

# School of Arts & Science

# ENVR 242 Vertebrate Diversity and Ecology Winter 2016

# **COURSE OUTLINE**

This course covers the principles of systematics, identification and environmental relationships of selected B.C. vertebrates, with emphasis on animal taxa of ecological and economic value. Labs stress keying and taxonomy and include field-trips. Policy, legislation and management principles are discussed. Prerequisites: Biology 124

Lecture	Tues 1:30-2:20 in E346 & Fri 10:30-11:20 in F334
Lab	Fri 12:00-2:50 in F224

#### 1. Instructor Information

Instructor: **Annette Dehalt**, M.Sc. Office hours: M/T/W 2:30-3:30 Office location: Fisher 248D Phone: 250-370-3432 e-mail: <u>dehalt@camosun.ca</u> web site: http://faculty.camosun.ca/annettedehalt

### 2. Intended Learning Outcomes

- Use logic, critical thinking and the scientific method in combination with biological terminology pertinent to vertebrates found in BC
- Use biological identification keys for selected groups of vertebrates of BC
- Sample terrestrial and aquatic habitats for vertebrates and understand basic methods of habitat restoration
- Describe biodiversity issues, including rare and endangered species, introduced species, overharvesting impacts and effects of habitat loss
- Discuss the principles of systematics, evolution and wildlife management as they apply to the important ecological or economic vertebrate species of BC
- Discuss the importance and impact of policy and legislation on wildlife management issues

### 3. Required Materials

No text – reserve \$60 for field trip fee (boat charter)

- (a) Field notebook and 3-ring binder for lecture notes and lab exercises
- (b) Basic office supplies: pen, pencil, white-out, ruler, stapler...
- (c) Optional: vertebrate field guides, binoculars

# 4. Course Content and Schedule

The following schedule is subject to change if deemed necessary by the instructor. Tests and quizzes are scheduled for the first lecture of the week unless announced otherwise.

Wk	Wk of Lectu	Lecture Topics	Lab/Field Exercises	
#				
1	Jan 11	Vertebrate Diversity &	Field Methods (Lab 1)	
		Phylogeny; Anthrozoology		
2	Jan 18	Fishes	Fishes (Lab 2)	
3	Jan 25	Amphibians	Amphibians (Lab 3)	
			<u>Seminar Topic due</u>	
4	Feb 1	Quiz 1	Birding FIELD TRIP	
		Reptiles		
5	Feb 9	Birds	Reptiles (Lab 4)	
6	Feb 15	Birds cont.	No class: Reading Break	
7	Feb 22	Birds cont.	Pirde (Leb E)	
1	Feb 22	Bilds cont.	Birds (Lab 5) <u>Seminar Outline due</u>	
8	Feb 29	Midterm	Mammals (Lab 6)	
Ŭ	1 00 20	Mammals		
9	Mar 7	Mammals cont.	Seminar Presentations:	
			BC Vertebrate Issues	
10	Mar 14	Mammals cont.	Habitat Restoration	
			FIELD TRIP	
11	Mar 21	Quiz 2		
		Threats to Vertebrate	No class: Good Friday	
		Species; Conservation &		
12	Mar 29	Wildlife Management Threats to Individual	RBCM FIELD TRIP	
12		Vertebrates; Animal Welfare		
		Science		
13	Apr 4	Quiz 3	Marine Mammal FIELD	
		Species Ranking Systems;	TRIP	
		Legislation Affecting BC		
		Vertebrates		
14	Apr 11	Legislation cont. (Vertebrate	Lab Exam	
		Behavior - time permitting)		

Final Exam during final exam period - scheduled by registrar - check CAMLINK

Avoid making travel or work plans during the final exam period, as you are expected to give priority to your exam schedule!

#### 5. Basis of Student Assessment

Quizzes 3x5%	15%
Midterm	15%
Lab Exam	. 25%
Seminar Presentation	5%
Lab/Field Assignments.	10%
Final Exam	30%

Midterms and lab exams will be unit exams (i.e. not cumulative).

