

BIOLOGY 410 – HERPETOLOGY (2017-18)

(CRN 20371, TWF 1:30-2:20, CUN 146)

Instructor: Patrick Gregory, CUN 224, 721-7103, viper@uvic.ca (Office Hours: Fridays, 11:30 AM – 12:30 PM, or by appointment)

Lab Instructor: Jill McAllister, CUN 224, jillian.m.mcallister@gmail.com

Calendar Description: The biology of amphibians and reptiles, particularly evolutionary relationships, systematics, ecology, and physiology. Presentations required. Laboratory involves mainly taxonomic identifications. Field trips when possible.

Aims:

1. to summarize diversity, evolutionary history, and biology of amphibians and reptiles;
2. to use amphibians and reptiles to illustrate important general concepts in ecology (especially population ecology) and conservation biology.

Major Lecture/Seminar/Reading Topics:

- Natural History
- Diversity of Amphibians and Reptiles
- Physical Factor Ecology
- Life Cycles and Life Histories
- The Naturalist's Quantitative Toolbox
- Population Ecology – the Basics
- Species Interactions
- Habitat Use
- Conservation

Marks Breakdown:

Two Laboratory Quizzes	10	30 January and 20 February
Term Paper	15	9 February
Species Account Annotated Bibliography	10	20 February
Quantitative Assignment	10	13 March
Taxonomic Exam	20	20 March
Seminar	10	27 March/3 April
Final Examination	25	TBA (9 – 24 April 2018)

Taxonomic IDs and Laboratory Classes: A major aim of this course is to familiarize you with the diversity of amphibians and reptiles, especially those occurring in Canada, particularly British Columbia. You are expected to know the extant major taxa of amphibians and reptiles, including geographic distributions, and both common and scientific names. This will be accomplished in a series of in-lab presentations, plus your own research via the web and other sources. Although you will learn the major taxa mainly via photographs, we also will show you live and/or preserved specimens, where relevant. Students who do not want to examine preserved specimens or observe live animals have the option of not taking part and relying solely on other materials (e.g. visual aids instead) to learn the taxa. You will be tested on what you have learned in two quizzes based on taxon identification (**Tuesday, 30 January and 20 February 2018**) and a taxonomic exam involving both taxon identifications and

written questions (**Tuesday, 20 March 2017**). Other elements of the laboratory classes will include a natural-history report, a quantitative assignment, and a seminar presentation, details of which appear below. A laboratory schedule will follow later.

Term Paper: This year, the term paper will consist of a **critical review** of a recent peer-reviewed published paper on some major broad topic using amphibians or reptiles as study organisms. You will be given a choice of 5-7 papers to review. After selecting your paper, read it carefully and critically analyse and evaluate it in the light of other published literature (i.e. synthesis), then write a critical review of it, referring to other literature as appropriate. A critical review is not about the paper's organization or grammar, but about the substance of the paper (e.g. Does the evidence presented warrant the conclusions drawn? Are there weaknesses in methodology that compromise the conclusions? Are there logical inconsistencies that call the premise or conclusions into doubt? Does the paper break important new ground that will lead to major new areas of research or application?). Establish the general nature of the issue you are discussing at the outset of your term paper. References can include articles from various sources, but the focus must be on recent primary literature. The text of the paper **must not exceed 5 pages**, excluding Literature Cited and tables or figures. Needless to say (but I'll say it anyway), you will have to be concise and carefully select the points you want to make. Pay careful attention to grammar, punctuation, and spelling. All reviews must be typed. Page margins must be no less than 2.5 cm all around. Font must be Times New Roman, 12-point type, and lines must be double-spaced. Tables and figures must be kept to a minimum (none is fine), with sources properly indicated, and used only to make points that cannot be made easily in the text; **do not use tables and figures to pad your report, but only to complement the text**. Do not include an abstract or break your paper up into separately titled sections, but do provide a brief descriptive title on a separate title page (along with your name and student number). Number your references (including the paper you are reviewing) and cite them in the text by number (in the order cited), rather than by author and date.

Papers will be due on **Friday, 9 Feb. 2018 (2/15 marks off for each day late)**. They will be marked, edited, and returned to you, after which you may, if you desire, carefully revise your paper, taking into account the points raised in the initial review, for an improvement in your grade (maximum increase of 5 marks). If you choose to do this, **your original marked paper must be handed back with your revised paper** (no marks if you do not address necessary revisions) **by the last day of classes (Friday, 6 April 2018)**.

Species Account Annotated Bibliography: Knowledge of the natural history of particular taxa is a fundamental aspect of organismal biology. You will be given a choice of several species of amphibians and reptiles (one per student, first-come, first-served) on which to research basics of its natural history (e.g. feeding, phenology, reproduction, habitat use) from the primary literature. You will prepare an annotated bibliography (details to follow) of the literature you reviewed, along with a one-page "meta-abstract" of that literature (same format rules as for term paper). This assignment will be due **Tuesday, 20 February 2018 (2/10 marks off for each day late)**.

Quantitative Assignments: As in other areas of biology, quantitative models and statistical analysis of data are key aspects of research in organismal biology. Furthermore, your ability to evaluate research critically for your term paper and seminar therefore will depend in part on your ability to assess statistical analyses in the literature you read. To aid in this process, you will be given a quantitative assignment that will be due **Tuesday, 13 March 2018 (2/10 marks off each for each day late)**.

