



Course Outline

ENVIRONMENTAL TECHNOLOGY

SOILS 210A
Introduction to Soil Science and Soil Resources
Fall 2014

3 CREDITS
3 HOURS LECTURE, 3 HOURS LAB PER WEEK

INSTRUCTOR: Dr. David Smith

INSTRUCTOR: David Smith
PHONE NUMBER: (780) 791-4997
E-MAIL: David.Smith@keyano.ca
OFFICE NUMBER: S209B
OFFICE HOURS: Monday and Tuesday: 12:00 – 12:50 PM
Wednesday to Friday: 11:00 – 11:50 AM

HOURS OF INSTRUCTION: Lecture:
Monday 1:00 – 1:50 PM room S210
Wednesday 12:00 – 12:50 PM room S110
Thursday 12:00 – 12:50 PM room S212
Laboratory:
Tuesday 2:00 – 4:50 PM room S114

COURSE DESCRIPTION:

An examination of the elementary aspects of soil formation, soil occurrence in natural landscapes, soil classification, soil resource inventory, basic morphological, biological, chemical and physical characteristics employed in the identification of soils and predictions of their performance in both managed and natural landscapes.

PRE-REQUISITE(S):

Must have completed a university-level course in life or natural sciences. A university-level chemistry course is strongly recommended.

COURSE OUTCOMES:

The student will be able to:

- Recognize physical properties and functions of soils in relation to other components of the environment.
- Analyze the factors of soil formation and processes of soil development that lead to differences in soils in our environment.
- Use techniques of soil sampling, identification and measurement of soil properties
- Classify soils using the Canadian System of Soil Classification.
- Apply the knowledge gained in sustainable soil management.

REQUIRED RESOURCES:

1. Neil C. Brady and Ray R. Weil. 2010. Elements of the Nature and Properties of Soils. Nyle C. 3rd Edition. Prentice Hall, New Jersey.
2. Thien, S.J. and J.G. Graveel. 2003. Soil Science. Agricultural and Environmental Principles. Kendall/Hunt Publishing. Dubuque, Iowa.
3. The Canadian System of Soil Classification, 3rd edition <http://sis.agr.gc.ca/cansis/taxa/cssc3/index.html>

TOPICS TO BE COVERED:

Please Note:

This course outline may be modified to facilitate unforeseen time constraints. Date and time allotted to each topic is subject to change.

LECTURES AND LABORATORIES, SOILS 210, FALL 2014

All lab assignments will be due 1 week after the lab

Week of Sep 1	Introduction, Chapter 1	NO LAB
Week of Sep 8	Soil formation, Chapter 2	Introduction – LAB 1 Soil as a natural resource
Week of Sep 15	Soil classification, Chapter 3	Field Lab – Regosolic Soil Order
Week of Sep 22	Soil classification, Chapter 3	Field Lab – Luvisolic Soil Order
Week of Sep 29	Soil architecture, Chapter 4	Field Lab – Brunisolic Soil Order
Week of Oct 6	Soil architecture, Chapter 4	Field Lab – Organic Soil Order
Week of Oct 13	Soil water, Chapter 5	LAB 2 – Soil texture
Week of Oct 20	Soil aeration and temperature, Chapter 7	LAB 3 Particle size distribution
Week of Oct 27	Soil colloids, Chapter 8	LAB 4 Bulk density and soil porosity
Week of Nov 3	Soil chemistry, Chapter 9	LAB 5 Soil water content
Week of Nov 10	Soil ecology, Chapter 10	LAB 15 Soil survey reports
Week of Nov 17	Organic matter and fertility, Chapters 11 and 12	LAB review session
Week of Nov 24	Erosion, Chapter 14	Oral presentations, written reports due
Week of Dec 1	Soil quality and pollution, Chapter 15	NO LAB

EVALUATION:

Assignment	Percentage	Week of
Assignments (Labs) 10@2.5%	25%	Due one week after lab
Midterm	25%	October 14
Written report and oral presentation	15%	November 25
Final Examination	35%	December 9

GRADING SYSTEM:

Letter Grade	Description	Grade Points
A+		4
A	Excellent	4
A-		3.7
B+		3.3
B	Good	3
B-		2.7
C+		2.3
C	Satisfactory	2
C-		1.7
D+		1.3
D	Minimal Pass	1
F	Failure	0

Students intending to transfer to other institutions should strive for a 'C-' as a minimum. Transfer information on each course is available at the [Alberta Council on Admission and Transfers](#).

