

# School of Arts & Science ENVIRONMENTAL TECHNOLOGY DEPARTMENT ENVR 244

Invertebrate Diversity & Ecology FALL 2017

## **COURSE OUTLINE**

The course description is online @ http://camosun.ca/learn/calendar/current/web/envr.html

Ω Please note: the College electronically stores this outline for five (5) years only. It is strongly recommended you keep a copy of this outline with your academic records. You will need this outline for any future application/s for transfer credit/s to other colleges/universities.

#### 1. Instructor Information

| (a) | Instructor:   | Michael Kory         |                    |                |
|-----|---------------|----------------------|--------------------|----------------|
| (b) | Office Hours: | Wednesday 2:30 – 4:3 | BOPM               |                |
| (c) | Location:     | Lansdowne F334D      |                    |                |
| (d) | Phone:        | (250) 370-3506       | Alternative Phone: | (250) 516-2415 |
| (e) | Email:        | korym@camosun.bc.c   | a                  |                |
| (f) | Website:      |                      |                    |                |

## 2. Intended Learning Outcomes

(No changes are to be made to these Intended Learning Outcomes as approved by the Education Council of Camosun College.)

Upon completion of this course the student will be able to:

- 1. Use standard biological lab equipment, especially microscopes.
- 2. Use logic, critical thinking, and the scientific method in combination with biological terminology pertinent to invertebrates to evaluate and assess the current status of BC invertebrates.
- 3. Use biological identification keys for selected groups of invertebrates of B.C.
- 4. Sample fresh water and marine habitats, soil and terrestrial debris in order to determine the types of living organisms present.
- 5. Preserve and/or culture various selected invertebrates.
- 6. Sample terrestrial and aquatic habitats for invertebrates and understand basic methods of habitat restoration.
- Describe biodiversity issues including rare and endangered species, introduced species, overharvesting impacts and affects of habitat loss.
- 8. Discuss the principles of systematics, evolution and wildlife management as they apply to the important ecological or economic invertebrate species of B.C.
- 9. Discuss the importance and impact of policy and legislation on wildlife management issues.

#### 3. Required Materials

- (a) Texts: None required; reference books provided in labs.
- (b) Lectures and notes available on course website. Selected readings placed on reserve.

# 4. Course Content and Schedule

| Week#       | <u>Date</u>  | <u>Lecture</u><br>Thursday: 11:30 – 12:20<br>F-210                                           | <u>Laboratory</u><br>Wednesday: 09:30 – 12:30<br>F244                                                        |
|-------------|--------------|----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| 1 Sept. 6/7 |              | Porifera<br>(Sponges)                                                                        | <u>Laboratory #1</u><br>overview of course                                                                   |
| 2           | Sept. 13/14  | Cnidaria, Ctenophora<br>(Anemones, jellies,<br>hydrozoans, corals)                           | <u>Laboratory #2</u><br>Porifera                                                                             |
| 3           | Sept. 20/21  | Platyhelminthes<br>(Flatworms: tapeworms,<br>fukes)                                          | <u>Laboratory #3</u><br>Cnidaria, Ctenophora<br>(Anemones, jellies, hydrozoans,<br>corals)                   |
| 4           | Sept. 27/ 28 | Legislation<br>SARA/COSEWIC overview                                                         | Laboratory #4 Guest Lecturer Dr. Steven Cross: aquaculture Lab: Platyhelminthes Nemertea, Rotifera, Nematoda |
| 5           | Oct. 4/5     | Mollusca<br>(Gastropods, bivalves,<br>cephalopods, etc.)                                     | <u>Laboratory #5</u> Shaw Center of the Salish Sea Field Trip                                                |
| 7           | Oct. 11/12   | Mollusca cont'd<br>(also Phorinida, Bryozoa,<br>Brachiopoda                                  | <u>Laboratory #6</u><br>Mollusca                                                                             |
| 8           | Oct. 18/19   | TBA Midterm Exam<br>(covers up to and including<br>Mollusca)<br>Alternate: Annelida          | <u>Laboratory</u> #7<br>Mid Term Lab Quiz<br>(covers up to and including<br>Mollusca)                        |
| 9           | Oct. 25/ 26  | Arthropoda<br>(crabs, lobsters, shrimp<br>(insects, spiders, millipedes,<br>centipedes etc.) | <u>Laboratory #8</u><br>Annelida                                                                             |
| 10          | Nov. 1/2     | Arthropoda cont'd<br>Insecta                                                                 | <u>Laboratory #9</u><br>Royal B.C. Museum Field Trip                                                         |
| 11          | Nov. 8/9     | Field study techniques<br>Legislation/Regulations                                            | <u>Laboratory #10</u><br>Arthropods                                                                          |
| 12          | Nov. 15/16   | Echinodermata                                                                                | <u>Laboratory #11</u><br>Field sampling/study                                                                |
| 13          | Nov. 22/23   | Urochordates & minor phyla                                                                   | <u>Laboratory #12</u><br>Legislation project presentations                                                   |
| 14          | Nov. 29/30   | TBA Laboratory Current<br>Events, Course Overview                                            | <u>Laboratory #13</u><br>Echinoderms<br>Urochordates & minor phyla                                           |
| 15          | Dec 6/7      | Lecture course Final Exam<br>Overview                                                        | Invert Final Lab Exam                                                                                        |

