Camosun College
ENVR 107A

INTRODUCTORY PHYSICAL GEOGRAPHY

Course Outline, Winter 2005

Instructor: Chris Ayles Office: Fisher 342B Phone: 370-3393
Email: cayles@camosun.bc.ca

COURSE DESCRIPTION

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

GENERAL POLICIES

My classes tend to be quite informal, and I encourage participation and discussion. My goal is to have you think and understand, so speak up if you are confused! Still, I take the material seriously and expect you to do the same. 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 assignments unless instructed otherwise, and if I catch people copying, all parties involved will get a mark of zero.

INTENDED LEARNING OUTCOMES

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

1. Identify and describe the properties of the major layers of Earth's atmosphere.
2. List and explain the factors leading to uneven distribution of solar radiation.
3. Calculate solar declination, angle of incidence and radiation intensity.
4. Explain the mechanisms that cause temperature, pressure and wind patterns.
5. Infer wind speed and direction based on barometric maps.
6. Explain the major causes of atmospheric uplift and precipitation.
7. Measure atmospheric temperature and humidity.
8. Compute temperature changes and condensation level for moving air parcels.
9. Define and explain the occurrence of air masses and weather fronts.
10. Interpret weather maps and predict weather changes.
11. Explain the major causes of weather and climate in British Columbia.
12. Describe and explain the hydrologic cycle.
13. Explain how environmental factors give rise to different ecosystem types.
14. Perform field-based site and vegetation descriptions conforming to the BC system for Biogeoclimatic Ecosystem Classification.
15. Describe Earth's internal structure and the basics of plate tectonics.

COURSE CONTENT

Lectures: The format for this class is lecture on Tuesday, labs on Thursday. Lectures will generally provide the theory you need to complete later labs, so attendance is strongly suggested. I use printed overheads or PowerPoint, and I will post the overhead notes on my web site: www.camosun.bc.ca/schools/artsci/envirotech/ayles.php. Please realize, though, that these notes are quite sparse, and no substitute for coming to class. Past experience shows that people who skip class get worse grades!

Labs: You must purchase a lab manual from the book store! Attendance of labs is very strongly suggested. They 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 lab days, you should bring pencils, paper, graph paper, calculator and ruler. Again, you may work in groups, but must each write your own answers and submit your own report. One lab will be based on outdoor field work, so make sure you bring warm clothing and rain gear.

Weather Journal: For this project, you will be expected to monitor the weather at two locations, and provide a summary analysis of what happened in both places, and why. More complete instructions will follow in a separate handout.

Exams: The midterm and final exams will be a combination of multiple choice, short answer, calculation and long answer questions. They 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 March 8. The final will be cumulative, though material from the second half of the course will be more heavily weighted.

READING

Readings form an essential part of this course: we have a lot of material to cover in a very short time, and lectures alone just won't cut it. The textbook sections I have assigned provide depth and context that are indispensable to your understanding of the course material, and they will be tested.

The required textbook is:

Christopherson, R.W., 2002. *Geosystems – An Introduction to Physical Geography*, 5th Ed. Upper Saddle River, NJ: Pearson Education, Inc., 660 pp. plus appendices.

This book is available in the book store, and there will also be reserve copies in the library. Used copies should also be easy to find. You are welcome to use an older version, but if you do, you are responsible for any differences in material from the new edition. Some required readings from other sources may be assigned, and these will be handed out as needed.

Specific reading requirements are provided below; these may be modified as the term goes on.

EVALUATION

In general, evaluation will be based on accuracy, thoroughness, and neatness. As a general rule, always show your work and keep track of unit s 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 should have a question about my assessment, feel free to come to my office and ask about it.

Assignment	*Value*
Labs (6% each)	36%
Weather Journal	12%
Midterm Exam	20%
Final Exam	32%
	100%

ILLNESS, ETC.:

If you must 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 are especially hard to reschedule, so you should not 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.

GRADING:

The standard grading scale of the School of Arts and Science will be used for this course:

A+	>95%	B-	70-74%
A	90-94%	C+	65-69%
A-	85-89%	C	60-64%
B+	80-84%	D	50-59%
B	75-79%	F	<50%

COURSE SCHEDULE

Week of	Tuesday	Thursday	Reading
Feb. 7	Course Intro / Earth Systems	***Reading Break***	pp. 2-24.
Feb. 14	Atmospheric Structure, Radiation	Lab 1: Weather on the Internet	pp. 43-59, 65-72, 93-108.
Feb. 21	Pressure and Wind	Lab 2: Radiation and Heat	pp. 121-128, 143-166, 170-172.
Feb. 28	Humidity, Clouds and Rain	Lab 3: Temperature and Wind	pp. 179-204.
Mar. 7	Air Masses and Weather	**Midterm Exam**	pp. 211-227.
Mar. 14	Climate	Lab 4: Humidity and Instability	pp. 128-134, 275-308.
Mar. 21	Hydrology	Lab 5: Weather Maps	pp. 245-248, 259-269.
Mar. 28	Soil Water Balance	**No lab** (work on weather journal)	pp. 248-258.
Apr. 4	Ecosystem Classification	Lab 6: Site Description	pp. 594-602, 625-647.
Apr. 11	Intro to Geomorphology	Lab 6 continued (at Mt. Tolmie)	pp. 323-329, 340-352.
Exam Week	**Final Exam**		

Note: All page numbers refer to *Geosystems, 5th ed*.