Schulich MEDICINE & DENTISTRY

Western Science

Bachelor of Medical Sciences (BMSc) Program

INTERDISCIPLINARY MEDICAL SCIENCES MODULE

Medical Sciences Laboratory 4900 F/G

Course outline

1. Course details and important dates

Section	Component	Day	Time	Location
001	Laboratory	Tuesday	1:30 pm – 5:30 pm	MSB-M117
002	Laboratory	Wednesday	1:30 pm – 5:30 pm	MSB-M117
003	Laboratory	Thursday	1:30 pm – 5:30 pm	MSB-M117

Classes Start	Classes End	Final Exam Period
TBD	TBD	TBD

2. Instructor contact information

Instructor Name	Discipline	Email
Dr. Nicole Campbell	Course Coordinator	nicole.campbell@schulich.uwo.ca

*Please email your course coordinator with any questions you have regarding the course. The coordinator will strive to respond to email communication within a reasonable period of time, usually within 2 weekdays. Please follow up otherwise. Follow proper email etiquette and include the course code in the subject line. **Any questions that can be answered from the syllabus will not receive a response.**

3. Course description

This is a laboratory course that will introduce students to a variety of techniques used in medical research. Major topics include animal models of human disease, real time PCR, biochemical assays, histology, and medical imaging. The laboratory provides an introduction to research, with emphasis on hands-on experience. This material will complement lecture topics covered in Medical Science 4930 F/G.

4. Course design

Lecture material will be posted to Owl: http://owl.uwo.ca. Any changes to the lecture order will be indicated on the OWL site. Assignments will be handed in electronic format to Owl and will be compared for plagiarism. Students will be able to view their results before the final submission. Students with Owl issues should contact the Computer Support Centre at 519-661-3800 or itshelp.uwo.ca

5. Learning outcomes

Upon successful completion of this course, students will be able to:

- Skillfully perform a wide range of practical laboratory techniques from a variety of basic medical science disciplines, including cell culture, biochemical assays, real-time PCR and medical imaging.
- Summarize the objective(s) and results from an experimental protocol clearly and concisely.
- Determine the appropriate application of laboratory techniques to answer research questions across multiple disciplines.
- Prepare a research proposal based on an area of focus within a specific disease that includes a literature review and justification for the experimental design.
- Analyze and interpret data collected from an experimental investigation of a clinical disease model by applying the appropriate statistical principles and tests.
- Construct and deliver a well-organized, logical and informative oral and poster presentation making use of appropriate delivery techniques to communicate scientific knowledge.
- Evaluate clinical problems by integrating different perspectives of the basic medical science disciplines.

6. Laboratory schedule

Date	Topic
Week 1	No labs: complete online biosafety
Week 2	Cell culture
Week 3	Protein Isolation and Bradford Assay
Week 4	Western Blot Day 1
Week 5	Western Blot Day 2
Week 6	RNA Isolation and RT-PCR
Week 7	qPCR
Week 8	No labs
Week 9	Imaging/Anatomy/H&E
Week 10	Proposal Day 1
Week 11	Proposal Day 2
Week 12	Clinical Lab (Urinalysis and Blood Glucose)
Week 13	Poster Presentations
Week 14	No labs

7. Resources

All materials will be provided on OWL.

You will be required to have a bound laboratory notebook and a sharpie marker. You may continue to use a book from a previous laboratory course.

8. Evaluation

A detailed and comprehensive set of regulations concerning the scheduling of tests, assignments, etc. is available at:
http://www.uwo.ca/univsec/academic_policies/examinations.html

At least one week prior to the deadline for withdrawal from a course without academic penalty, students will receive assessment of work accounting for at least 15% of their final grade. For more details, refer to the link below.

http://www.uwo.ca/univsec/pdf/academic_policies/exam/evaluation_undergrad.pdf

Component	Format	Weighting	Date
Pre-lab quizzes (best 5/6)	Short answer	5%	Start of labs Weeks 2 – 7
Pre-lab talk (with partner)	Oral	5%	Random draw for one lab: Weeks 3 – 7
Lab summaries (2% x 5)	Written	10%	Due @ start of lab weeks 3, 4, 6, 7 and 9
Supply list	Written	5%	Due at end of Week 8
Research proposal	Written	20%	Due @ end of Week 9
Imaging/Anatomy Activity	Written	5%	In-class activity
Clinical Lab Activity	Written	5%	In-class activity with some preparation
Poster	Presentation	15%	In lab Week 13
Research paper	Written	25%	Due on last day of class
Lab book/professionalism*	Written	5%	Throughout term

***** Marks will not be awarded for notebooks and professionalism. Students will lose marks if their notebooks are not updated or they are not following professionalism expectations as communicated by the instructors.