NOTES:

Please dress appropriately for the weather on any field trips! Proper footwear is important. If the weather does not co-operate, the lab schedule will shift.

Individual components of the course will be given a numerical mark. The grading system will be applied using a combination of absolute achievement and relative standing in the class.

MISSED TERM EXAM OR LABS:

A student who cannot write a term examination or complete a lab assignment due to incapacitating illness, severe domestic affliction or other compelling reasons can apply to have the weight of the missed midterm transferred to the final. All attempts should be made to make up missed labs. Missed labs with no attempts to complete the work will be assigned a "0". You must notify the instructor of a missed midterm or lab assignment within 48 hours. Deferral of term work is a privilege and not a right; there is no guarantee that a deferral will be granted. Misrepresentation of Facts to gain a deferral is a serious breach of the Code of Student Behaviour.

CELL PHONES: Cell phones and other electronic devices are to be turned off during class times. If you need to use one, leave the room. If you have to text someone, leave the room.

SKILL CENTRE: Students who require additional help in developing strategies for better time management, study skills or examination skills should contact the Keyano College Skill Centre.

Note: Recording is permitted only with the prior written consent of the instructor or if recording is part of an approved accommodation plan.

Students should consult:

<http://www.keyano.ca/Academics/Examinations>

IMPORTANT DATES:

September 2, 2014	First day of classes
October 10, 2014	Last day to withdraw with a refund (50%).
November 26, 2014	Courses dropped after this date will be designated "W". (A withdrawal (W) is not reflected in your GPA.
December 5, 2014	Last day of classes
December 8-17, 2014	Final Exams

COLLEGE POLICIES

Equality, Equity and Respect

The Keyano College is committed to providing an environment of equality, equity and respect for all people within the College community. All members of this community are considered partners in developing teaching and learning contexts that are welcoming to all. Faculty, staff, and students are encouraged to use inclusive language to create a classroom atmosphere in which students' experiences and views are treated with equal respect and valued in relation to their gender, ethnic and cultural background, and sexual orientation.

Students should consult:

<http://www.keyano.ca/StudentLife/StudentConduct/IndividualRightsPolicy>

Plagiarism and Cheating

Every student expects to be treated and evaluated fairly in a course. Plagiarism and cheating robs everyone of this right.

- No student may submit words, ideas or data of another student or person as his or her own in any writing, project, assignment, quiz, electronic presentation, exam etc. Any work used that is not the student's own must be clearly cited as belonging to someone else. There are penalties for using other's work and not citing it. The Student's Rights & Responsibilities document clearly outlines these penalties and the appeal process.
- No learner can obtain information from another student during an exam.
- No learner can bring unauthorized information (paper or electronic) into an exam or quiz.
- No student can submit work done in another course for grading in this course without the written prior approval of the course instructor.
- No student can submit copyright protected or commercially produced materials as part or all of an assignment without proper citation & permission.

Student Rights & Responsibilities

Students should consult the Keyano College Credit Calendar or online at:

<http://www.keyano.ca/Academics/CreditCalendar>

Specialized Supports and Duty to Accommodate

Disability Support Services: Learner Assistance Program

If you have a documented disability or you think that you would benefit from some assistance from a Disabilities Counsellor, please call or visit the Disability Supports Office 780-792-5608 to book an appointment (across from the library). Services and accommodations are intended to assist you in your program of study, while maintaining the academic standards of Keyano College. We can be of assistance to you in disclosing your disability to your instructor, providing accommodations, and supporting your overall success at Keyano College.

Specialized Supports and Duty to Accommodate

Specialized Support and Duty to Accommodate are aligned with the office of Disability Support Services: Learner Assistance Program (LAP) guided by federal and provincial human rights legislation, and defined by a number of Keyano College policies. Keyano College is obligated by legislation to provide disability-related accommodations to students with identified disabilities to the point of undue hardship.



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**3 CREDITS
3 hours lecture, 3 hours laboratory**

David Smith, Instructor

Date

Reviewed and approved by:

Louis Dingley, Chair

Date

Guy Harmer, Dean

Date