students with Disabilities (SSD) at 519-661-2111 ext 82147 for any specific question regarding an accommodation.
**Background:** In recent years, profound advances across multiple disciplines have lead to an improved understanding of cancer biology and the delivery of advanced multi-disciplinary cancer care. Providing our undergraduate students with state-of-the-art knowledge of the complex field of cancer research requires the delivery of information related to *translational* aspects of cancer treatment, in which research discovered at the lab bench is translated into treatments that benefit our cancer patients.

A new undergraduate training module and Honors Specialization degree focusing on Biochemistry and Cancer Biology is being developed in which a coordinated approach to the cancer field will be offered to our Western undergraduate students. Until now, there has been no coordinated undergraduate training related to Cancer offered to students at Western, although individual courses including aspects of Cancer Biology are offered by colleagues in multiple faculty departments in Schulich who specialize in cancer research.

Hence, Biochemistry 4455G is the capstone course for this module that will bridge knowledge pertaining to cancer research at the lab bench with the application of this research at the patients’ bedside. A unique aspect of Biochemistry 4455G, in relation to other courses in the BMSC program, is that it will be presented as a Community Engaged Learning (CEL) course. This approach is reflective of Western’s efforts to promoting CEL courses ‘which integrate service to the community with specific course curriculum’ and provide ‘hands-on, practical experience in the community’ allowing students to gain ‘a deeper understanding of course content as it applies to local and international contexts’. Partnering organizations will be identified and coordinated through Community Service Learning @ Western at The Student Success Centre.

**Learning Outcomes:** Individual and group work by students in the course will reflect these provisional learning outcomes. Also provided below are alignments to Western’s Degree Outcomes (WDOs): 1 (Knowledge), 2 (Literacies and Interdisciplinarity), 3 (Communication), 4 (Resilience and Life-long Learning), 5 (Global and Community Engagement), 6 (Critical Inquiry and Creative Thinking) and 7 (Professionalism and Ethical Conduct).

1. Define and describe the theoretical and practical nature of current issues that underscore translational cancer biology. (WDOs 1, 2, 3)
2. Engage in project-based CEL with community partners and understand how issues related to cancer affect cancer patients, their families and the healthcare system. (WDOs 4, 5, 7)
3. Work in teams, developing an implementation program in conjunction with the community partner. (WDOs 2, 3, 6)
4. Display the ability to communicate complex information related to Cancer to members of the public, including the community partner (WDOs 3, 5).
5. Identifying, describing & analyzing career opportunities in the field of Cancer Biology. (WDO 4)
**Course Outline:** A unique aspect of the Biochemistry 4455 will be the use of WALS (the Western Active Learning Space; [http://www.uwo.ca/wals/](http://www.uwo.ca/wals/)). WALS is a technology-enabled active learning environment combining face-to-face online learning through a variety of active learning strategies. The WALS environment encourages levels of interaction, engagement and knowledge retention by students through hands-on collaborative learning, content-sharing and collaboration enabled through BBC and Western’s OWL LMS backbone.

**Schedule, Activities and Content:**

| January 8: | Course / Student Introductions and Orientation: D. Rodenhiser and K. Hollingshead |
| January 15: | Introductory meetings with Community Partners |
| January 22: | *Skills for accessing the Scientific Literature:* Kelly Hatch, UWO Librarian  
Team Work: on Partnered Projects and Relevant Readings |
| January 29: | Class Discussion on: *Translational Cancer Research*  
Team Work: on Partnered Projects and Relevant Readings |
| February 5: | Team Work: on Partnered Projects and Relevant Readings |
| February 12: | *'Cancer Patient’ Lecture and Discussion: Speaker to be confirmed*  
Team paper due re: *Translational Cancer Research*  
Team Work: on Partnered Projects |
| February 19: | -------- No Structured Class time: Reading Week -------- |
| February 26: | Midterm Updates on Partnered Projects  
Team paper due: *The Cancer Patient*  
Team Work: on Partnered Projects |
| March 5: | *‘Clinical Trials in Oncology talk’:* Richard McLelland, LRCP  
Team Work: on Partnered Projects |
| March 12: | Team Work on Partnered Projects and *Clinical Trials in Oncology* paper |
| March 19: | Team paper due: *Clinical Trials in Oncology*  
Team Work on Partnered Projects |
| March 26: | Team Work on Partnered Projects |
| April 2: | Project PRESENTATIONS: Teams 1, 2 & 3 |
| April 9: | Course Overview; Reflections and Feedback |
**Evaluation:**

10% Team Work and Discussion and deliverables re: Translational Research
(evaluation of team’s short written critique of topics associated with the event)

10% Team Work and Discussion and deliverables re: Cancer Patient Lecture
(evaluation of team’s short written critique of topics associated with the event)

10% Team Work and Discussion and deliverables re: Clinical Trials in Oncology Presentation
(evaluation of team’s short written critique of topics associated with the event)

5% Midterm Progress Report re: Community Partner Project
(evaluation of oral and/or written presentation (by group) associated with the project)

50% Community Partner Project

20% Written Final Report

15% Community Partner’s Evaluation of the collaborative experience and team’s Deliverables

10% Oral Presentation by group (Dr Rodenhisers’s Assessment)

5% Oral Presentation by group (Student Peer assessments)

15% Final Paper:
(by individual students: ‘End of Course’ Reflections)

**Academic Rights and Responsibilities:** All students are responsible for reading the list of Academic Rights and Responsibilities at the following website:
http://www.westerncalendar.uwo.ca/2016/pg111.html

**Useful Links:**

Academic Counselling (Science and Basic Medical Sciences):
http://www.uwo.ca/sci/undergrad/academic_counselling/index.html

Student Success Center: http://www.success.uwo.ca/about/index.html

Curricular Community Engaged Learning:
http://www.success.uwo.ca/experience/curricular/index.html

Student Development Centre: http://www.sdc.uwo.ca/

Student Health Services: http://www.health.uwo.ca/