Seminar: Each student also will prepare a 10-20-minute (including time for questions and discussion) seminar on a topic in general herpetology chosen from a list provided. Length of seminar will depend

on how many are to be presented; presentations will be made in the last two laboratory classes (**Tuesday, 27 March and 3 April 2018**). To avoid duplication, topics will be assigned on a “first-come/first-served” basis. Your task will be to review the important literature on the topic and present a talk on your findings, either critically reviewing a few major aspects or focusing on a particular important question. Use illustrations where appropriate. Also, **before your seminar**, prepare a **2-page handout** (one page summarizing the main points of your seminar, the other listing important references); these will be distributed to the class after your seminar. There are no marks for the handout, but I will **deduct 5 marks for failure to hand one in**. All seminar material will be fair game on the final examination, so take notes if necessary. I will give some pointers about presentation of seminars later in the course.

Final Examination: The final examination will consist of a mix short-answer or multiple-choice questions and longer questions requiring written answers. The examination will be based on all material presented or discussed in the course, as well as assigned readings (see below). Some questions may involve evaluation of data/figures or tables that you may not have seen before. The examination time as set is non-negotiable, except with a medical note.

Textbook: There is no required textbook for this course, but Pough et al. (2004. Herpetology, 3rd ed.) is available in the UVic Bookstore and is highly recommended as a general reference for both lectures and laboratory classes. I also suggest that you purchase a field guide for North American amphibians and reptiles for use in the laboratory; the one available for this course in the UVic Bookstore is Matsuda et al. (2006. Amphibians and Reptiles of British Columbia).

Other Reading and Class Participation: In addition to the paper you choose to review for your term paper, you also should familiarize yourself with the other papers on that list. Although we will discuss only some of these papers in class, all will be examinable on the final examination. In order to foster discussion of important issues, in-class homework assignments also will be made from time to time. No marks will be assigned for class participation, but if there is no discussion, I will assume that you know the material and discuss it no further. Nonetheless, any subjects raised for discussion will be considered material suitable for questions on the final examination.

Final Grades:

Final grades are submitted as % marks.

As per Department of Biology policy, no supplemental examinations will be offered in this course.

Course Prerequisites and Corequisites: Prerequisites – BIOL 207 or 307; pre- or co-requisites –BIOL 330 (or E S 310 or 344). Those not meeting these requirements or not having prior permission to enroll will be dropped from the course, **unless I receive a written request for special consideration, with reasons, by Monday, 8 January 2018**.

General: Although there is a course website (CourseSpaces) on which I will post handouts with the major figures used in lectures, and other information, I will not post or hand out lecture notes; *students are expected to attend lectures and take their own notes*.

Note that these posted notes are for your personal use only (see note below that will be appended to all handouts) and must not be distributed further by you for any reason whatsoever; *any such further distribution will result in discontinuation of posted notes and you will have to rely entirely on your own notes taken in lecture*. For more on copyright issues, visit <https://www.uvic.ca/copyright/>.

Note Accompanying Handouts: This copy was made pursuant to the [Fair Dealing Guidelines](#) of the University, library database licenses or other university policies. The copy may only be used for the purpose of research, private study, criticism, review, news reporting, education, satire or parody. If the copy is used for the purpose of review, criticism or news reporting, the source and the name of the author must be mentioned. The use of this copy for any other purpose may require the permission of the copyright owner.

Course Feedback: I value your feedback on this course. Towards the end of term you will have the opportunity to complete a confidential course experience survey (CES) regarding your learning experience. The survey provides feedback to me regarding the course and my teaching, and also helps the department improve the overall program for students in the future. When it is time for you to complete the survey, you will receive an email inviting you to do so. If you do not receive an email invitation, you can go directly to <http://ces.uvic.ca>. You will need to use your UVic NetLink ID to access the survey, which can be done on your laptop, tablet or mobile device. I will remind you about this later in the term, but please think about this in the meantime, especially the following three general questions:

1. What strengths did your **instructor** demonstrate that helped you learn in this course.
2. Please provide specific suggestions as to how the **instructor** could have helped you learn more effectively.
3. Please provide specific suggestions as to how this **course** could be improved.

Some Important Dates:

Last day for 100% reduction of second-term fees for standard courses. 50% of tuition fees will be assessed for courses dropped after this date – 16 January

Last day for adding courses that begin in the second term – 19 January

Last day for paying second-term fees without penalty – 31 January

Last day for 50% reduction of tuition fees for standard courses. 100% of tuition fees will be assessed for courses dropped after this date – 6 February

Last day for withdrawing from full-year and second-term courses without penalty of failure – 28 February

See <http://web.uvic.ca/calendar2016-09/general/dates.html> for full list of important dates.

Missed Assignments and Examinations: Three categories of excuses are accepted by the University of Victoria for missed assignments or examinations – illness, emotional trauma, UVic –sponsored sporting activities. Request for academic concession for any of these reasons must be supported by appropriate documentation (e.g. from a medical doctor, UVic counselling services, UVic coaching staff). ***Note that prior arrangement of travel plans that conflict with scheduled examinations is not a valid excuse for missing a midterm or final examination;*** examinations will not be rescheduled in such cases. Penalties for missed assignments are as described above in details for the various assignments.

Academic Integrity: Please read UVic's policy on academic integrity, including cheating and plagiarism (<http://web.uvic.ca/calendar2015-09/GRAD/FARe/PoAcI.html>). Cheating and plagiarism are serious matters; to read more on how to avoid them, please visit <http://www.uvic.ca/library/research/citation/plagiarism/index.php>. Additional useful information, including use of "common knowledge" can be found at <https://integrity.mit.edu/handbook/citing-your-sources/what-common-knowledge> and <http://isites.harvard.edu/icb/icb.do?keyword=k70847&pageid=icb.page342055>.