Course Outline

SOILS 210 Introduction to Soil Science and Soil Resources
3 credits. 3 hours lecture and 3 hours lab per week

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.

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

Instructor Contact

Instructor: Dr. Marie-France Jones
Office location: S209E
Phone number: 780-791-8957
email: marie-france.jones@keyano.ca

Office Hours

Monday	2:00 – 3:00 PM
Tuesday	10:00 – 11:30 AM
Thursday	10:00 – 11:30 AM
Friday	2:00 – 3:00 PM

Hours of Instruction

Lecture	Monday, Friday	10:30 – 11:50 am	S210
Laboratory	Wednesday	9:00 – 11:50 am	S114

Required Resources

- Brady and Weil. 2018. Elements of the Nature and Properties of Soils, 4th Edition, Pearson. ISBN-13: 9780133254594
- Laboratory field manual will be provided as a PDF on the course iLearn website. Purchase hard copy from bookstore for use in the field.
- **Full outdoor apparel for fall and winter weather, including suitable footwear.**

Course Outcomes

Upon successful completion of this course, 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.

Proposed Schedule of Topics

Week	Lectures	Labs
1	Introduction	Introduction, Soil as a Natural Resource
2	Soil Formation	Field Lab 1
3	Soil Classification	Field Lab 2
4	Soil Architecture	Field Lab 3
5	Soil Water	Field Lab 4
6	Hydrological Cycle	Field Lab 5
7	Soil Aeration & Temperature	Field Lab Exam
8	Soil Colloids	Indoor Lab 1: Soil pH and EC
9	Soil Chemistry	Indoor Lab 2: Soil Texture
10	Soil Ecology	Indoor Lab 3: Soil Moisture Content & Organic Matter
11	Soil Organic Matter	No Labs (Reading Break)
12	Nutrient Cycles and Soil Fertility	Research Paper
13	Soil Erosion	
14	Soils and Chemical Pollution	

Please Note:
Date and time allotted to each topic is subject to change.

Evaluation

Lab Assignments	25%
Research Paper	10%
Weekly Quizzes	10%
Field Lab Midterm (Oct 12)	10%
Midterm Exams (Oct 4, Nov 1)	20%
Final Exam	25%
Total	100%

A grade of C- is required for progression or transfer.

Assignments, labs, and projects are expected to be handed in during class time on the assigned due dates. All lab assignments will be due 1 week after the lab. Late assignments will receive a grade of zero. Extensions are available if requested prior to the due date.

Students are required to attend __all__ labs unless excused for valid reasons. Unexcused absence from any lab period or failure to submit a lab report may result in your being assessed a failing grade for the lab. Absence from more than any two (2) laboratory periods for any reason may also result in a failing grade in the course.

Grading System

Descriptor	Alpha Grade	4.0 Scale	Percent	Rubric for Letter Grades
Excellent	A+	4.0	> 92.9	Work shows in-depth and critical analysis, well developed ideas, creativity, excellent writing, clarity and proper format.
	A	4.0	85 – 92.9	
	A-	3.7	80 – 84.9	
Good	B+	3.3	77 – 79.9	Work is generally of high quality, well developed, well written, has clarity, and uses proper format.
	B	3.0	74 – 76.9	
	B-	2.7	70 – 73.9	
Satisfactory **Progression**	C+	2.3	67 – 69.9	Work has some developed ideas but needs more attention to clarity, style and formatting.
	C	2.0	64 – 66.9	
	C-	1.7	60 – 63.9	
Poor **Minimum Pass**	D+	1.3	55 – 59.9	Work is completed in a general way with minimal support or is poorly written or did not use proper format.
	D	1.0	50 – 54.9	
Failure	F	0.0	< 50	Responses fail to demonstrate appropriate understanding or are fundamentally incomplete.

Laboratory Safety

Students must complete the WHMIS for Students online training course on Moodle before entering the science laboratories.

Students must comply with the mandatory laboratory safety rules for this course as provided in the laboratory manual. Failure to do so will result in progressive discipline such as a verbal warning, refused entry into the laboratory, or suspension from the College.

Before entering the lab, students are responsible reviewing the lab manual and relevant Safety Data Sheets for the purpose of evaluating risks associated to health. Some hazards used in the laboratory may have additional risks to those with pre-existing medical conditions.

