BIOTECHNOLOGY
SC/BIOL 4290 4.0, Section A
FALL 2013

PREREQUISITE: SC/BIOL 3110 3.0 or SC/BCHM 3110 3.0

COURSE DIRECTOR: Dr. Katalin Hudak
                A304 Farquharson Bldg.
                hudak@yorku.ca
                Phone: 736-2100 x33470

LECTURES: Monday and Wednesday, 10:30am – 11:30am, Chemistry Building Rm 120
          Powerpoint slides will be posted on Moodle prior to lecture

TEXT: None

OFFICE HOURS: Please e-mail hudak@yorku.ca to make an appointment.

MISSED TESTS: Absence from a lab or the lab quiz must be accompanied by a completed
                Attending Physician’s Statement clearly stating why the lab/quiz was missed. The grade value
                of the quiz will be added to the final exam. Missed final exams must be accompanied with a
                completed Attending Physician’s Statement and a Final Exam Deferred Standing Agreement.

GRADING FOR TERM

PRESENTATION (20%)
You will be expected to give an oral presentation on a subject that is related to this
biotechnology course. Based on your choice of a single recently published paper (choice must
be approved by course director), give a 15 minute presentation on the paper, followed by 10
minutes for questions. Start with an introduction to the topic and then discuss the research article
(what was done, what were the results obtained, what conclusions were drawn, were the
conclusions justified?).

PARTICIPATION (10%)
This grade will be based on your participation in both the laboratory exercises and the
presentations. This means you have to ask questions in both environments!
Your participation in the oral presentations; i.e., your attendance and your participation in the
discussions will be assessed by the course director.
The lab performance grade is based on your laboratory technique, how well prepared you are for
the lab, your lab cleanup, your attitude in the lab, your cooperation with your lab partner and on
your laboratory notebook (which will be reviewed periodically by the teaching assistants). The
grade for lab performance is determined by all of those involved in running the lab: the course
director, the teaching assistants and the lab technician.
LAB REPORTS (35%)
Laboratory 1, Yeast 2-Hybrid System 10%
Laboratory 3, Immunoprecipitation of Activated MAP Kinase 10%
Laboratory 4, Protein Expression and Purification, In Vitro Transcription and Translation 15%

LAB QUIZ (10%)
Laboratory 2, Bimolecular Fluorescence Complementation and Immunocytochemistry 10%

FINAL EXAM (25%)
This exam will be based on the lecture material and fellow student presentations, and will be held during the normal exam period.

LECTURE TOPICS:
Agricultural Biotechnology (GM foods, extricating foreign genes)
Industrial and Environmental Biotechnology (Biocatalysis, novel compounds, bioremediation)
Medical Biotechnology (Cloning, stem cells, gene therapy)

LEARNING OBJECTIVES
Knowledge and understanding of biotechnology topics and applications
Critical evaluation of primary literature
The ability to carry out challenging lab experiments; to collect and analyse data, to trouble-shoot, to write full-length lab reports
To work in pairs in the lab
To verbally present primary literature and field questions from the class

IMPORTANT COURSE INFORMATION:
University policy, procedures and regulations on Academic Honesty/ Integrity, Access/Disability, Student Conduct, Religious Observance Accommodation, etc. are available on the Committee on Curriculum and Academic Standards (CCAS) website (see policies, procedures and regulations) http://www.yorku.ca/secretariat/senate_cce_main_pages/ccas.htm