The final lecture exam will be cumulative, with proportionately greater emphasis on the last unit not covered by the previous midterm. Midterm and final exams will be a mix of multiple choice and short answer/short essay questions. Lab exams are set up as a series of "stations" consisting of equipment, data and/or specimens, with accompanying questions testing both practical and theoretical knowledge.

The seminar presentation (done in pairs) will focus on a current issue concerning one or more vertebrate species in BC. It will include a 10 minute oral presentation in a circle format, as well as a 5 minute question and answer period (see attachment for details).

#### 6. Grading System

The following percentage conversion to letter grade will be used:

A+ = 90 - 100%	B = 73 - 76%	D = 50 - 59%
A = 85 - 89%	B- = 70 - 72%	F = 0 - 49%
A- = 80 - 84%	C+ = 65 - 69%	
B+ = 77 - 79%	C = 60 - 64%	

Temporary grades are assigned for specific circumstances and will convert to a final grade according to the grading scheme being used in the course. See Grading Policy E-1.5 at camosun.ca for further information.

### 7. Recommended Materials or Services to Assist Students to Succeed Throughout the Course

# STUDENT CONDUCT POLICY

There is an Academic Conduct Policy. It is the student's responsibility to become familiar with the content of this policy. The policy is available in each School Administration Office, Registration, and on the College web site in the Policy Section.

www.camosun.bc.ca/divisions/pres/policy/2-education/2-5.html

# LEARNING SUPPORT AND SERVICES FOR STUDENTS

There are a variety of services available for students to assist them throughout their learning. This information is available in the College Calendar, Registrar's Office or the College web site at <u>http://www.camosun.bc.ca</u>

### ADDITIONAL INFORMATION

<u>Academic Conduct</u>: Be sure that you are familiar not only with the Student Conduct Code (s.a.), but also with the General Department Policies, which are stated in the lab manual. **Cheating or plagiarism will not be tolerated in any form, and will result in "0".** 

**<u>Attendance</u>**: You are expected to attend all classes and labs, and be on time. It is your responsibility to acquire *all* information given during a class missed, incl. notes, hand-outs, assignments, laboratory data, changed exam dates etc.

**Exams:** Exams have to be written when scheduled. There are no make-up exams during the term. A missed exam results in "0" except in case of <u>documented</u> emergency or illness (doctor's note required stating that student is too sick to attend class during a specified time period). Valid documentation of illness/emergency needs be received within 1 week of the illness/emergency. With a valid excuse, the weighting of the missed exam will be added to the final exam, along with additional questions on course material of that unit. Please bring a pen and soft pencil to all exams. No programmable devices are allowed in exams.

**Labs:** You need to attend labs and lab exams during your assigned section (A or B). Switching between sections on a permanent or temporary basis requires instructor's permission. Lab assignments can only be handed in for labs actually attended (except in cases of documented illness/emergency). You are encouraged to discuss assignments with your lab partner, however, **each assignment has to be your individual work – beware of plagiarism.** It is necessary to read each exercise before coming to lab, correlate the material to lecture notes, and answer concept questions beforehand, in order to make best use of lab time. Instructions regarding field-trips will be provided in class.

**Assignments:** Unless otherwise stated, all assignments are due by the <u>beginning</u> of the lab/class of the due date. The first late assignment/term is penalty-free – otherwise a **10%/day non-negotiable late penalty** (rounded to the nearest full mark) applies, except in cases of documented illness/emergency. Late assignments will **not** be accepted after marked assignments have been returned to the rest of the class – usually one week after the due date. A **professional format** is expected, i.e. a **neat, legible, clean** copy. If the assignment is more than one page, separate pages must be **stapled**. "Rough" drafts risk rejection and a subsequent late penalty or reduced marks.

**Study Habits:** You will probably find this course not very difficult, but surprisingly laborintensive. Good (and regular!!) study habits are required to do well in this course. One hour/day is a good starting point. Joining a study group can help make this time more fun. Some "**study hints**" (beyond reading, highlighting and making flash cards!) for efficient use of study time are posted on the course web site.

