Biochemistry and Biomedical Sciences 4EE3

“Advanced topics in gene expression: Research advances in cell biology and biochemistry”

Term 2, January –April 2012

Disclaimer: The information (course outline, evaluation) provided in this document supercedes all other information previously available.

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Classes:
Monday 10:30 - 11:20 pm MDCL-3023
Wednesday 10:30 - 11:20 pm MDCL-2232
Thursday 10:30 - 11:20 pm MDCL-3023

Introduction: This course constitutes a critical study of selected literature from recent primary manuscripts on cell biology and biochemistry of gene regulation in eukaryotes and inter-related regulatory pathways. Emphasis is placed on the molecular and cellular biology of selected pathways that interact to affect phenomena in biology and disease. The course will be divided into three sections:
Section 1) The mechanisms and control of transport between the nucleus and cytoplasm
Section 2) Signaling from the ER to the nucleus I: Cholesterol regulation of gene expression
Section 3) Signaling from the ER to the nucleus II, The unfolded protein response; and novel techniques in cell biology

Evaluation:

Manuscript Presentation 20%
Poster Presentation 10%
Test I 20%
Test II 20%
Test III 20%
Participation 10%
Final Exam: None

Manuscript presentation: Students will organize into groups and each group will be responsible for three 40 minute presentations to the class on a paper assigned by the instructor on the date specified. Time should be allowed for questions/discussion. Any presentation format is acceptable. This format is as would be given in a graduate course with emphasis on background, data and figures, their interpretation, controls and techniques used.

Poster: Each group will prepare and present a poster on a topic assigned by the instructor

Tests: Three tests will be held during regularly scheduled class periods unless otherwise indicated.

Participation: Participation is an important component of this course. Students are expected to read all of the papers assigned to the class, to attend all classes and to be prepared to discuss the material.

Textbook: None
Tests:

You must bring student I.D. to all tests.

Important Notes:

1) Learnlink
This course uses LearnLink to post the course outline, assignments, other notices and all other course related material. Students should be aware that, when they access the electronic components of this course, private information such as first and last names, user names for the McMaster e-mail accounts, and program affiliation may become apparent to all other students in the same course. The available information is dependent on the technology used. Continuation in this course will be deemed consent to this disclosure. If you have any questions or concerns about such disclosure please discuss this with the course instructor.

2) Modifications to course
The instructors and university reserve the right to modify elements of the course during the term. The university may change the dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on changes. It is the responsibility of the student to check their McMaster email and course websites (LearnLink) weekly during the term and to note any changes.

3) Absences and missed work
If you are absent from the university for a minor medical reason, lasting fewer than 5 days, you may report your absence, once per term, without documentation, using the McMaster Student Absence Form. Absences for a longer duration or for other reasons must be reported to your Faculty/Program office, with documentation, and relief from term work may not necessarily be granted. When using the MSAF, report your absence to [course_email@mcmaster.ca]. You must then contact Drs Trigatti and Truant immediately (normally within 2 working days) by email at the addresses indicated above to learn what relief may be granted for the work you have missed, and relevant details such as revised deadlines, or time and location of a make-up exam. Please note that the MSAF may not be used for term work worth 30% or more, nor can it be used for the final examination. Please also note that normally missed coursework due to un-reported, un-excused absences will result in a mark of zero (“0”) for that work. Missed coursework (e.g. tests) due to reported(excused absences will be made up (make up test). It is the student’s responsibility to contact Drs Trigatti and Truant to arrange to make up the missed work. If the student neglects to make arrangements to make up missed work after an absence, then a mark of zero for that work may result.
4) ACADEMIC INTEGRITY
You are expected to exhibit honesty and use ethical behaviour in all aspects of the
learning process. Academic credentials you earn are rooted in principles of honesty and
academic integrity.

Academic dishonesty is to knowingly act or fail to act in a way that results or could result
in unearned academic credit or advantage. This behaviour can result in serious
consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on
the transcript (notation reads: “Grade of F assigned for academic dishonesty”), and/or
suspension or expulsion from the university.

It is your responsibility to understand what constitutes academic dishonesty. For
information on the various types of academic dishonesty please refer to the Academic
Integrity Policy, located at www.mcmaster.ca/academicintegrity

The following illustrates only three forms of academic dishonesty:

1. Plagiarism, e.g. the submission of work that is not one’s own or for which other credit
   has been obtained.
2. Improper collaboration in group work.
3. Copying or using unauthorized aids in tests and examinations.