ACKNOWLEDGEMENT

UBC's Point Grey Campus is located on the traditional, ancestral, and unceded territory of the xwməθkwəy̓əm (Musqueam) people. The land it is situated on has always been a place of learning for the Musqueam people, who for millennia have passed on their culture, history, and traditions from one generation to the next on this site.

COURSE INFORMATION

Course Title	Course Code Number	Credit Value
Introduction to Agroecology	APBI 260	6

PREREQUISITES

There are no prerequisites for this course

CONTACTS

Course Instructor(s)	Contact Details	Office Location	Office Hours
Dr. Sean Smukler	Please use Canvas to contact the instructor or use Piazza to ask the instructional staff questions.	123 MacMillan	Scheduled by appointment either in person or by Zoom (primarily 12:00 -2:30 pm Thursdays). Appointments should be scheduled through Calendly: 15 minutes: 30 minutes:

OTHER INSTRUCTIONAL STAFF

This course has six teaching assistants that lead field labs, help lead discussions and mark assignments. If you have questions about the assignments or marks, please contact the instructor.

SCHEDULE OF COURSE ACTIVITIES

- Lecture 11:00 am – 12:00 pm Mondays and Wednesdays in MacLeod 3014
- Labs 1:00 pm – 4:00 pm Mondays at the UBC Farm
- Problem-based learning discussions 1:00 pm – 4:00 pm Wednesdays in Henry Angus 295

LEARNING OUTCOMES

General Course Learning Outcomes: This course offers a wide range of learning opportunities but relies heavily on self-directed learning. This means students are largely in control of what they learn. Through the various learning component of the course, by the end of the semester, it is expected that students will have achieved the outcomes outlined in Table 1.

TABLE 1. LEARNING OUTCOMES BROKEN DOWN BY THE VARIOUS COURSE ACTIVITIES

Learning Outcomes	Lecture	Home work	Lab	Problem Based Learning	Group Projects
1. Defined, described and applied basic ecological principles as they apply to agroecosystems	✓	✓	✓	✓	✓
2. Identified and described the structures (biotic and abiotic) and ecological functions (energy flow, nutrient cycling) of select agroecosystems	✓	✓	✓	✓	✓
3. Discussed the impacts and interrelationships between agricultural systems and associated ecosystems e.g. impacts of how land is used	✓	✓	✓	✓	✓
4. Described basic principles of genetic resource management in agroecosystems	✓	✓	✓	✓	✓
5. Identified holistic relationships between the major ecological, social and economic factors affecting agroecosystem sustainability (especially for the agroecosystems studied in this course)	✓	✓	✓	✓	✓
6. Discussed and applied agroecological principles to selected agroecosystems to assess their sustainability and make suggestions for enhanced sustainability	✓	✓	✓	✓	✓
7. Demonstrated critical-thinking and problem-solving skills, including an ability to access, retrieve evaluate and utilize relevant information from a wide range of sources including primary and secondary scientific literature sources, and also from practical observations (experience) from farmers, agrologists, elders, youth and other students.		✓	✓	✓	✓
8. Improved your ability: to work efficiently in teams; to develop/ask questions to address relevant problems; and to independently research information that effectively addresses these problems.		✓	✓	✓	✓
9. Effectively and professionally communicated information in both written and spoken English using a variety of methods (writing, speaking and/or non-verbal forms of communication)		✓	✓	✓	✓
10. Demonstrated an ability to reflect on and connect hands-on (real-life) experiences to more theoretical learning, to develop your sense of social responsibility and leadership skills			✓	✓	✓
11. Interacted respectfully with others in our community-of-learners, including colleagues, instructors, farmers and other guests and community members.			✓	✓	✓

COURSE STRUCTURE

The course is divided into three modules designed to introduce the students to increasingly complex concepts of agroecology and spatial scales using a systems approach. Over the semester students will be introduce to a wide range of concepts and technical skills and activities to help them begin to develop their written and oral communication skills. The course entails a diversity of pedogeological approaches with assignments designed to deconstruct the steps required to deliver actionable scientific information to decision-makers and land managers (Figure 1).

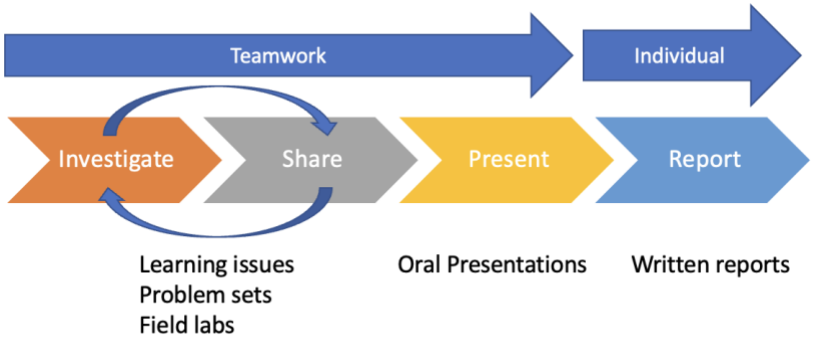

FIGURE 1 THE STEPS FOR DEVELOPING EFFECTIVE COMMUNICATION WITH DECISION-MAKERS AND LAND MANAGERS

Students will participate in lectures, field labs, and PBL discussions. Outside of the classroom students will work in teams or as individuals to complete assignments designed to make connections among the three in-class learning modes. The PBL discussions provide the students with opportunities to discuss and research case studies corresponding to each of these levels of complexity and scale. The lab is designed to enable the students to learn field techniques, observe first-hand the concepts that are discussed in class and develop an understanding of the scientific method.

LEARNING ACTIVITIES

Students are expected to **actively participate** in lectures, field labs, and PBL discussions. Students will benefit from familiarizing themselves with the reading assigned before participating in the lectures and are expected to read the "essential" assigned reading. During lectures, students will be given the opportunity to respond to questions in teams and earn participation points.

Details of each assignment including due dates can be found on Canvas in the calendar and online syllabus. Each week, students will be expected to investigate learning issues, prepare a learning issues report, write a brief lab report and complete a problem set. Problem sets are questions that will be answered online in Canvas based on information provided in the lecture and the reading. These problem sets can be worked on in groups, but the specific questions (and answers) are individualized for each user and will be marked for each student. At the end of modules one and two, students are expected to prepare a presentation as a group and then individually give the presentation and submit a report. Throughout the semester students will be collecting agroecological data at the UBC farm in labs guided by teaching assistants. At the end of the semester, students will analyze this data as a group and then write a final project report that synthesizes the results of two of the labs of their choice on their own. Detailed rubrics for all written materials will be included as part of the PBL case notes and can be found on Canvas.

EXPECTED EFFORT

This course is 6 credits (roughly the equivalent of two courses) and requires participation in all the learning activities including lectures, field labs, and PBL discussions. These activities are all closely integrated along with the readings, learning issues, presentations, reports, and problem sets. It is expected that students will spend around two hours working on their own or in teams for every hour of contact time based on the breakdown shown in Table 2.

Table 2. Average hours of effort by activity per week

Activity	Location	Hrs per week
Lecture	In class	2
PBL	In class	3
Lab	In class	3
Problem set	At home	1
Learning Issues	At home	2
Reading	At home	1
Lab reports	At home	1
Reports	At home	2
	Total	**15**

LEARNING MATERIALS

1. Gliessman, S.R. 2014. Agroecology – The Ecology of Sustainable Food Systems. Third Edition. Boca Raton: CRC Press LLC, Taylor and Francis Group. ISBN 9781439895610 – CAT# K14240. The textbook is available in the UBC Bookstore or an e-text book and can be purchased or rented from CRC press or Amazon.
2. Rite in the Rain waterproof field notebook.

LEARNING TOOLS

Canvas: Canvas will be the primary management platform for the class. Through Canvas students will be able to view all the assignments and associated rubrics, submit their work and see their marks. Many of the files used in the class are stored in online folders accessible through Canvas links.

Piazza: Rather than emailing questions to the teaching staff, students are encouraged to post their questions on Piazza. If students have any problems or feedback for the developers, email team@piazza.com. Find our class signup link at:

Turnitin: Before submitting reports, students are expected to run their work through the Turnitin plagiarism checker and submit their *similarity report* along with their written report. Similarity reports above 30% will warrant follow-up with the instructor. To use Turnitin students will need to visit the website at https://www.turnitin.com and enter the class ID: and enrollment key: to enroll.

iClicker Cloud: Active participation is a critical aspect of this course and a sizable portion of the student's total marks. Participation in lectures, labs and PBL will be assessed through iClicker Cloud. For instructions on using iClicker Cloud please refer to: https://lthub.ubc.ca/guides/iclicker-cloud-student-guide/#faq

iPeer: Learning to be an effective participant in group work can be enhanced through feedback from the

group. We will use iPeer at the end of each of the three modules to enable students to provide feedback to their peers. Students will be directed to fill out a survey when they submit their case reports by logging into iPeer at: https://ipeer.elearning.ubc.ca/

ASSESSMENTS OF LEARNING

Students who attend and actively participate in lectures, field labs, and PBL discussions and complete all the assignments will achieve all the learning outcomes of the course to some degree. Many of the learning objectives related to "soft skills" are challenging to mark, therefore students are encouraged to reflect on their learning beyond the marks they receive. The final mark for the course will be determined as a percentage of points achieved out of 500 points. Students can track their points in Canvas and calculate their percentage given each module is roughly one-third of the total points.

Student participation will be evaluated for group assignments based on discussion attendance, instructor observation and peer evaluation. Assignments, their due date and time, their rubric and marks will be posted in Canvas. Late assignments will be marked down by 10% for every 24-hour period past the due date and time. The course has many activities/assignments, but the course is designed to give students some agency as to which activities/assignments they complete based on their interests, and schedule. This leaves some flexibility for unanticipated life events (e.g. getting sick, family issues). Students are expected to be as strategic (see Table 3) as possible to anticipate the unexpected. Additional accommodations will only be considered in *extremely* rare situations or with documentation from the Centre for Accessibility.

Late Report Accommodations: Each student is given two "get out of jail free (GOOJF) cards" for the semester. Each "card" will enable the student up to 24 hours of late submission for their three written reports. Students can use one or both GOOJFs for any of the three reports. Students should upload an MS Word document to the "GOOJF Card" assignment in Canvas indicating which report they are using the "card" for BEFORE the assignment is due otherwise the card is not valid.

Other Assignment Accommodations: Students are expected to submit 4 out of the 6 learning issues, 8 out of the 10 problem sets and 7 of the 9 lab reports. The highest scores for each assignment will be used in the calculation of the final mark.

TABLE 3. THE POINT BREAKDOWN FOR ASSIGNMENTS IS AS FOLLOWS:

Assignments	Total Possible	Required	Points per Assignment	Total Points	Percent of total
Knowledge assessments	2	2	5	10	2%
Participation in lectures, labs and PBL	50	40	1	40	8%
Learning Issues (LI)	6	4	10	40	8%
Problem Sets	10	8	10	80	16%
Case Presentations	2	2	30	60	12%
Lab reports	9	7	10	70	14%
Case Final Reports	2	2	50	100	20%
Project Final Report	1	1	100	100	20%
			Total	**500**	**100%**

EXTRA CREDIT

Extra credit can be earned in a variety of ways. Up to 50 points of extra credit (10%) can be earned throughout the semester up to 475 points, whichever comes first.

- Current event article related to weekly course topic posted to the discussion board and presented in class 1 pt each up to 10 pts
- Beneficial Management Practice (BMP) fact sheet 10 pts each up to 20 pts
- Field trip report 20 pts
- The first person to contact the instructor with a correct identification of a mistake in the problem sets 1 pt each up to 10 pts.

HEALTH AND SAFETY

Our number one priority for this class is the health and safety of the students. For our in-person meetings in this class, it is important that all of us feel as comfortable as possible engaging in class activities while sharing an indoor space. Non-medical masks that cover our noses and mouths are a primary tool to make it harder for Covid-19 to find a new host. Students are encouraged to wear a non-medical mask during our class meetings, for their own protection, and the safety and comfort of everyone else in the class. If you have not yet had a chance to get vaccinated against Covid-19, vaccines are available to you, for free. The higher the rate of vaccination in our community overall, the lower the chance of spreading this virus. You are an important part of this community. Please arrange to get vaccinated if you have not already done so.

If you feel sick, please do not hesitate to stay home to care for yourself and protect others. The course has been designed in a variety of ways to ensure that students who choose to stay home are not penalized. The following are ways that will enable students to miss multiple days of the course without penalty:

- Lecture notes will be made available online prior to the lecture
- Students who are sick may contact the instructor to participate in PBL discussions remotely
- Students can choose to opt out of a reasonable percentage of the assignments
- Students can earn up to 10% of their mark through extra credit

UNIVERSITY POLICIES

UBC provides resources to support student learning and to maintain healthy lifestyles but recognizes that sometimes crises arise and so there are additional resources to access including those for survivors of sexual violence. UBC values respect for the person and ideas of all members of the academic community. Harassment and discrimination are not tolerated nor is suppression of academic freedom. UBC provides appropriate accommodation for students with disabilities and for religious observances. UBC values academic honesty and students are expected to acknowledge the ideas generated by others and to uphold the highest academic standards in all of their actions.

Details of the policies and how to access support are available on **the UBC Senate website.**

Academic Dishonesty: It is important to understand UBC's policies on academic conduct. Cheating, plagiarism, and other forms of academic misconduct are taken very seriously at UBC and in this course. Turnitin is utilized to assess plagiarism and anything over 20% similarity will be flagged and reported. In all cases of suspected academic misconduct, the parties involved will be pursued to the fullest extent dictated by the guidelines of the University. For details on University policies and procedures, please see the section on Academic Misconduct in the Campus-wide Policies and Regulations located in the UBC Calendar (http://students.ubc.ca/calendar)

LEARNING ANALYTICS

Learning analytics includes the collection and analysis of data about learners to improve teaching and learning. This course will be using the following learning technologies: Canvas, Turnitin, iClicker Cloud and iPeer. Many of these tools capture data about your activity and provide information that can be used to improve the quality of teaching and learning. In this course, I plan to use analytics data to:

- View overall class progress
- Review statistics on course content being accessed to support improvements in the course
- Track participation in discussion forums
- Assess your participation in discussions

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