BIOLOGY 186 – Physiology and Cell Biology

Department of Biology, University of Victoria
Summer 2017

Course Description
This course, the companion course to Biology 184, focusses on functional aspects of organisms. Biochemistry, cellular diversity, membrane structure and function, energy transduction, DNA replication. Insight into plant structure and response mechanisms of these light-eating organisms. Principles of animal physiology including homeostatic mechanisms, circulation, gas exchange, osmoregulation, thermoregulation, defense systems, chemical signaling, reproduction and development.

Lecture Meetings
TWF 8:30 – 10:20 AM, Cunningham 146

Lecture Instructor
Rossi Marx, Petch 105, phone 250-721-7089.
Email zoology@uvic.ca. If you send an email, please put "Biology 186" in the message line.
Office hours by appointment.

Guest Lecturer
Kim Curry, email cellbiol@uvic.ca. If you send an email, please put "Biology 186" in the message line.

Senior Lab Instructor
Katy Hind, Cun010, phone 250-721-8713.
Email: biologylabs@uvic.ca. Office hours TBA.

Prerequisite
Any one of: Biology 11, Biology 12, Biology 150A, Biology 150B, Biology 184.
A course in chemistry at either the high school or university level is strongly recommended.

Required Text
Campbell Biology, special UVic custom edition (a modification of the first Canadian edition), by Reece, Urry, Cain, Wasserman, Minorsky and Jackson, available in the bookstore. This is the same book used in Biology 184.

A used copy of the text is acceptable.

Labs
Labs begin on Monday, July 10. Please purchase a lab manual from the bookstore and bring it to the first lab. **You must come to your first lab to hold your place in the course.**

Students sometimes have challenges and queries pertaining to lab assignments and exams. If you have such an issue, your TA and the senior lab instructor will be happy to discuss it with you, but please raise the issue with them within one week after receiving the marked assignment or exam. We cannot consider appeals after that.

Course Website

Biology 186 has a CourseSpaces website. You will find there lecture and lab notices, test results, practice questions, exam information, links and lecture notes. You should check the site before each class and lab.

Class Conduct

We would like to remind students that talking in class, texting, surfing, and reading a newspaper are all irksome to students sitting nearby and to the instructor. We ask that you be mindful of this and treat the people around you with respect and courtesy.

Evaluation

- Midterm Lecture Exam (Friday, July 28) 30%
- Final Lecture Exam (Friday, August 18) 30%
- Lab (many components) 40%

The lecture exams and lab exams will be mixed format.

In Biology 186, as in 184, you must pass the lab in order to pass the course.

It is not necessary to pass the lecture exams (midterm and final), either together or individually, to pass the course. It is necessary only that your total course mark is 50% or better (after rounding), and that you have passed the lab. It is possible to fail the lecture exams and still be saved by a good lab mark.

Midterm Exam and Final Exam Policy

No electronic devices will be permitted during an exam – that means no cell phone and no calculator. Turn off your cell phone and stow it.

You cannot have a pencil case on your desk during an exam. Before the exam begins, take out the writing materials you will need and stow your pencil case.

During exams, the invigilators cannot answer any clarification questions. However, if you believe a question is bad (no correct answer, more than one equally correct answer), please bring your concerns to the attention of the invigilator who is collecting the exams.

If you must miss the midterm exam for a valid reason (illness, accident, family affliction, or competition as a UVic athlete), you must notify Rossi Marx in person or by email as soon as possible and provide suitable documentation for your absence. You will write a make-up midterm at the time of the final exam.

The final exam can be deferred in cases of illness, accident, family affliction, or commitments as a UVic athlete. If you expect to miss the final exam for any of these reasons, please notify Rossi Marx as soon as possible, in person or by email. You must also fill out a Request for Academic Concession (RAC) form, available from Undergraduate Admissions and Records in the University Center or online (http://www.uvic.ca/registrar/assets/docs/record-forms/rac.pdf).

Travel plans are not a valid reason for missing the midterm test or the final exam.

Grading

At the University of Victoria, grades are submitted by instructors only as percentages. These will be converted to letter grades by Records, according to the grading scale given in the university calendar.

Please do not ask us to raise your percent grade in order to qualify you for a higher letter grade. We turn down all such requests.

No supplemental final exam (second-chance final exam) will be given in this course, although, as described above, you may defer the final exam for any of the reasons given.

You will receive a grade of N in the course if you miss the final exam without a valid reason.

You will receive an F in the course in any of these cases:

- you miss three or more labs, even with medical or other documentation (and you will not be allowed to write the final exam)
- you do not pass the lab. We will determine if you passed the lab by rounding your lab grade out of 40 to the nearest whole number; 20/40 is the pass line. So 19.51 would round up to 20, and you would pass, but 19.49 would round down to 19, and you would not pass.
- you pass the lab but have an aggregate course grade less than 50%.

Cheating and Plagiarism

The University and the Biology Department deal with cheating and plagiarism as a serious matter, since ignoring it could be interpreted as endorsing dishonest practice in one's later professional career. To claim ignorance of the University's policy on academic integrity is, therefore, not excused. Please read the policy carefully to avoid unpleasant misunderstandings. The policy can be found on the online UVic calendar (http://web.uvic.ca/calendar2016-09/undergrad/info/regulations/academic-integrity.html).

The University of Victoria Department of Biology reserves the right to use plagiarism detection software or other platforms to assess the integrity of student work.

Lecture Topics

Biomolecules

DNA replication and gene expression (*guest lecturer: Kim Curry*)

Bioenergetics and enzymes

Membranes and transport

Cells

Cellular respiration

Photosynthesis

Plant structure and transport

Introduction to animal physiology

Thermoregulation and osmoregulation

Circulation and gas exchange

Neurons and nervous systems

Sensory and motor mechanisms

Lecture notes for each topic will be posted on the CourseSpaces site; please bring them to class. The notes will also include page readings from your text.