

OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

Note: The University reserves the right to amend course outlines as needed without notice.

Course Code and Number: AGRI 311		Number of Credits: 3 Course credit policy (105)													
Course Full Title: Sustainable Soil Management Course Short Title: Sustainable Soil Management															
Faculty: Faculty of Science		Department (or program if no department): Agriculture Technology													
Calendar Description: Agricultural management impacts soil quality. This course presents current concepts to assess, protect, and enhance the health and productivity of soils and the delivery of soil ecosystem services in socio-economic and cultural contexts. Note: Field trips outside of class time will be required. Please check with the department for details.															
Prerequisites (or NONE):		AGRI 204.													
Corequisites (if applicable, or NONE):		None.													
Pre/corequisites (if applicable, or NONE):		None.													
Antirequisite Courses <i>(Cannot be taken for additional credit.)</i> Former course code/number: AGRI 211 Cross-listed with: Equivalent course(s): <i>(If offered in the previous five years, antirequisite course(s) will be included in the calendar description as a note that students with credit for the antirequisite course(s) cannot take this course for further credit.)</i>		Course Details Special Topics course: No <i>(If yes, the course will be offered under different letter designations representing different topics.)</i> Directed Study course: No <i>(See policy 207 for more information.)</i> Grading System: Letter grades Delivery Mode: Face-to-face only Expected frequency: Annually Maximum enrolment (for information only): 25													
Typical Structure of Instructional Hours <table border="1"> <tr> <td>Lecture/seminar</td> <td>39</td> </tr> <tr> <td>Experiential (field trip)</td> <td>6</td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td></td> <td></td> </tr> <tr> <td>Total hours</td> <td>45</td> </tr> </table>		Lecture/seminar	39	Experiential (field trip)	6							Total hours	45	Prior Learning Assessment and Recognition (PLAR) PLAR is available for this course.	
Lecture/seminar	39														
Experiential (field trip)	6														
Total hours	45														
Scheduled Laboratory Hours Labs to be scheduled independent of lecture hours: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes		Transfer Credit <i>(See bctransferguide.ca.)</i> Transfer credit already exists: Yes Submit outline for (re)articulation: Yes <i>(If yes, fill in transfer credit form.)</i>													
Department approval		Date of meeting: November 2022													
Faculty Council approval		Date of meeting: December 2, 2022													
Undergraduate Education Committee (UEC) approval		Date of meeting: April 21, 2022													

Learning Outcomes *(These should contribute to students' ability to meet program outcomes and thus Institutional Learning Outcomes.)*

Upon successful completion of this course, students will be able to:

1. Assess and describe soil properties in the field.
2. Classify and interpret the role of soils in a specific environment.
3. Retrieve and use soil information from a variety of sources.
4. Identify soil health hazards and develop preventive measures.
5. Critically discuss new and traditional concepts of soil health, including indigenous soil health care practices.
6. Explain impact of land use and management decisions on agricultural productivity, land degradation and soil ecosystem services.
7. Summarise the relationship of soil management to government and private sector policies.
8. Describe the impact of soils on the climate.

Recommended Evaluation Methods and Weighting *(Evaluation should align to learning outcomes.)*

Assignments:	50%	Quizzes/tests:	50%	%
	%		%	%

Details:

Assignments:

Soil profile project: 40%

Field trip assignments: 10%

NOTE: The following sections may vary by instructor. Please see course syllabus available from the instructor.

Texts and Resource Materials *(Include online resources and Indigenous knowledge sources. [Open Educational Resources](#) (OER) should be included whenever possible. If more space is required, use the [Supplemental Texts and Resource Materials form](#).)*

Type	Author or description	Title and publication/access details	Year
1. Textbook	Magdof, Fred and Harold van Es	Building Soils for Better Crops (https://www.sare.org/resources/building-soils-for-better-crops/)	2021
4. Textbook		Land Capability Classification for Agriculture in BC	
5.			

Required Additional Supplies and Materials *(Software, hardware, tools, specialized clothing, etc.)*

Simple calculator; transportation to field trips; lab coat.

Course Content and Topics

- Key concepts of soil science
- Risks of soil nutrient management
- Nitrogen cycling and behavior
- Phosphorus and potassium cycling and behavior
- Canadian soil classification system, FAO WRB, US soil taxonomy
- Forms of erosion
- Salinization, acidification, soil compaction, soil contamination
- Land capability classification for agriculture in BC
- New and traditional concepts of soil health; management for carbon sequestration; regenerative agricultural practices and precision farming