ENVIRONMENTAL PHYSIOLOGY
Biology 3640/OCSC3640   Winter 2022

Professor: Dr. Iain McGaw
Office: OSC 4005 (Ocean Sciences, Logy Bay)

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Email: ijmcgaw@mun.ca (address email as “Biology 3640”) - being remote this will be the best way
   to contact me

Lecture: Pre-recorded up by Tues, Thurs 9am-10.15am

Office Hours: By appointment, please email me - . I usually respond within 24 hours. We can then
   schedule a meeting via Skype

Pre-requisites: CR: The former BIOL 3403 or the former BIOL 4455
   PR: BIOL 2060 and 2210; Biochemistry 3106

Text: Recommended text: Environmental Physiology of Animals by Willmer, Stone and Johnston
   2nd Edition Blackwell Publishing (This text is not required since we use readings from many different
   sources)

Course learning/Outcome objectives
Upon completion of Environmental Physiology students should have a comprehensive understanding
of basic physiological principles, the environmental parameters affecting their change and the
   different types of environment and the physiological adaptations animals use to survive in these
habitats. A review of the topics covered is listed in the schedule section.

Assessment: Assessment of the course will be in the form of three exams in the lecture session
   (dates given in exam section) which will contain mostly short answers, some T/F and fill in the
   blanks and longer essay type questions. In addition there will also be a take home exam that will
   account for 25% of your overall grade.

Schedule: This is a tentative schedule, certain topics may overlap these dates, or we may cover
   others in less time, so you will need to attend all lectures. If you miss a lecture for any reason you
   are responsible for getting the notes for that period. I do not provide notes for the lecture, please get
   these from one of your colleagues. As this is being taught as pre-recorded lectures it is likely I will
   record all multi day topics in one file, for example you see Open Oceans and Deserts are scheduled
   over multiple days - which is how long it would take face-to-face - but for these purposes I will
   record it as one audio visual lecture.

<table>
<thead>
<tr>
<th>DATE</th>
<th>SUBJECT</th>
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<tbody>
<tr>
<td>Thu 06 Jan</td>
<td>Introduction to environmental physiology</td>
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<tr>
<td>Tue 11 Jan</td>
<td>Metabolism, energy and stress</td>
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Thu 13 Jan     Water, ions, osmotic and ionic regulation
Tue 18 Jan     Gases and respiration
Thu 20 Jan     Acid base balance
Tue 25 Jan     Temperature and its effects
Thu 27 Jan     Locomotion
Tue 01 Feb     **Exam 1**
Thu 03 Feb     Open Oceans
Tue 08 Feb     Open Oceans
Thu 10 Feb     Deep Sea
Tue 15 Feb     Coasts - Intertidal zone
Thu 17 Feb     Coasts - rockpools
Tue 22 Feb     **Winter break - no class**
Thu 24 Feb     **Winter break - no class**
Tue 01 Mar     Coasts - Estuaries
Thu 03 Mar     Coasts - Estuaries
Tue 08 Mar     Diving Physiology
Thu 10 Mar     **Exam 2 (paper title give at this time)**
Tue 15 Mar     Polar zones
Thu 17 Mar     Polar zones
Tue 22 Mar     Hibernation
Thu 24 Mar     Deserts
Tue 29 Mar     Deserts
Thu 31 Mar     Deserts
Tue 05 Apr     High altitudes
Thu 07 April   High altitudes
TBA           Final exam (Comprehensive)

**Exams**
The exams are on the following dates, in addition the laboratory section makes up a percentage. The exams will include all material we have covered in class prior to that exam.

<table>
<thead>
<tr>
<th>Exam</th>
<th>Date</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Exam 1</td>
<td>(Tue 01 Feb)</td>
<td>25%</td>
</tr>
<tr>
<td>Exam 2</td>
<td>(Thu 10 Mar)</td>
<td>25%</td>
</tr>
<tr>
<td>Final</td>
<td>(TBA)</td>
<td>25%</td>
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<tr>
<td>Paper</td>
<td>(Due Thu Mar 31 by 5pm)</td>
<td>25% - Format announced at test 2 date</td>
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The exams are challenging, and during the lectures you will be introduced to many new terms and concepts. It is therefore, essential that you keep up with the work. Quite often I will give examples or words not included in your textbook, so you must attend all lectures. The course schedule is tentative, in some cases we may cover material is a lesser or greater time than specified. If you miss...
a lecture get the notes from a colleague. Most exam questions will come from my lecture notes.

For every week of lectures, you should be putting in at least 2-3 hours on your own; reading through the text and revising your notes. If you find that you are having problems "see me", in this way we can make an attempt to try and overcome them.

For each test you should start looking through the material and familiarizing yourself with it, at least a week beforehand. In most cases you will not be able to get away with a few hours work the night before and attain a satisfactory grade.

**Grading and Exam Policy**
Grades will be assigned both numerically and as a letter grade. No curve will be employed in the assignment of a final grade. There is no extra credit given, so do not ask for it! All points toward the grade will come from the above listed examinations.

There will be no makeup exams given without a valid excuse. (Oversleeping or forgetfulness are not valid excuses!) These include family tragedy, or severe illness. You must contact me, or get someone else to contact me by 9am the following day, if you miss an exam for any reason. Any make-up exams given will consist of essay type questions. If a make-up is given it will need to be taken I shall arrange the dates and times, not you. Failure to turn up for a make-up will result in an F for that exam. Make a note of the exam dates, if you have travel tickets booked or social events booked for these dates unbook them now. Exams are scheduled to begin promptly when the class is scheduled to start, if you arrive more than ten minutes late, for whatever reason, you will be given an essay make-up exam.

**Statement on Holidays**
It shall be the responsibility of the student to notify the instructor no later than the last day of late registration of their intention to participate in religious holidays which do not fall on State holidays or periods of class recess. This policy shall not apply in the event that administering the test or examination at an alternative time would impose an undue hardship on the instructor or University that could not have been reasonably avoided.

**Statement on academic integrity:**
Students are expected to adhere to those principles which constitute proper academic conduct. A student has the responsibility to know which actions, as described under Academic Offences in the University Regulations, could be construed as dishonest or improper. Students found guilty of an academic offence may be subject to a number of penalties commensurate with the offence including reprimand, reduction of grade, probation, suspension or expulsion from the University. For more information regarding this policy, students should refer to the University Regulations for Academic Misconduct (Section 6.12) in the University Calendar.

**Statement regarding commitment to accommodation of students with disabilities:**
Memorial University of Newfoundland is committed to supporting inclusive education based on the principles of equity, accessibility and collaboration. Accommodations are provided within the scope of the University Policies for the Accommodations for Students with Disabilities (www.mun.ca/policy/site/policy.php?id=239). Students who may need an academic accommodation are asked to initiate the request with the Glenn Roy Blundon Centre at the earliest opportunity.
Academic supports include:

Memorial has the following student life supports that can be availed of: