



School of Arts & Science
ENVIRONMENTAL TECHNOLOGY PROGRAM

ENVR 107
Introductory Physical Geography
Winter, 2007

COURSE OUTLINE

1. Course Description

This 10-week course will provide students with a first exposure to physical geography. The material is a mix of the theoretical and practical, and leads into some second-year spring modules and ENVR 207 (Applied Geomorphology), as well as providing useful geographic knowledge that all good environmental technologists should know. Topics will include a fairly detailed introduction to atmospheric processes, weather and climate, and some basics of hydrology and biogeography. Through weekly lab exercises, students will get to try some practical applications of lecture concepts.

My classes tend to be quite informal, and I encourage participation and discussion. My goal is to have you think and understand, so please speak up if you are confused! Group work is encouraged, and you should help each other learn. But this does not mean you can copy! Each student must do their own individual assignment reports, and if I catch people copying, all parties involved will get a mark of zero.

Note: The official Approved Course Description is available on the web at <http://www.camosun.bc.ca/calendar/2006/web/envr.html#ENVR107>

- *Please note: this outline will be electronically stored for five (5) years only. It is strongly recommended students keep this outline for your records.*

2. Instructor Information

| | |
|---------------|---|
| Instructor: | Chris Ayles |
| Office Hours: | Mon. 1:30-2:30 Tue. 9:30-10:30 Fri. 9:30-10:30 Other times available by chance or appointment. |
| Location: | Fisher 342B |
| Phone: | 370-3393 |
| Email: | cayles@camosun.bc.ca |
| Website: | cayles.disted.camosun.bc.ca |

3. Intended Learning Outcomes

At the end of this course, students will be able to:

1. Identify and describe the major layers of Earth's atmosphere.
2. Explain the mechanisms that cause temperature, pressure and wind patterns in the atmosphere.
3. Infer wind speed and direction from barometric maps.
4. Explain the major causes of atmospheric uplift and precipitation.
5. Define and explain the occurrence of air masses and weather fronts.
6. Read and predict weather changes from weather maps.
7. Explain the major causes of weather and climate in British Columbia.
8. Describe the controls on climate and climate change.
9. Describe and the major processes of the hydrologic cycle.
10. Interpret soil moisture budgets.
11. Explain how environmental factors give rise to different ecosystem types.
12. Interpret maps and perform field-based assessments conforming to the BC system for Biogeoclimatic Ecosystem Classification.

4. Course Materials

| | | |
|-----|-------|--|
| (a) | Texts | <p><u>Required:</u> Christopherson, R.W. and M. Byrne, 2006. <i>Geosystems, Canadian Edition</i>. Toronto: Pearson Education Canada, 706 pp. plus appendices.</p> <ul style="list-style-type: none">This book is available in the book store, and there will also be a reserve copy in the library. Older, non-Canadian versions are around, but ultimately you are responsible for the material from the new edition. |
| (b) | Other | <p><u>Required:</u> ENVR 107 Lab Manual.</p> |

5. Course Content and Schedule

- Lectures:** This class has a two-hour lecture Monday, 2:30-4:20. Lectures will generally provide the theory you need to understand the labs and pass the tests, so attendance is essential. I mostly use PowerPoint, and I will post basic lecture outlines on my web site: cayles.disted.camosun.bc.ca. Note, however, that these outlines are no substitute for coming to class!

As a way of encouraging thought and participation during lectures, each student is eligible for one 1% bonus mark if they ask me a stumper question: a relevant question that I can't answer on the spot. To get the 1%, the following conditions must be met:

- The class and I agree it is a valid stumper.
- The student researches the answer, to be presented in the next class.
- The class agrees (by secret ballot) that the student deserves the 1%.

I know that 1% isn't much, but it can make a letter-grade difference sometimes.

- Readings** are an essential part of this course – they provide depth and context that are indispensable to your understanding of the course material, and they will be tested. Specific reading assignments are detailed below; these may be modified as the term goes on.
- Labs:** There are eight labs to be done for this class. **You must buy a lab manual at the bookstore!** Labs will take place on Thursdays, 9:30-12:20 or 1:00-3:50. You may work in groups, but each student must write their own individual answers unless instructed otherwise. Attendance of labs is very important, and in some cases mandatory. No credit will be given for wrong answers or missed activities due to unexcused absence from lab. Labs are usually due the following period, and I reserve the right to impose a 10% per day penalty on late assignments. Late assignments will not be accepted after I have returned them marked.

