Biochemistry 9507T
Practical Cancer (Epi)genomics: Therapeutics and Model Systems

Course Information:
   Thursdays from 1:30 – 3:30 (March 7 – April 11)
   Location: 190MSB
   0.25 credits

Instructors:
   Dr. David Rodenhiser (Course Coordinator), Associate Professor,
   Departments of Biochemistry, Paediatrics and Oncology, email: drodenhi@uwo.ca
   Dr. Gabriel DiMattia, Associate Professor,
   Departments of Oncology, Biochemistry, email: dimattia@uwo.ca

Course Description:
Overview: This course will focus on biochemical mechanisms of cancer, with special emphasis on epigenomic and genomic organization in cancer cells and the use of model systems to develop practical diagnostic and therapeutic approaches for optimal cancer treatments. Our approach will expose students to recent landmark papers from the cancer research literature that advance fundamental mechanisms responsible for cancer development and progression. Practical approaches to better understanding cancer causation, molecular diagnostic technologies and individualized therapies will also be discussed based on papers drawn from the primary literature.

Course Learning Outcomes:
1. Participants will develop skills in the critical evaluation of the primary literature in a journal club setting, through group discussions of individual research papers.
2. Participants will understand the basic biochemical and molecular context of specific molecular-targeted therapies and how they are applied for clinical use.
3. Participants will use knowledge of the biochemical and molecular context of specific molecular-targeted therapies to evaluate their potential as targets for molecular-targeted therapy.
4. Participants will develop skills in scientific communication to make scientific discoveries accessible to the non-specialist by translating an understanding of the biochemical and molecular basis of pathways to broader audiences.
Course Schedule:
March 7: Course overview & Expectations for Journal Club presentations
  Introductory Lecture: Context for the course (delivered by Drs. Rodenhiser & DiMattia)
  Overview of papers for week 2 journal club format
March 14: Week 2 Journal Club Discussions: within each team. (30 min)
  Consensus presentations from each team (10-15 min X 4) + Group Discussion (30 min).
  Assignment for week 2 (due next week) and overview of papers for week 3
March 21: Week 3 Journal Club Discussions: within each team. (30 min)
  Consensus presentations from each team (10-15 min X 4) + Group Discussion (30 min).
  Assignment for week 3 (due next week) and overview of papers for week 4
March 28: Week 4 Journal Club Discussions: within each team. (30 min)
  Consensus presentations from each team (10-15 min X 4) + Group Discussion (30 min).
  Assignment for week 4 (due next week) and overview of papers for week 5
April 4: Week 5 Journal Club Discussions: within each team. (30 min)
  Consensus presentations from each team (10-15 min X 4) + Group Discussion (30 min).
  Assignment for week 5 (due next week) and overview of News & Views
April 11: Individual Student Presentation Talks (5 min each)

Topics: For each week’s topic, we will provide 1-2 review papers with general background for
  all teams and one primary research paper for each team to discuss and report on back to the
  entire class. Based on our enrolment of 18 students, teams of 4-5 students will be expected to
  highlight their individual papers to the class and to be secondary discussants of papers
  presented by the other groups. Students are expected to be involved and facilitate questions
during these discussions. Groups and papers to be assigned on March 7. Individual reports will
be assigned for topics on Weeks 2-5. The broad topics to be discussed will encompass:
  Week 2  Epigenetics & Chromatin modifications
  Week 3  Combination Epigenetic Therapies
  Week 4  Genetics and Cancer Research Models
  Week 5  Hereditary Cancer Susceptibility

Student Evaluation:
  Group Presentations (10-15 min) on assigned papers: 4 presentations X 5% each  20%
    (Student Peer and Professor evaluated)
  Individually Written reports (~5000 characters) on assigned papers: 4 reports X 15% each  60%
    (Professor evaluated)
  Final week Individual Presentation (5 min) on assigned paper:  10%
    (Student Peer and Professor evaluated)
  Final week Individually Written ‘News&Views’ article (1000 words/2 figs/10 refs)  10%
    (Professor evaluated)

Note: late penalty for submission of any materials will be 20%/day
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/