## 5. Basis of Student Assessment (Weighting)

## (a) Assignments:

| COSEWIC assignment:                              |      |
|--------------------------------------------------|------|
| Invertebrate species review (Critter sheets X2): |      |
| Invertebrate Survey Report                       | 7.5% |
| Legislation presentations                        | 10%  |
| Class Participation: Labs; Field trips           | 10%  |

## (b) Exams:

| Mid-term lecture exam: | 15% |
|------------------------|-----|
| Mid-term Lab exam      | 10% |
| Final Laboratory exam: | 15% |
| Final lecture exam:    | 20% |

(c) All exams, quizzes, assignments and labs must be completed and field trip(s) attended to successfully complete the course. Potential absences or late assignments are requested to be discussed prior to scheduled due dates.

# 6. Grading System

## Standard Grading System (GPA)

| Percentage | Grade | Description                                                                                                           | Grade Point<br>Equivalency |
|------------|-------|-----------------------------------------------------------------------------------------------------------------------|----------------------------|
| 90-100     | A+    |                                                                                                                       | 9                          |
| 85-89      | Α     |                                                                                                                       | 8                          |
| 80-84      | A-    |                                                                                                                       | 7                          |
| 77-79      | B+    |                                                                                                                       | 6                          |
| 73-76      | В     |                                                                                                                       | 5                          |
| 70-72      | B-    |                                                                                                                       | 4                          |
| 65-69      | C+    |                                                                                                                       | 3                          |
| 60-64      | С     |                                                                                                                       | 2                          |
| 50-59      | D     | Minimum level of achievement for which credit is granted; a course with a "D" grade cannot be used as a prerequisite. | 1                          |
| 0-49       | F     | Minimum level has not been achieved.                                                                                  | 0                          |

## **Temporary Grades**

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 information on conversion to final grades, and for additional information on student record and transcript notations.

| Temporary<br>Grade | Description                                                                                                                                                                                                                                                                                                                         |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1                  | Incomplete: A temporary grade assigned when the requirements of a course have not yet been completed due to hardship or extenuating circumstances, such as illness or death in the family.                                                                                                                                          |
| IP                 | In progress: A temporary grade assigned for courses that, due to design may require a further enrollment in the same course. No more than two IP grades will be assigned for the same course. (For these courses a final grade will be assigned to either the 3 <sup>rd</sup> course attempt or at the point of course completion.) |
| CW                 | Compulsory Withdrawal: A temporary grade assigned by a Dean when an instructor, after documenting the prescriptive strategies applied and consulting with peers, deems that a student is unsafe to self or others and must be removed from the lab, practicum, worksite, or field placement.                                        |

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

#### **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, at Student Services, or the College web site at <a href="mailto:camosun.ca">camosun.ca</a>.

## STUDENT CONDUCT POLICY

There is a Student Conduct Policy **which includes plagiarism**. It is the student's responsibility to become familiar with the content of this policy. The policy is available in each School Administration Office, at Student Services, and the College web site in the Policy Section.