On regular lab days, you should bring pencils, paper, graph paper, calculator and ruler. One lab will involve a field trip to Mount Tolmie. For this day, transportation logistics will be arranged ahead of time in class. **Attendance of the field lab is required**, and it is your responsibility to be aware of the plan! Make sure you bring warm clothing and rain gear to appease the weather gods. Snacks, water and sturdy footwear are also advised.

- Exams:** There will be a midterm and a final exam. The format for these will be a combination of multiple choice, short answer and long answer questions. They mainly will emphasize the lecture material, though lab material will also be drawn upon. The midterm will include all material up to and including the lecture on Monday, March 5. The final exam will be cumulative.
- Illness, etc.:** If you miss a lab or exam due to illness or some other serious reason, I must ask you to provide a doctor's note or other documentation to support your story. Otherwise, a mark of zero for the missed assignment will be given. Exams and field trips are hard to reschedule, so try not to miss them unless you are too sick to perform at a normal level.

Students who miss an exam for a valid reason must contact me within 24 hours with an explanation. In such cases, one makeup exam time will be scheduled, and all students needing it will be expected to attend.

- **COURSE SCHEDULE** (Subject to change at instructor's discretion):

| <u>Week of</u> | <u>Monday</u> | <u>Thursday</u> | <u>Reading</u> |
|---------------------|---------------------------------|---|----------------------------------|
| Feb. 5 | Intro / Atmospheric Structure | No Class (Reading Break) | Ch. 1 (skim), pp. 65-72. |
| Feb. 12 | Radiation and Temperature | Lab 1: Radiation and Weather Data | Ch. 2, 93-108, 112-113, 122-129. |
| Feb. 19 | Pressure and Wind | Lab 2: Temperature and Wind | pp. 147-173. |
| Feb. 26 | Humidity, Clouds and Rain | Lab 3: Humidity and Instability | Ch. 7. |
| Mar. 5 | Air Masses and Weather | Midterm Exam | pp. 216-229. |
| Mar. 12 | Climate | Lab 4: Weather Maps | pp. 129-135, Ch. 10. |
| Mar. 19 251-254, | Hydrology I | Lab 5: Weather Analysis | pp. 264-272. |
| Mar. 26 | Hydrology II | Lab 6: Groundwater | pp. 254-263. |
| Apr. 2 | Ecosystem Classification | Lab 7: Ecosystem Maps | pp. 631- 638, Ch. 20. |
| Apr. 9 | No Class (Easter Monday) | Lab 8: Site Description (at Mt. Tolmie) | Lab handout. |
| Exam Week | Final Exam | | |

Note: All page numbers refer to *Geosystems, Canadian ed.*

Also note: Chapter 3 contains some good material on air pollution. This is not required due to time constraints, but suggested reading.

6. Basis of Student Assessment

Evaluation will be based on accuracy, thoroughness, and neatness. As a general rule, always show your work and keep track of units of measure! When I grade your work, I am looking for proof of your understanding, so do everything clearly and carefully – that way you may get partial credit, even for wrong answers. I endeavour to mark things fairly and consistently, but if you have a question about my assessment, feel free to ask about it.

| | | |
|-----|------------------|--------------------------------------|
| (a) | Labs | 42% (5% each, except for Lab 5 (7%)) |
| (b) | Midterm exam | 20% |
| (c) | Final exam | 38% |
| (d) | Stumper question | Possible 1% bonus |

7. Grading System

Standard Grading System (GPA)

| Percentage | Grade | Description | Grade Point Equivalency |
|------------|-------|--------------------------------------|-------------------------|
| 95-100 | A+ | | 9 |
| 90-94 | A | | 8 |
| 85-89 | A- | | 7 |
| 80-84 | B+ | | 6 |
| 75-79 | B | | 5 |
| 70-74 | B- | | 4 |
| 65-69 | C+ | | 3 |
| 60-64 | C | | 2 |
| 50-59 | D | | 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 at camosun.ca or information on conversion to final grades, and for additional information on student record and transcript notations.

| Temporary Grade | Description |
|-----------------|---|
| I | <i>Incomplete:</i> 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 | <i>In progress:</i> A temporary grade assigned for courses that are designed to have an anticipated enrollment that extends beyond one term. No more than two IP grades will be assigned for the same course. |
| CW | <i>Compulsory Withdrawal:</i> 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. |

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.

8. 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 camosun.ca.

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 on the College web site in the Policy Section.