

Key Indicators of Sustainability: APBI 361 (3 credits)

Winter Term II Course Description and Learning Outcomes

This e-learning DE&T course integrates general knowledge in biological sciences and social sciences to explore qualities and measurements of agricultural sustainability, including farming families and consumer communities. The approach is both practical and conceptual, emphasizing and developing the students' critical thinking and initiative to apply concepts in practice and as a response to policy. The course discusses both conventional and organic agriculture, with real-life examples from both. Sustainable policy initiatives are analyzed critically as well as urban-rural links, prairie agriculture, certification standards and environmental farm planning, all from multiple perspectives and on different scales.

After completing this course, students will be able to:

- Explain and discuss quantitative and qualitative indicators of sustainability in conventional and organic agriculture in order to assess the direction and degree of sustainability of a farm or a farming system;
- Examine and appraise indicators of sustainable soil, water, and biodiversity management in agroecosystems;
- Discuss the roles and functions of animals in sustainable agricultural systems;
- Identify and assess qualities of economic sustainability in example agroecosystems and how it is affected by external forces;
- Describe agroecosystem management and relate it to social, economic, and political indicators of sustainability, including equity and community development;
- Submit written position statements and analyses about agricultural sustainability;
- Utilize electronic resources effectively;
- Interact effectively with other students on the internet.

The course consists of four modules with 4-5 units each. Academic credit students take them all. This course is a required course for Applied Biology students in the program entitled "Food and the Environment". There is no prerequisite for this course, and it is open to students in all other programs. Continuing education students take module #1 and can thereafter register for any of modules #2-4.

Each module requires 20-30 hours of student work. A module runs for 2-3 weeks at a preset time during the term (see Calendar). There are 3 online discussions (18%), written assignments (20%), 2 quizzes online (25%) and an online final exam (37%).

The course is offered online with the instructor as a facilitator/evaluator and with the students taking initiative and being responsible for their learning. Substantial interaction between students on the discussion forum is expected. All student contributions are expected to be original and to follow the rules of academic integrity: <http://learningcommons.ubc.ca/get-study-help/academic-integrity/>.

The four modules and their units are:

1. Module One: What is Sustainability and How Do We Measure It?
 - Unit 1: How to Define and Measure Sustainability
 - Unit 2: What Needs To Be Sustained?
 - Unit 3: Reaction
 - Unit 4: Food For Thought
2. Module Two: What's Ticking on the Prairies?
 - Unit 1: Prairie Ecology and How Agriculture Has Changed It
 - Unit 2: Soil Risks and Indicators
 - Unit 3: Proposed Remedies
 - Unit 4: Carbon Footprints of Prairie Agroecosystems

- Unit 5: Discussion Assignment: Prairie Soil Sustainability Remedies and Indicators
- Unit 6: Food for Thought
- 3. Module Three: Environmental Farm Planning
 - Unit 1: Prevention is the Best Policy
 - Unit 2: What is Environmental Farm Planning (EFP)?
 - Unit 3: Discussion Assignment
 - Unit 4: How Does EFP Differ When Poultry Are Integrated into Mixed Farming Systems?
 - Unit 5: Food for Thought
- 4. Module Four: The Debate Over Organic Standards
 - Unit 1: Certified Organic Social Movement & Conventionalization Debate
 - Unit 2: Discussion Assignment: Who wins with third party certification?
 - Unit 3: Beyond Organic...
 - Unit 4: Written Assignment: Opinion Editorial - Certified Organic and Beyond.
 - Unit 5: Certifying Sustainability: Does Certified Organic Meet the Standard?