

**ADVANCED PHYSICAL CLIMATOLOGY
EARTH & ENVIR SC - 4C03/6C03
Term 2, Winter Session, 2017-18**

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Objectives: This course covers the basics of energy and mass exchange processes in the near subsurface layer, the lower atmosphere and at the earth surface-atmosphere interface. Topics covered include:

- Basic concepts in sub-surface climates
- Energy and water budgets near the surface
- Precipitation processes
- Surface evaporation processes
- Boundary layer turbulence
- Surface processes at the lakes and oceans

The course will comprise a series of lectures, labs and a review paper on a relevant topic.

Textbooks: Terrestrial Hydrometeorology. W. James Shuttleworth, Wiley-Blackwell
ISBN 978-0-470-65937-3

Prerequisites: One of EARTH SC 2C03, 2W03, ENVIR SC 2C03, 2W03

Grading:

Lab assignments	15% (3 @ 5% each)
Midterm exam	20%
Written paper	15%
Final exam	50%

SUBMISSION OF ASSIGNMENTS:

Submit assignments on the specified due date in the course designated drop box at the 2nd floor in SGES. Write your name, student ID number, course name (Earth/Envirsc Sc 4C03), assignment number, due date on the first page of your assignment.

MISSING OR LATE WORK:

In the event of an absence for medical or other reasons, students should review and follow the Academic Regulation in the Undergraduate Calendar "Requests for Relief for Missed Academic Term Work". MSAF forms are available in MOSAIC Student Center (in the drop down menu under Academics)

Marks of a missed exam will be adjusted in another exam. If you missed a lab then only extension in its submission date will be granted. Missed lab work cannot be adjusted in other labs. Late assignments, without justification, will be penalized by deducting 10% of the marks.

ACCOMMODATIONS FOR STUDENTS WITH DISABILITIES:

Students with disabilities may receive accommodations to assist them in the completion of their assignments and exams. Please contact the Centre for Student Development (MUSC lower level) and the instructor as soon as possible if you require assistance.

ACADEMIC DISHONESTY:

You are expected to exhibit honesty and use ethical behaviour in all aspects of the learning process. Academic credentials you earn are rooted in principles of honesty and academic integrity. Academic dishonesty consists of misrepresentation by deception or by other fraudulent means and can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: "Grade of F assigned for academic dishonesty"), and/or suspension or expulsion from the university. It is your responsibility to understand what constitutes academic dishonesty. For information on the various kinds of academic dishonesty please refer to the Academic Integrity Policy available at:

<https://www.mcmaster.ca/academicintegrity/>

The following illustrates only three forms of academic dishonesty:

- *Plagiarism (e.g. submission of work that is not one's own or for which other credit has been obtained)*
- *Improper collaboration in group-work*
- *Copying or using unauthorized aids in tests and examinations*

COURSE MODIFICATION:

The instructor and university reserve the right to modify elements of the course during the term. The university may change the dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on changes. It is the responsibility of the student to check their McMaster email and course websites weekly during the term and to note any changes.