

ENVIRONMENTAL PHYSIOLOGY
Biology 3640/OCSC3640 Winter 2023

Professor: Dr. Iain McGaw

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Lecture: SN 3042; Tues, Thurs 9am-10.15am

Office Hours: By appointment, please email me - . I usually respond within 24 hours. We can then meet in person or by 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. Some topics are covered over multiple days, for example you see Open Oceans and Deserts are scheduled over multiple days we may cover these in more or less time.

DATE

SUBJECT

Thu 05 Jan	Env physiol history, energy and stress
Tue 10 Jan	Metabolism
Thu 12 Jan	Water, ions, osmotic and ionic regulation
Tue 17 Jan	Gases and respiration
Thu 19 Jan	Acid base balance

Tue 24 Jan	Temperature and its effects
Thu 26 Jan	Locomotion
Tue 31 Jan	Exam 1
Thu 02 Feb	Open Oceans
Tue 07 Feb	Open Oceans
Thu 09 Feb	Deep Sea
Tue 14 Feb	Coasts - Intertidal zone
Thu 16 Feb	Coasts - rockpools
Tue 21 Feb	Winter break - no class
Thu 23 Feb	Winter break - no class
Tue 28 Feb	Coasts Estuaries
Thu 02 Mar	Coasts Fish migrations
Tue 07 Mar	Diving Physiology
Thu 09 Mar	Exam 2 (paper title give at this time)
Tue 14 Mar	Polar zones
Thu 16 Mar	Polar zones
Tue 21 Mar	Hibernation
Thu 23 Mar	Deserts
Tue 28 Mar	Deserts/High altitude
Thu 30 Mar	High altitudes
Tue 04 Apr	Anthropogenic effectors
Thu 06 Apr	Anthropogenic effectors
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.

Exam 1	(Tue 31 Jan)	25%
Exam 2	(Thu 09 Mar)	25%
Final	(TBA)	25%
Paper	(Due Thu Apr 04 by 5pm)	25% - Format announced at test 2 date

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 in 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 (www.mun.ca/blundon).

Academic supports include:

Memorial in Teaching University Libraries, The Commons (QEII Library), The Glenn Roy Blundon Centre, The Writing for Innovation and Learning, Information Technology Services, Academic Advising, and Centre.

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

Student Wellness and Counselling Centre, Student Support and Crisis Management, MUN Chaplaincy, Sexual Harassment Office, The Circle: First Nations, Inuit & Métis Students Resource Centre, Disability Information Support Centre, International Students Resource Centre, Sexuality and Gender Advocacy, Student Parent Assistance & Resource Centre, Students Older Than Average, Intersections – A Resource Centre for Marginalized Genders, and specific departmental societies.