

Geography 101 - Weather and Climate (AB1)

Instructor: Claire Beaney

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Office hours: Tuesdays 10-11, Wednesdays 1-3pm, Thursdays 10-11 (or by appointment)

This course introduces the fields of meteorology and climatology. Emphasis will be placed on atmospheric processes, weather forecasting, and local climates. Topics include solar radiation and energy balance, global temperature and precipitation patterns, the atmosphere, weather and climate systems. We will also discuss current environmental issues related to weather and climate.

Textbook: Christopherson, R.W. and Byrne, ML. 2006. Geosystems: An Introduction to Physical Geography, 1st Canadian edition, Prentice Hall.

Lab Manual: Students are required to purchase the **Geog 101 Lab Manual** for this course. It will be sold during the first week of classes (during regular lab classes) for \$5. Exact monies are required. It is NOT available in the Bookstore.

Geography Guide: Students are also required to obtain the **Geography Student Guide** which can be found online at www.ucfv.ca/geography/ (follow the links) or can be obtained in the department. Expectations, information on lab and report completion and other essential information can be found in the student manual. Students are responsible for understanding the content found in the student guide.

Course Organization:

The course will have lectures on Tuesdays/Thursdays (11.30-12.50). Labs are scheduled on Tuesday and Thursdays and you must be registered in one of these lab sections (Section A#A – Tuesday, 1.00-2.50; Section A#B – Tuesday, 3.00-4.50; Section A#C – Thursday, 1.00-2.50). Do not register for any other lab section. *Labs will commence in week 1 (September 5th 2006).*

Mark Distribution:

Laboratory exercises (8)	15%
Weather Research Report	10%
Lab exams (2)	26%
In-class quizzes (4)	4%
Mid-term examination	15%
Final examination	30%

Assignments:

There will be 8 class assignments or labs, each designed to enhance and apply concepts developed in class. Each lab is due at the designated day and time that will be identified at the start of each lab by the instructor. The lab component is worth 15% of your final grade. You are expected to bring with you to the lab periods a calculator, ruler, metric graph paper, protractor, pencil, eraser and pencil crayons. You should also bring your text and lecture notes to the lab. **It is important that you attend the lab section in which you are registered.**

Weather Report Assignment:

In this assignment, you will be asked to document and explain the daily weather record in two Canadian cities and compare and contrast the weather observed at each center. This report will tie together all of the concepts covered in this course and help you understand the complexities involved in weather forecasting and the variables that can influence the weather. It is worth 10% of your grade. Details will be provided in class.

Examinations:

A mid term examination will be held on **Thursday 12th October 2006** during class time and will account for 15% of the final grade. In-class quizzes will also be administered throughout the semester (see timetable for dates). Lab examinations will be held in **Week 7** and **Week 12**. The final examination will be administered during exam week, following the completion of formal classes.

Course Expectations:

Students are required to attend all scheduled classes and complete all assignments and exams. Missed tests cannot be made up. This rule may be altered under special, individual circumstances. **Note:** students who fail to complete all tests and assignments will receive a NC grade for the course.

Students are expected to treat the instructor, lab instructor and their peers with respect throughout the course and engage in appropriate behaviour to facilitate a constructive learning environment. No talking, cell phones, MP3 players or disruptive activities during class. Likewise the instructor will endeavour to maintain a suitable learning environment for all students in the course and treat them with respect at all times.

Plagiarism or cheating on assignments or exams will result in a grade of zero for that particular assignment or exam and any other appropriate measures according to UCFV policy.

Please see the ***Geography Student Guide*** for more information on course expectations.

Grading Scheme:

<u>Letter Grade</u>	<u>Percent Equivalent</u>
A+	95-100
A	90-94
A-	85-89
B+	80-84
B	75-79
B-	70-74
C+	65-69
C	60-65
C-	55-59
P	50-59
NC	<50

Please see the ***Geography Student Guide*** for information on how grades are assigned and what they mean.

Tentative Lecture & Lab Topics:

<u>Week / Lecture Date</u>	<u>Lecture Topic</u>	<u>Lab Topic</u>	<u>Readings (1st Canadian edition)</u>
Week 1: 5/9; 7/9	Course Introduction; Introduction to Geography; Solar Energy	<i>Lab introduction and sale of lab manuals</i>	Ch1, p43-52
Week 2: 12/9, 14/9	Seasonality; The Atmosphere; Atmospheric Pollution	Lab 1- Introduction to the Earth, Numbers and Graphs	p53-59, 65-89
Week 3: 19/9, 21/9	Quiz 1 on 19/9; The Earth's Energy Balance	Lab 2 - Earth-Sun Relationships	p93-113
Week 4: 26/9, 28/9	Global Temperatures	Lab 3 - Solar Radiation, Energy Balance & Temperature	p121-140
Week 5: 3/10, 5/10	No lecture on 3/10; Quiz 2 on 5/10; Atmospheric Circulation Patterns; Winds	Lab 4 - Radiation & Temperature	p145-175
Week 6: 10/10, 12/10	Atmospheric Circulation Patterns; Winds cont'd	Lab 5 - Isopleth Mapping & Atmospheric Circulation	p145-175
Week 6; 12/10	MID-TERM EXAM on Thursday 12/10/06		
Week 7: 17/10, 19/10	Water & humidity; Atmospheric Stability; Weather data collection from 17/10 to 22/10	LAB EXAM 1 (labs 1-4)	p183-200
Week 8: 24/10, 26/10	Cloud Formation, Fog; Air Masses	Lab 6 - Humidity & Adiabatic Processes	p200-210, 215-219
Week 9: 31/10, 2/11	Quiz 3 on 31/10; Lifting Mechanisms & Mid-Latitude Cyclones	Lab 7 - Adiabatic Processes & Precipitation	p219-229
Week 10: 7/11, 9/11	Severe Weather	Lab 8 - Surface Weather	p229-246
Week 11: 14/11, 16/11	Hydrological Cycle & Soil Moisture Budgets; Weather Report due on 16/11 at 11.30.	<i>Review Lab</i>	p251-264, 273-277
Week 12: 21/11, 23/11	Quiz 4 on 23/11; Global Climate Classification	LAB EXAM 2 (labs 5-8)	p283-314
Week 13: 28/11, 30/11	Climate Change	<i>No Lab</i>	p286-288; 315-325