9. Statement on Academic Offences

"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 website:
http://www.uwo.ca/univsec/handbook/appeals/scholastic_discipline_undergrad.pdf

10. Turnitin and other similarity review software

All assignments will be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. Students will be able to view their results before the final submission. 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 Western University and Turnitin.com (http://www.turnitin.com).

Computer-marked multiple-choice tests and/or exams will be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating.

11. Absence from Course Commitments

A. Absence for medical illness:

Students must familiarize themselves with the Policy on Accommodation for Medical Illness for Undergraduate students, located at: https://studentservices.uwo.ca/secure/index.cfm

Statement from the Academic Counselling Office, Faculty of Science (for Science and BMSc students)

If you are unable to meet a course requirement due to illness or other serious circumstances, you must provide valid medical or other supporting documentation to the Dean's office as soon as possible and contact your instructor immediately. It is the student's responsibility to make alternative arrangements with their instructor once the accommodation has been approved and the instructor has been informed. In the event of a missed final exam, a "Recommendation of Special Examination" form must be obtained from the Dean's Office immediately. For further information please see:
http://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_medical.pdf

A student requiring academic accommodation due to illness should use the Student Medical Certificate when visiting an off-campus medical facility or request a Record's Release Form (located in the Dean's Office) for visits to Student Health Services. The form can be found at: http://www.uwo.ca/sci/undergrad/academic_counselling/resources_and_self_service/forms.html

Please note that the format of a make up exam is at the discretion of the course manager.

B. Absence for non-medical reasons:

Students will not be accommodated for course commitments that are missed due to non-medical reasons. Please pay attention to the academic calendar and final exam period when booking any trips.

C. Special Examinations

A Special Examination is any examination other than the regular examination, and it may be offered only with the permission of the Dean of the Faculty in which the student is registered, in consultation with the instructor and Department Chair. Permission to write a Special Examination may be given on the basis of compassionate or medical grounds with appropriate supporting documents.

To provide an opportunity for students to recover from the circumstances resulting in a Special Examination, the University has implemented Special Examinations dates. These dates as well as other important information can be found at the following link:

http://www.uwo.ca/univsec/pdf/academic_policies/exam/definitions.pdf

12. Additional Information/Statements

Statement on Use of Electronic Devices

Due to safety concerns, the use of computers or cellular phones will not be not permitted during laboratories unless otherwise stated.

Statement on Rounding of Marks

Across the Basic Medical Sciences Undergraduate Education programs and within the IMS module we strive to maintain high standards that reflect the effort that both students and faculty put into the teaching and learning experience during this course. All students will be treated equally and evaluated based only on their actual achievement. Final grades on this course will be rounded up to the next whole integer, e.g. a 73.5 becomes a 74 and marks WILL NOT be bumped to the next grade or GPA, e.g. a 79 will NOT be rounded up to an 80, an 84 WILL NOT be rounded up to an 85, etc. The mark attained is the mark you achieved and the mark assigned; requests for mark "bumping" will be denied.

Copyright Statement

Course material produced by faculty is copyrighted and to reproduce this material for any purposes other than your own educational use contravenes Canadian Copyright Laws.

Accessibility Statement

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 661-2111 x 82147 for any specific question regarding an accommodation.

Science Student Donation

This course is supported by the Science Student Donation Fund.

If you are a BSc or BMSc student registered in the Faculty of Science or Schulich School of Medicine & Dentistry, you pay the Science Student Donation Fee. This fee contributes to the Science Student Donation Fund, which is administered by the Science Students' Council (SSC). One or more grants from the Fund have allowed for the purchase of equipment integral to teaching this course. You may opt out of the Fee by the end of September of each academic year by completing paperwork in the Faculty of Science Dean's Office. For further information on the process of awarding grants from the Fund or how these grants have benefited undergraduate education in this course, consult the chair of your department or email the Science Students' Council: ssc@uwo.ca.

13. Support Services

Registrarial Services: http://www3.registrar.uwo.ca/index.cfm

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

Student Development Services: http://www.sds.uwo.ca

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

Appeal Procedures: http://www.westerncalendar.uwo.ca/2015/pg503.html

Students that are in emotional/mental distress should refer to Mental Health@Western http://www.uwo.ca/uwocom/mentalhealth/ for a complete list of options how to obtain help.