

## **COURSE SYLLABUS**

---

**COURSE INSTRUCTOR:** C.T. Smith  
Professor and Dean Emeritus

Office: 3038 ESC (Earth Sciences Centre), 33 Willcocks St.  
Email: [tat.smith@utoronto.ca](mailto:tat.smith@utoronto.ca)  
Phone: 416-978-4638  
Office hours: 4-5 pm, Thursday

**TEACHING ASSISTANTS:** Ayana Aden and Serra Buchanan  
Department of Geography

Email: [ayana.aden@mail.utoronto.ca](mailto:ayana.aden@mail.utoronto.ca), [serrawillow.buchanan@mail.utoronto.ca](mailto:serrawillow.buchanan@mail.utoronto.ca)

Office hours: by request

## **COURSE INFORMATION**

---

**COURSE TIME AND LOCATION:** 5:00 – 7:00 p.m. Tuesday  
Sidney Smith Hall 1070

**DESCRIPTION:** Introduction to soil science dealing with the chemical, physical, and biological properties of soils; soil formation and development; the classification of soils, and the application of soil science to land use, environmental quality, global change, and sustainable development.

**RECOMMENDED PREPARATION:** CHM137Y1/(CHM138H1, CHM139H1); GGR100H1

**FIELD TRIP:** Saturday, 3 October (all day)

**REQUIRED TEXT:** Nyle C. Brady and Ray R. Weil. 2010. *Elements of the Nature and Properties of Soils, Third Edition*. Prentice Hall, NJ.

The text will be available at the Uof T bookstore, and a copy will be placed on reserve at the Earth Sciences (Noranda) library. Additional articles and materials will be available through Blackboard.

The text is also available in eText format on the Pearson web site.

## **SUPPLEMENTARY**

**MATERIAL:** The Canadian System of Soil Classification, 3<sup>rd</sup> Edition. Agriculture and Agri-Food Canada Publication 1646. (1998). ISBN 0-600-17404-9. Available online at: <http://sis.agr.gc.ca/cansis/taxa/cssc3/index.html>

**COURSE** Course materials will be posted to a Blackboard-based site  
**WEB SITE:** throughout the semester. Students in the class are encouraged to attend Blackboard training.

## **COURSE ASSESSMENT**

---

**ASSESSMENT:** The course grade will be based on the following.

Assignments (3)	20% (6.67% each)
Field report	20% (incl. 5% for draft submission)
Mid-term examination	25%
Final examination	35%

**Assignments (3):** Assignments will be explained during class time (see below) before they are due, and will be due in-class, at the beginning of class. The goals of the assignments are to help students synthesize information presented in class and in readings, interpret the results of experiments, and do basic analyses of data. Graded assignments will be returned in class.

Assignment 1 (6.67%):	Assigned 6 October, due 13 October
Assignment 2 (6.67%):	Assigned 27 October, due 3 November
Assignment 3 (6.67%):	Assigned 1 December, due 8 December

**Field report (20%):** The field trip on 3 October will be located on the Oak Ridges Moraine (Joker's Hill) and Holland Marsh and designed to: (1) give students hands-on experience in describing soils in the field; (2) describe the importance of glacial geological history, landscape position, and land use history in soil quality; and (3) discuss the influence of these factors on environmental quality and sustainable development. More details will be forthcoming. Trip cost will be approx. \$20 per person, payable the morning of departure, details to be confirmed. A field report, described in additional handouts, will be due on 1 December. A draft submission of section 1 of the report will be submitted on 27 October. Two workshops will be scheduled (7 p.m. on 6 October & 5 p.m. on 8 October; 7 p.m. on 17 November & 5 p.m. on 19 November) with the overall objective of instruction on excellence in writing the Field Trip report.

**Midterm exam (25%):** The midterm exam will be given in class on Tuesday, 20 October and will cover all course material (lectures, readings) from 15 September - 13 October. It will include multiple choice and short-answer questions.

**Final exam (35%):** The final exam will take place during the scheduled exam period (TBA in December) and will cover lecture and reading material from the entire term, although more emphasis will be placed on material covered after the midterm exam. It will include multiple choice questions.

## COURSE POLICIES

---

### **Late assignments and missed examinations:**

Assignments are due in-class, at the beginning of the class time. Late assignments will receive a deduction of 10% per day (including assignments submitted after the beginning of class on the day due; weekend days count as two late days), and will not be accepted after the Monday following the class. Late assignments should be submitted to the GGR front office (Sid Smith Hall 5047) where they will be date-stamped at 5 p.m. (note: the office closes at 5 pm sharp).

If you require accommodation for late submission of assignments or a missed midterm examination, you must inform your instructor by email within 24 hours of the due date of the assignment or missed test. In addition, you must also submit University accepted medical or other documentation, in person, to the Department of Geography *within 5 calendar days* for missed assignments or midterm examination. See section "Missed Term Test" here: [http://www.artsandscience.utoronto.ca/ofr/calendar/Rules\\_&\\_Regulations.html](http://www.artsandscience.utoronto.ca/ofr/calendar/Rules_&_Regulations.html).