Performance Requirements and Student Services

Student Responsibilities

As a student, it is your responsibility to contact the Office of the Registrar to complete the required forms, including the Withdraw Course or Program or a Change of Registration form. Please refer to the important dates listed in the Academic Schedule in the Keyano College credit calendar. The Keyano College credit calendar also has information about Student Rights and the Code of Conduct. It is the responsibility of each student to be aware of the guidelines outlined in the Student Rights and the Code of Conduct Policies.

Student Attendance

Class attendance is helpful for two reasons: First, class attendance maximizes a student's learning experience. Second, attending class is an excellent way to keep informed of matters relating to the course administration (e.g., the timing of assignments and exams). Ultimately, you are responsible for your learning and performance in this course. It is the responsibility of each student to be prepared for all classes. Absent students are responsible for the material covered in those classes, and students must ensure they are ready for their next class, including completing any missed assignments and notes.

Academic Misconduct

Students are considered responsible adults and should adhere to the principles of intellectual integrity. Intellectual dishonesty takes many forms:
- Plagiarism or the submission of another person's work as their own,
- The use of unauthorized aids in assignments or examinations (cheating),
- Collusion or the unauthorized collaboration with others in preparing work,
- The deliberate misrepresentation of qualifications,
- The willful distortion of results or data,
- Substitution in an examination by another person,
- Submitting unchanged work for another assignment, and
- Breach of confidentiality.

The consequences for academic misconduct range from a verbal reprimand to expulsion from the College. More specific descriptions and details are found in the Student Rights and Code of Conduct section of the Keyano College credit calendar. It is the responsibility of each student to be aware of the guidelines outlined in the Student Rights and Code of Conduct Policies. To ensure your understanding of plagiarism, you may be required to complete the online Understanding Plagiarism tutorial and submit the certificate of completion.

Online Learning

Technology and internet connectivity will impact your online learning experience. You may be required to watch online videos, take online quizzes, or participate in live online classes. Live/virtual courses will be hosted in Microsoft Teams or Zoom. For all course delivery types, you will access your course resources on Keyano's learning management system: Moodle (iLearn). Login in using your Keyano username and password. Keyano College operates in a Windows-based environment and having access to the correct tools for online learning is essential. Here's a list of recommended system requirements.

Internet Speed

Minimum download and upload speeds of 10 Mbps. Recommended download speeds of 25 Mbps and upload speeds of 10 Mbps (if you are sharing your internet at home). You can check your internet speed with Speedtest by Ookla.

Computer System Requirements

Microsoft Windows	Apple (Mac)

Minimum Requirements:
1. Windows 10 Operating System or above
2. 4GB of RAM
3. 10GB available hard drive storage space
    a. Install the Microsoft Office 365 suite (~3GB) *
4. Microphone, webcam, and speakers (All modern laptops have these three accessories built-in.)
5. Windows has built-in anti-virus/malware software. It is essential to install system updates to keep your device secured regularly.
*Microsoft Office 365 is free to Keyano students.
	Minimum Requirements:
	1. Mac Operating System 10.14 (Monterey) or above
	2. 4GB of RAM
	3. 10GB available hard drive storage space
	    a. Install the Microsoft Office 365 suite (~3GB) *
	4. Microphone, webcam, and speakers (All modern laptops have these three accessories built-in.)
	5. Mac has built-in anti-virus/malware software. It is important to install system updates to keep your device secured regularly.
	*Microsoft office 365 is free to Keyano students.

Recommended Upgrades • 8GB of RAM • Regularly back up or synchronize your files, locally or with a cloud-based storage option. OneDrive is the cloud-based storage option free to students after the setup of KeyanoMail and Microsoft 365.	**Recommended Upgrades** • 8GB of RAM • Regularly back up or synchronize your files locally or with a cloud-based storage option. OneDrive is the cloud-based storage option free to students after the setup of KeyanoMail and Microsoft 365.
Tablets, iPads, and Chromebooks are **not** recommended: they may not be compatible with the testing lockdown browsers and Microsoft Office 365.	

Specific Department Requirements

Business and OA programs require Windows 10.
Other programs may utilize Windows-based tools as well.

