Biochemistry 9516T – Cancer Biology (Precision Cancer Medicine)

1. **Course Information:**
   Thursdays from 1:30 – 4:30 (March 2 – April 6)
   Location: IGAB 1N05
   0.25 credits

2. **Instructors:**
   David Litchfield (course coordinator), Professor, Department of Biochemistry, email: litchfi@uwo.ca
   Shawn Li, Professor, Department of Biochemistry, email: sli@uwo.ca

3. **Course Description:**

   **Overview:** The overall theme of this course will be directed towards investigation of the biochemical and mechanistic basis underlying the development and application of specific molecular-targeted therapies that can be employed for precision cancer medicine. Both proven examples of molecular-targeted therapies and emerging avenues for the development of new molecular-targeted therapies will be highlighted. A central focus will be on constituents of signal transduction pathways (for example, protein kinases) and the development of strategies for targeting these constituents for the treatment of disease. Following an introductory lecture, Journal Club/Discussion sessions will be led by student participants. This course will draw on the primary literature to provide examples for discussion. Students will also be expected to complete a Knowledge Translation Assignment that is comprised of a News & Views Article, a Press Release and an Invention Disclosure based on a recent advance in the field. A short presentation highlighting the News & Views Article, Press Release and/or Invention Disclosure will also be required.

   **Course Objectives and Learning Outcomes:**
   1. To develop skills in the critical evaluation of the primary literature through journal clubs (ie. group discussion of research papers facilitated by a student leader who presents the paper and leads discussion).
   2. To develop skills in scientific communication to make scientific discoveries accessible to the non-specialist.
   3. To understand the biochemical and molecular basis of specific molecular-targeted therapies that are currently in clinical use.
   4. To use knowledge of the biochemical and molecular basis of specific pathways or processes to evaluate their potential as targets for molecular-targeted therapy.
   5. To be able to translate an understanding of the biochemical and molecular basis of pathways to broader audiences through the preparation of a press release and invention disclosure.
**Course Schedule**

March 2: Course overview/expectations for Journal Club and Knowledge Translation (KT) Assignment

March 9: Lecture highlighting examples of precision cancer medicine (delivered by David Litchfield and Shawn Li)

March 16: Journal Club Discussions - 4 groups

March 23: Journal Club Discussions - 4 groups

March 30: Journal Club Discussions - 4 groups

April 6: Knowledge Translation Presentations (1 minute “elevator pitch” presentation – with discussion as time permits)

Based on anticipated enrolment of 40-50 students, groups of 3-4 students will be expected to lead one Journal Club discussion and to be secondary discussants for two additional Journal Club presentations. Groups and papers to be assigned on March 2.

**Other Key Dates:**

Monday March 27 - submit citation for possible papers for KT Assignment

Thursday March 30 @ 5 pm – submit completed journal club assessment/feedback forms
    - Excel Document with name and marks – return by email to litchfi@uwo.ca
    - Word Document with name and comments – return by email to litchfi@uwo.ca

Friday April 21 @ 5pm - deadline for submission of KT Assignment

Note: Late Penalty for submission of any materials will be 20%/day (or part of day)

**4. Course Materials**

Assigned readings from the primary literature for Journal Club presentations will be provided at the 1st session on March 2. Students will be responsible for identifying recent primary research papers (published in 2016/2017) for the Knowledge Translation Assignment.

**5. Student Evaluation:**

Journal Club Presentation: 25%*

Participation in Discussion of Papers (including assessment and feedback provided to presenters using the provided templates): 25%

Knowledge Translation Assignment:
    - News & Views (maximum 800 words; 2 illustration, 10 references) – 20%
    - Press Release (maximum 400 words; 1 illustration) – 10%
    - Invention Disclosure (1 page template) – 10%
    - Oral Presentation – 10%

*Marks from students will contribute to assigned marks.
6. Statement on Academic Offences
The statement: “Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at the following Web site: http://www.uwo.ca/univsec/handbook/appeals/scholastic_discipline_grad.pdf

All required papers may be subject to submission for textual similarity review to the commercial plagiarism-detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (http://www.turnitin.com).

Plagiarism: Students must write their essays and assignments in their own words. Whenever students take an idea or a passage from another author, they must acknowledge their debt both by using quotation marks where appropriate and by proper referencing such as footnotes or citations. Plagiarism is a major academic offence (see Scholastic Offence Policy in the Western Academic Calendar).

As part of a successful graduate student experience at Western, we encourage students to make their health and wellness a priority. Western provides several on campus health-related services to help you achieve optimum health and engage in healthy living while pursuing your graduate degree. For example, to support physical activity, all students, as part of their registration, receive membership in Western’s Campus Recreation Centre. Numerous cultural events are offered throughout the year. Please check out the Faculty of Music web page http://www.music.uwo.ca/, and our own McIntosh Gallery http://www.mcintoshgallery.ca/. Information regarding health- and wellness-related services available to students may be found at http://www.health.uwo.ca/

Students seeking help regarding mental health concerns are advised to speak to someone they feel comfortable confiding in, such as their faculty supervisor, their program director (graduate chair), or other relevant administrators in their unit. Campus mental health resources may be found at http://www.health.uwo.ca/mental_health/resources.html

To help you learn more about mental health, Western has developed an interactive mental health learning module, found here: http://www.health.uwo.ca/mental_health/module.html. This module is 30 minutes in length and provides participants with a basic understanding of mental health issues and of available campus and community resources. Topics include stress, anxiety, depression, suicide and eating disorders. After successful completion of the module, participants receive a certificate confirming their participation.

Helpful Resources @ Western for Graduate Students

Writing Support Centre http://www.sdc.uwo.ca/writing/  SDC’s Learning Skills Services, Rm 4100 WSS, www.sdc.uwo.ca/learning
LS counsellors are ready to help you improve your learning skills. We offer presentations on strategies for improving time management, multiple-choice exam preparation/writing, textbook reading, and more. Individual support is offered throughout the Fall/Winter terms in the drop-in Learning Help Centre, and year-round through individual counselling.
The Student Success Centre: http://success.uwo.ca/