Medical Certificates or Doctor's Notes *must* be an original U of T Student Medical Certificate (available from the Office of the Registrar's web site) and *must* include the statement "This Student was unable to write the test on date(s) for medical reasons". Documentation *must* show that the physician was consulted within *one* day of the test. A statement merely confirming a report of illness made by the student is *not* acceptable. Failure to comply with this policy will result in a grade of zero for the assignment or midterm in question. Deferred final exams are dealt with by the Registrar's office of your college. For students with a documented absence due to a medical condition or other serious event who miss the midterm exam, the final exam will be re-weighted to 60% (*i.e.* there will be no makeup test). For students with a documented absence due to a medical condition or other serious event who are unable to submit an assignment within 6 days, the other assignments will be re-weighted on a pro rata basis.

**Procedures for remark requests:** Students must submit remarking requests no later than two weeks after the marked work has been returned. Please note the FAS Calendar now indicates that requests for term-work remarking that go beyond the instructor (e.g., to Undergrad Chair) may only be made for assignments or tests worth at least 20% of the course final grade.

**Communication and email:** You are encouraged to ask questions in class and during office hours. To avoid inadvertent loss through spam- filtering, all e-mails must be from a U of T account, include GGR205 in the subject heading, and your full name in the text. The instructor and TA will respond as soon as possible. Questions that require extensive responses should be asked during office hours or in class, not via email.

**Academic integrity:** Academic integrity is fundamental to learning and scholarship at the University of Toronto. Participating honestly, respectfully, responsibly, and fairly in this academic community ensures that the U of T degree that you earn will be valued as a true indication of your individual academic achievement, and will continue to receive the respect and recognition it deserves. Please visit: [www.artsci.utoronto.ca/osai/students](http://www.artsci.utoronto.ca/osai/students) .

Familiarize yourself with the University of Toronto's Code of Behaviour on Academic Matters (<http://www.governingcouncil.utoronto.ca/policies/behaveac.htm>). It is the rule book for academic behaviour at the U of T, and you are expected to know the rules. Potential offences include, but are not limited to:

In papers and assignments:

- Using someone else's ideas or words without appropriate acknowledgement.
- Copying material word-for-word from a source (including lecture and study group notes) and not placing the words within quotation marks.

- Submitting your own work in more than one course without the permission of the instructor.
- Making up sources or facts.
- Including references to sources that you did not use.
- Obtaining or providing unauthorized assistance on any assignment including
  - working in groups on assignments that are supposed to be individual work,
  - having someone rewrite or add material to your work while “editing”.
- Lending your work to a classmate who submits it as his/her own without your permission.

On tests and exams:

- Using or possessing any unauthorized aid, including a cell phone.
- Looking at someone else’s answers
- Letting someone else look at your answers.
- Misrepresenting your identity.
- Submitting an altered test for re-grading.

Misrepresentation:

- Falsifying or altering any documentation required by the University, including doctor’s notes.
- Falsifying institutional documents or grades.

**Accessibility:** The University of Toronto is committed to accessibility. Students requiring accommodation are encouraged to discuss their needs with the instructor within the first two weeks of class, including provision for example of volunteer note-takers, access to classroom, etc., and should register with Accessibility Services (<http://www.accessibility.utoronto.ca/>; Robarts Library, 1st floor; 215 Huron Street, 9th Floor, Room 939).

**Accommodations for religious observances:** Please alert the instructor at least 2 weeks in advance if assignment due dates or examinations conflict with religious holidays, so alternate arrangements can be made.

**Class conduct:** Respectful behaviour towards instructors and your classmates is mandatory during class and in all correspondences dealing with the course. This includes arriving in class on time, not talking during lectures, and turning off cell phones.

*Students are responsible for knowing the content of the syllabus*

## COURSE SCHEDULE

---

Please read the chapters (Brady and Weil 2010) associated with the lectures before class. Other suggested readings for class will be posted on Blackboard by Thursdays, the week before class.

15 Sept	Course overview INTRODUCTION (Chapter 1)
22 Sept	ORIGIN OF SOILS (Chapter 2)
29 Sept	SOIL TAXONOMY (Chapter 3)
3 Oct	All-day field trip
6 Oct	SOIL ARCHITECTURE AND PHYSICAL PROPERTIES (Chapter 4 and 7 plus parts of 14*)
6&8 Oct	Workshop: Field Trip Report – Expectations, academic research and excellence in writing.
13 Oct	SOIL WATER AND HYDROLOGY (Chapter 5 and 6 plus parts of 14*) <b>Assignment 1 due in class</b>
20 Oct	<b>Midterm examination</b>
27 Oct	SOIL CHEMICAL PROPERTIES (Chapter 8 and 9) <b>Draft of Field Trip Report section 1 due</b>
3 Nov	SOIL BIOLOGICAL PROPERTIES AND ORGANIC MATTER (Chapter 10 and 11) <b>Assignment 2 due in class</b>
10 Nov	Fall Break (no class)
17 Nov	NUTRIENT CYCLING AND SOIL FERTILITY (Chapter 12)
17&19 Nov	<b>Workshop:</b> Field Trip Report – Discussion of section 1 drafts and excellence in writing
24 Nov	SOIL-PLANT RELATIONSHIPS (Chapter 13)
1 Dec	SOILS AND THE URBAN ENVIRONMENT (Chapter 15) <b>Field trip report due</b>
8 Dec	SUSTAINABLE LAND AND ECOSYSTEM MANAGEMENT (T.B.A.) <b>Assignment 3 due in class</b>

\* In chapter 14, focus on sections 14.1-14.5, 14.11-14.12 and 14.14 (pp. 499-513, 524-528 and 513-533).