Computer Software

Students have access to Microsoft Office 365 and Read&Write for free using Keyano credentials.

Recording of Lectures and Intellectual Property

Students may only record a lecture if explicit permission is provided by the instructor or Accessibility Services. Even if students have permission to record a lecture or lecture materials, students may not share, distribute, or publish any of the lectures or course materials; this includes any recordings, slides, instructor notes, etc., on any platform. Thus, no student is allowed to share, distribute, publish or sell course-related content without permission. It is important to recognize that the Canadian Copyright Act contains provisions for intellectual property. The Academic Integrity Policy provides additional information on Keyano College's expectations from students as members of the intellectual community.

ITS Helpdesk

If you have issues with your student account, you can contact the ITS Helpdesk by emailing its.helpdesk@keyano.ca or calling 780-791-4965.

COVID-19 We are subject to provincial, and municipal bylaws, and policies. These decisions may change pending further direction from the Alberta Chief Medical Officer, Alberta Health Services, and other provincial guidelines. To protect yourself and others, get immunized, wash your hands, wear a mask, keep your distance (2m/6 ft) and remain home when feeling unwell. For the most recent COVID-19 information, please refer to albertahealthservices.ca/COVID.

Specialized Supports The Student Services Department is committed to Keyano students and their academic success. There is a variety of student support available at Keyano. All student services are available during Keyano business hours: Monday to Friday, 8:30 a.m. to 4:30 p.m. The College is closed on statutory holidays. If you require support outside of regular business hours, please inform the support service team, and they will do their best to accommodate your needs.

Accessibility Services provides accommodations for students living with disabilities. Students with documented disabilities or who suspect a disability can meet with an Access Strategist to discuss their current learning barriers and possible accommodations. Students who have accessed accommodations in the past are encouraged to contact the department to request accommodations for the following semester. Please note that requesting accommodations is a process and requires time to arrange. Contact the department as soon as you know you may require accommodations. For accessibility supports and disability-based funding, please book an appointment by emailing us at: accessibility.services@keyano.ca.

Accessibility Services also provides individual and group learning strategy instruction for all students and technology training and support to enhance learning. You can meet with an Access Strategist to learn studying and test-taking strategies. In addition, you can schedule an appointment with the Assistive Technology Specialist to explore technology tools for learning. Book an appointment today by emailing: accessibility.services@keyano.ca

Wellness Services offers a caring, inclusive, and respectful environment where students can access free group and individual support to meet academic and life challenges. Mental Health Coordinators provide a safe and confidential environment for you to seek help with personal concerns. Our Wellness Navigator offers support with basic needs such as housing, financial and nutritional support, and outside referrals when needed. Wellness Services welcomes students to participate in group sessions that address topics including mindfulness and test anxiety throughout the academic year. Individual appointments can be made by emailing wellness.services@keyano.ca.

Library Services: provides students with research, information, and education technology supports as they engage in their studies. Library staff are available to help you online and in person throughout the semester. Librarians offer individual and small group appointments booked using the online Book A Librarian calendar. The Library also provides research and subject guides to help you with your studies. To view a subject or course-specific guide, check out the complete list of online Subject Guides. To start your research and access citation guides (APA, MLA, Chicago, or IEEE), visit the Research Help page. The Library's collections (including print and online materials) are searchable using OneSearch. The Library offers a Loanable Technology collection to support students accessing and using technology. For an up-to-date list of technology available for borrowing, visit the Library's Loanable Technology webpage. For a detailed list of library resources and services, go to www.keyano.ca/library. For all inquiries, please email askthelibrary@keyano.ca or chat with us online.

Academic Success Centre: The Academic Success Centre at Keyano College (CC-119) provides **free** academic support services to registered students, such as tutoring, writing support, facilitated study groups, workshops, and study space. Academic Content Specialists are available in Mathematics, Science, Trades, Power Engineering, Upgrading/College Prep, Human Services, English, Humanities, and more. Students are encouraged to visit the Academic Success Centre to discuss study strategies and academic concerns. For additional information, please email Academic.Success@keyano.ca.

Academic Success Coach: The Academic Success Coach is located in the Academic Success Centre and works with students to develop academic success plans, time management skills, study strategies, and homework plans. For additional information, please email Academic.Success@keyano.ca.