

COURSE OUTLINE FALL 2004

GEOGRAPHY 405 H(3-2) (AREA III)

APPLIED CLIMATOLOGY

Timetable: FALL SESSION

Lec 01 TR 14:00 75 ES 615

Lab 01 T 12:00 110 SS 018

Catalogue #: 1965

Instructor: Lawrence Nkemdirim

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Office Hours: TR 1-2 p.m. Or by appointment

Teaching Assistant: Brian Horton

Course Objective:

Climate is perhaps the dominant environmental determinant. Its impacts on life support systems is so far reaching that any student of the environment will be well advised to learn enough climate science to position him/her to contribute to the formulation of sound environmental policies. In Applied Climatology, you will learn about the role played by the sun, the land surface, the atmosphere and humans in determining present and future climates. You will be introduced to simple models used for determining greenhouse warming. You will learn how the ambient weather impacts air quality and human comfort as well as actions, which may be taken to achieve a balance among them. Water resources and the systems they support are intrinsically tied to climate. In this course, we will discuss those aspects of climate that lead to surpluses, as in floods; and deficits, as in droughts. How do we measure them? Are they predictable? How do we manage floods and droughts?

Reading and Research:

The textbook, **Boundary Layer Climates by T.R. Oke** (Routledge Press), is designed to help the student with concepts and research methodology. It does not cover the broad themes included in the course objective but it will help clarify how their details are derived. The index provides good guidance for locating relevant topics.

The major sources for information for the course material are the journals and the Internet. You will access various sites for the El Nino, droughts, seasonal weather forecast and climate change.

Evaluation:

Final grade will be based on performance in the four labs (45%), two mid-term exams (45%) and a final Quiz (10%).

Assignment 1: You will analyse data on the surface energy balance including data from the Weather Station.

Assignment 2: You will quantify and describe stability conditions under a variety of weather conditions. You will also analyse wind profiles, calculate temperature and evaporation by partitioning the net radiation.

Assignment 3: The focus is on air pollution. You will be required to determine ground level concentration fields for an air pollutant from a point source. Other determinations include stack heights and environmental risk.

Assignment 4: The water balance. You will determine atmospheric water demand, moisture surpluses and deficits, droughts and floods.

There is No Final Registrar Office scheduled exam.

Prerequisite: [Geography 305]

Supplementary Fees: *None*

Grading System

The official grading scheme of the university will be used (Course Information Section in the University Calendar):

A+	4.00	Outstanding performance
A	4.00	Excellent-superior performance, showing comprehensive understanding of subject
A-	3.70	↑
B+	3.30	↑
B	3.00	Good - clearly above average performance
B-	2.70	↑
C+	2.30	↑
C	2.00	Satisfactory performance – basic understanding of the subject
C-	1.70	
D+	1.30	
D	1.00	Minimal Pass-marginal performance
F	0	Fail - - poor performance

Plagiarism

Academic dishonesty is not an acceptable activity at the University of Calgary and students are **strongly advised** to read the Student Misconduct section in the University Calendar. Quite often, students are unaware of what constitutes academic dishonesty or plagiarism. The most common are 1) presenting another student's work as your own 2) presenting an author's work or ideas as your own without proper referencing and 3) using work completed for another course. This activity will not be tolerated in this course and students conducting themselves in this manner will be dealt with according to the procedures outlined in the calendar.

Re: Posting of Grades and Picking-up of Assignments

- Assignments will be handed back only in class or by the Professor at pre-arranged time(s).
- To receive your assignment back via mail, please include an appropriately sized self-addressed, stamped envelope with your assignment when handing in to the professor.
- Posting of grades will be at the discretion of each Professor and, if posted, they will be scrambled. Grades will **not** be available at Geography's main office.

Contact Information for Student and Faculty Representation

- SU VP Academic Phone: 220-3911 and e-mail: suvpaca@ucalgary.ca
- SU Faculty Rep. Phone: 220-3913 and e-mail: socialscirep@su.ucalgary.ca

Campus Safewalk

Campus Security, in partnership with the Students' Union, provides the Safewalk service, 24 hours a day, to any location on Campus including the LRT, parking lots, bus zones and University residences. Contact Campus Security at 220-5333 or use a help phone, and Safewalkers or a Campus Security officer will accompany you to your Campus destination.