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 focuses on the translation of cancer research discoveries into clinical practice, emphasizing critical thinking, research design and evaluation of data from the literature. A Community-Engaged Learning (CEL) component in the curriculum integrates 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 these community partners associated with cancer research, patient support and care, and will work on a team project relevant to the partners’ needs. Biochemistry 4455G is the capstone course for the BMSC Honors Specialization module in Biochemistry and Cancer Biology.

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 and 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
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

**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.

This undergraduate training module and Honors Specialization degree focusing on Biochemistry and Cancer Biology provides a coordinated approach to cancer for our Western undergraduate students. Hence, Biochemistry 4455G is the capstone course for this module that bridges 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 is presented as a Community Engaged Learning (CEL) course. This approach reflects Western’s promotion of 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 are identified and coordinated through http://cel.uwo.ca/.

**Learning Outcomes:** Individual and group work by students in the course will reflect these learning outcomes that are aligned 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/). 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.

**Statement on Academic Offences:**
Scholastic offences are taken seriously; students are directed to read the appropriate policy, regarding what constitutes a Scholastic Offence, at the following website: https://www.uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_discipline_undergrad.pdf.”
2020 Schedule, Activities and Content:

January 6: Winter term Classes commence
January 7: Course / Student Introductions and Orientation: D. Rodenhiser and K. Hollingshead
January 14: Introductory meetings with Community Partners
January 21: *Skills for accessing the Scientific Literature*: **Speaker: Kelly Hatch, Western Libraries**
              Team Work: on Partnered Projects and Relevant Readings
January 28: Class Discussion on: *Translational Cancer Research*
              Team Work: on Partnered Projects and Relevant Readings
February 4: Team Work: on Partnered Projects and Relevant Readings
February 11: ‘*Cancer Patient*’ Lecture and Discussion: **Speaker: Dr David Palma, LRCP**
              Team paper due re: *Translational Cancer Research*
              Team Work: on Partnered Projects
February 18: ------ *No Structured Class time: Reading Week* -----
February 25: Midterm Updates on Partnered Projects
              Team paper due: *The Cancer Patient*
              Team Work: on Partnered Projects
March 3: ‘*Clinical Trials in Oncology* talk’: **Speaker: Richard McClelland, LRCP**
           Team Work: on Partnered Projects
March 10: Team Work on Partnered Projects and *Clinical Trials in Oncology* paper
March 17: Team paper due: *Clinical Trials in Oncology*
           Team Work on Partnered Projects
March 24: Team Work on Partnered Projects
March 31: Project PRESENTATIONS: Teams 1, 2 & 3
           Course Overview; Reflections and Feedback
April 3: Last day of classes
April 10: Team’s Written Report due
April 17: Final Personal Reflections Document due

(Note: no final exam)
**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)

55% Community Partner Project  
25% Written Final Report  
(a team/peer assessment factor will be incorporated into the final report mark)

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

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

5% Oral Presentation by group (Student Peer assessments by other groups)

10% Final Paper:  
(by individual students: ‘End of Course’ Reflections)

**Useful Links / Additional Information & Statements:**

**Absence for medical illness / Academic Consideration / Self-Reported Absence Form:**
The purpose of this Policy is to provide guidance to undergraduate students, instructors, and administrators in situations where students are unable to complete academic responsibilities as the result of extenuating circumstances, including short-term illness or injury:  
https://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_illness.pdf

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.

**Support Services:**  
RegISTRARIAL Services: http://www.registrar.uwo.ca  
Academic Counselling (Science and Basic Medical Sci): https://www.uwo.ca/sci/counselling/  
USC Student Support Services: http://westernusc.ca/services/  
Student Health Services: http://www.shs.uwo.ca/