**Lecture notes** and **lab/field exercises** will be posted on the web for you to print and review prior to class. The point form lecture notes should be used as a guideline, not as your sole source of information! You will need to write down additional notes of examples and explanations given during lecture. It is also recommended practice to transcribe these notes into a study-friendly format after each lecture, incorporating additional information from your textbook and other sources. Study these notes before the next class to prepare yourself for new material, which will often build on previously covered material.

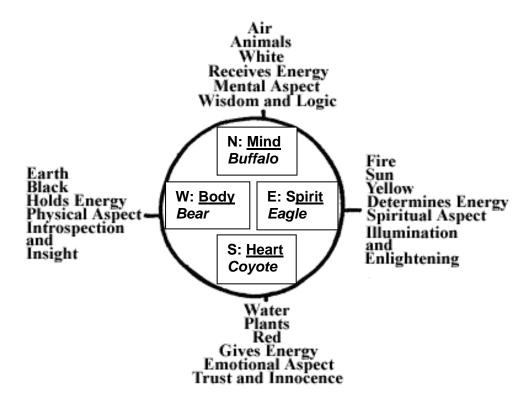
**Exam questions** will be based on material covered or pointed out in class. However, studying additional details in the corresponding textbook sections will help you understand the material more thoroughly. It is not sufficient simply to memorize point-form notes! Please keep up with your readings, and take advantage of office hours if you need extra clarification and help, or simply would like to discuss a topic a little further.

# ENVR 242 Seminar: B.C. Vertebrate Issue

This assignment requires a 10 minute oral presentation in circle format, followed by a 5 minute question and answer period (done in pairs). The topic is your choice of a current issue concerning a B.C. vertebrate species or group - excluding *Homo sapiens*. The notion is to study and empathize with vertebrate species (terrestrial or aquatic) other than our own. This is an opportunity to gather and present information on the causes and potential solutions regarding a particular problem facing a vertebrate or group of vertebrates that you care about.

Topics may include environmental or ethical issues, for example: endangerment of a vertebrate species through habitat destruction, pollution, or over-exploitation, welfare concerns regarding vertebrates in the food chain, product testing or entertainment, issues regarding poaching, trade in species (parts), hunting/trapping methods and regulations, or the effect of an introduced species on a Native species, etc. There is a wide range of possible topics, but the basic premise is a bio-centric approach, i.e. deconstructing the issue from the point of view of the animal(s) in question, and focusing on *their* best interest. Please check with your instructor if your topic choice and angle fits the scope of this assignment before you proceed with your research (see course outline for deadlines).

The approach for format and content of this presentation is supposed to be holistic in nature and is loosely based on the concept of a generalized First Nations medicine wheel:



In your presentation, you are therefore expected to present not only the physical and mental aspects of the issue (see W and N), but also the emotional and value-based/spiritual aspects (see S and E) to the same extent.

Please present your talk in the following sequence: Briefly introduce yourself and your topic, and then address the 4 basic aspects of your chosen issue by going around the medicine wheel. Depending on species and issue, some or all of the following guidelines may apply.

#### 1. W: "Physical"Aspect: Issue Definition

Introduce your chosen species, including a *brief* background on its biology and ecology as it pertains to the issue. Define and explain the concrete problem facing this species or group of species, keeping in mind that this may be the first time your audience has heard about this issue. Condense your background research into a precise yet concise, readily comprehensible summary. If relevant, mention other species affected by the issue.

#### 2. S: "Emotional" Aspect: Personal Engagement

Why do you care about this species, this particular issue? What is the story behind your choice? What emotions does this issue evoke, e.g. compassion, frustration, urge to take action etc.? Do co-presenters have similar or different sentiments regarding the chosen species or issue? Do you know which position on this issue is representative of the population at large?

