

Course: BIOL 3070.40 - Animal Physiology II
Term: Winter 2013
Lectures: Mon, Wed, Fri 1:30-2:30 pm in LSB 106
Labs: M-F 2:30-5:30 pm Room 206 or 208 Farquharson
Instructor: Dr. Spencer Mukai
Office: Rm 002 Farquharson
Office Phone: (416) 736-2100 ext 77876
E-mail: smukai@yorku.ca
Office hours: Fridays 3-4 pm, OR by appointment

Prerequisite: BIOL 2030, BIOL 2020, BIOL 2021

Textbook: Eckert Animal Physiology 5th edition
David Randall, Warren Burggren & Kathleen French
W.H. Freeman and Company, 2002

Evaluation:

Mid-term Exam 1 (Friday Feb. 15, 2013).....	20%
Three laboratory reports (6.7% each)	20%
Laboratory examination (week of April 1).....	10%
Final Exam (cumulative-during April exam period).....	50%
FINAL MARK.....100%	

Important dates:

Last day to enrol without permission of course director: **Jan. 21, 2013**
Last day to enrol with permission of course director: **Feb. 4, 2013**
Last day to drop course without receiving a grade: **March 15, 2013**

Accommodation Statement:

- Students who feel that there are extenuating circumstances that may interfere with their ability to successfully complete the course requirements are encouraged to discuss the matter with the Course Director as soon as possible. Please note: "Senate policy states that students are expected to monitor their progress in courses, taking into account their personal and academic circumstances, and to make the necessary adjustments to their workload to meet the requirements and deadlines." from Senate Policy of Students' Responsibilities in the Petition/Appeal Processes: (<http://www.yorku.ca/univsec/senate/committees/sac/sturesp.htm>)
- Students with physical, learning or psychiatric disabilities who require reasonable accommodations in teaching style or evaluation methods are encouraged to consult with the Office for Persons with Disabilities (OPD) and ensure that requests for appropriate accommodations are arranged with the Course Director **early** in the term.

Academic integrity:

Students are expected to be familiar with and follow York University's policies regarding academic integrity. Please consult the website below for more details:

<http://www.yorku.ca/academicintegrity/students/index.htm>

Student information sheet – please see:

<http://www.yorku.ca/secretariat/senate/committees/ccas/documents/Course%20Outline%20-%20Student%20Info%20Sheet%20-%20March%2027-06.htm>

Policies:

- If you miss a test with a legitimate documented reason, only a "York Attending Physician's Statement Form" (can be downloaded as part of the Petitions Package) OR a similarly detailed doctor's note (i.e. not a form just stating that the student visited the clinic) will be accepted for medical excuses. The documentation should cover the date of the missed test. All documentation supporting your excuse for missing a test must be received by myself by the beginning of next class (or as soon as the student is able to return to school if you are sick for more than a week) but students should contact me as early as possible after a missed test (within 48 hours). THERE WILL BE NO MAKE-UP TESTS. If you miss a test, you will receive a grade of zero for that test unless legitimate documentation (see above) is presented to me.
- If you believe that a written answer on a test was marked incorrectly, you must submit your (written) rationale and paper for remarking within 1 week of the test being made available to you. Only those answers **written in ink** will be eligible for remarking. Note: Remarking can result in the mark being raised, confirmed or lowered. In order to be fair and consistent with regards to the entire class, individual grades are not negotiable. Marks for assignments and tests will not be “rounded”. Contact the course director about marks ONLY if there is a clear error in your mark (e.g. calculation error) as soon as possible at smukai@yorku.ca. It is highly unlikely that you will receive a response regarding any other mark-related queries.
- DEFERRED STANDING: Students who do not write the exam in April, but have completed all other tests and lab reports by the scheduled dates, must submit a Deferred Standing Agreement (and relevant documentation) to the course director requesting permission to write a deferred exam (i.e., sign the Deferred Standing Agreement form). It is Senate Policy that "Normal requests for deferred standing must be communicated within one week following a missed examination, or on the last day to submit course work". Please check out the Registrar's Office Deferred Standing FAQs (http://www.registrar.yorku.ca/services/ds_faq.htm) for more details. Students who have missed one or more tests (or other major components) will likely be required to petition to write a deferred exam.

EMAIL POLICY:

Students should use their yorku.ca email address for correspondence relating to the course. (Email from other addresses, such as hotmail or yahoo, are likely to be filtered as spam/junk.) The subject line should include “BIOL 3070” and a brief mention of the topic of the email. (e.g., Subject: “BIOL3070: Insect Molting). The body of the email should have a clearly written message, and must include your name and student number.

Lecture Format

I will post the Powerpoint lectures at the end of class. You must attend classes and take notes to get the relevant details.

Labs

You are required to hand in three formal lab reports worth 6.7% each. You must attend all labs to hand in your report. Attendance will be taken.

Main topics to be covered during lectures

The list below consists of general topics that I will be covering. I may supplement lectures with additional material not in the text. In addition, I may change the sequence of lectures if I fall behind or get ahead.

Introduction:

1. Course objectives and requirements
2. Introduction to Physiology
3. Cells, tissues, organs and organ systems
4. Movement of molecules across cell membranes

Blood and Circulation:

1. Anatomy of the circulatory system
2. Blood cells
3. Heart
4. Hemodynamics and peripheral circulation
5. Regulation of circulation

Gas Exchange:

1. Gas properties
2. Transport of O₂ and CO₂ in the blood
3. Gas exchange in air
4. Gas exchange in water

Osmoregulation

1. Body fluid composition and exchange of ions and water
2. Osmoregulation in aquatic environments
3. Osmoregulation in terrestrial environments

4. Excretion

Acid/Base Balance

1. CO₂ transport and acid-base balance
2. Ventilation and acid-base balance
3. Excretion and acid-base balance

Feeding, Digestion and Absorption

1. Food and feeding
2. Alimentary system, gut motility and gastrointestinal secretion
3. Digestion
4. Absorption

Metabolism

1. Metabolic pathways
2. Metabolic rate
3. Regulation of metabolism

Thermal Regulation

1. Heat and body temperature
2. Thermal regulation in ectotherms
3. Thermal regulation in endotherms

Reproduction

1. Reproductive strategies
2. Sexual determination, differentiation and maturation
3. Male reproductive physiology
4. Female reproductive cycles
5. Fertilization, pregnancy, and lactation

Growth

1. Body growth
2. Regulation of intrauterine growth
3. Regulation of postnatal growth