#### 3. E: "Spiritual"Aspect: Value-based Solutions

What do you perceive to be the root of the problem? How did the status quo come to be? What ethical principles or choices may have led to this issue, e.g. greed, carelessness, anthropocentrism etc.? Are there underlying societal values or belief systems that may have to be re-evaluated or changed in your opinion to allow for support for any type of practical solution? What other societies/cultures/value systems can we learn from in this regard, incl. Traditional Ecological Knowledge and Wisdom (TEKW)? You could discuss some of the values and attitudes you would like to foster.

#### 4. N: "Mental" Aspect: Practical Solutions

What should be done, in your opinion, to fix or ameliorate the problem facing your chosen species? What can different levels of society contribute to the solution, e.g. government, NGO's, industry, academia, organized religion etc. and what actions can you and your class mates take to support your solutions? Give specific examples. You may cite published solutions that you support, or think outside the box to come up with your own answers to the problem.

A different path around the medicine wheel may be more suitable to your presentation – please discuss the best sequence or integration of aspects with the instructor. Conclude your talk with a short statement referring to future hopes or plans and thank your audience. (Note: "that's all we got" or "I guess that's it..." is *not* a good concluding statement!)

You need to know the material well enough to speak freely as well as answer questions for approx. 5 minutes following your talk (*know more than you present!*). The presentation itself will take place in circle format around a replica of a medicine wheel, i.e. the presenters are seated along with the audience in a circle. If necessary, a room other than the lab will be booked for this purpose. Therefore, you will not have to stand in front of the class, and **you are <u>not</u> required to prepare overheads or power-points – this really is an** *oral* **presentation, and it is meant to provide a different presentation and learning experience, more along the lines of sharing around a campfire. This means that your speech should be as free from references to written notes as possible.** 

You are also required to bring a visual aid to be passed around, e.g. a good quality picture or replica or otherwise relevant object (1 minimum and 3 maximum visual aids per presentation). Aids should be user-friendly and add to your talk but not distract from it; written materials are usually not suitable. Please also have a list of references handy, in case you may be asked about the sources of presented information. Although not a requirement, you are free to integrate original elements of the visual, musical, healing or performing arts as well as aspects of your cultural or spiritual practices that you are able to share.

It is important to practice the talk several times beforehand, in order to feel comfortable speaking freely, to allow for smooth transitions, and to keep within the time limit of 10-15 minutes in fairness to all other students in the same lab period. However, in alignment with common indigenous practice, speakers will be allowed – within reason – to complete their presentation regardless of time.

As a member of the audience, you are expected to be respectful to the speaker by following the talk with focus and an open mind, so you may be able to contribute a question at the end of the talk. While a class mate is presenting, it is unacceptable to review your own notes, carry on a conversation or leave the circle early. Being a disrespectful listener may affect your overall mark for this project.

#### Evaluation of Oral Presentation:

CRITERIA	SCORE (0-10)
1. <u>Content</u> : biocentric, not anthropocentric perspective maintained; all 4 sub-topics addressed adequately and with appropriate details in each category; evidence of broad background research and in-depth contemplation of the issue	
a. Physical	
b. Emotional	
c. Spiritual	
d. Mental	
2. <u>Outreach</u> : the issue and potential solutions were presented convincingly, with respect, empathy and engagement; the audience felt compelled to listen and learn	
3. <u>Delivery</u> : free speech, good projection, clear pronunciation, appropriate opening and closing statements, smooth transitions between sub-topics; talk flowed well	
4. <u>Visual Aid(s)</u> : well-chosen and informative, attention to ease of viewing and handling, no distracting details such as extensive writing; well-integrated into talk	
5. <u>Timing</u> : time used efficiently and evenly; no unnecessary pauses or "fillers;" time limit observed (10+/-1 minutes) - minus 1 mark for each minute over or under	
6. <u>Questions</u> : questions from the audience were answered knowledgably and honestly, showing involvement with the subject beyond information given in talk	
7. <u>Audience</u> : As audience members, presenters were part of circle, respectful, paid full attention to presenters, and – optionally - asked valid questions	
TOTAL SCORE	/100