

Sustainable Agriculture

ICTC's WIL Digital Sustainable Agriculture e-learning course provides a foundational understanding of various aspects of sustainable agriculture, including best practices, Agribusiness, and Agroecology. It will help post-secondary students gain an understanding about associated businesses and technologies, and how to develop business cases to support sustainable agriculture. This course is designed to help develop and prepare the next generation of the agricultural workforce.

Modules		Lessons	Learning Objectives	
Module 1	Introduction to Sustainable Agriculture	<ul style="list-style-type: none"> • Introduction to Sustainable Agriculture • Sustainable Agriculture and Greenhouse Gases • The Interconnectedness of Agricultural Systems and Economy • History of Sustainable Agriculture • Sustainable Agriculture Practices in Canada • Canadian Policy on Sustainable Agriculture • Key Issues and Current Cultural Significance 	<ul style="list-style-type: none"> • Define sustainable and sustainable agriculture • Discuss the importance of sustainable agriculture • Identify the three pillars of sustainability • Identify the sources of greenhouse gases emissions in agriculture • Discuss sustainable agriculture's role in reducing emissions 	Padlet Discussion & Quiz
Module 2	Agribusiness	<ul style="list-style-type: none"> • Introduction to Agribusiness • Farm Agriculture Management • Mini-Case Study • Initiatives for a Sustainable Food System 	<ul style="list-style-type: none"> • Describe the general agribusiness market and examples of agribusinesses • Explain the business structures of farm and agricultural management • Analyze how different agribusinesses are connected and work together 	Padlet Discussion & Quiz
Module 3	Agri-Food Technology	<ul style="list-style-type: none"> • Introduction to Agri-Food Technology • Key Terms in Agri-Food Technology • Opportunities and Challenges Associated with Agri-Food Technology • Snapshots: Agri-Food Technologies at Work • Vignettes: Canadian Efforts to Advance Agri-Food Technology Research & Development • Core Technical Competencies 	<ul style="list-style-type: none"> • Define and explain some key terms in agri-food technology • Identify the opportunities and challenges in agri-food technology • Demonstrate an understanding of some agri-food technologies • Give examples of how some Canadian-based companies are working to advance agri-food technology research and development • Identify key technical competencies required in agri-food technology 	Padlet Discussion & Quiz
Module 4	Agroecology	<ul style="list-style-type: none"> • Introduction to Agroecology • Ecological Goods and Services (EG&S) • Vignettes: Agroecological Initiatives in Canada • Indigenous Agriculture in Canada 	<ul style="list-style-type: none"> • Describe the relationship between agriculture and ecosystem resources • Identify how beneficial management practices agriculture contribute to ecosystem processes • Discuss the role of Indigenous people in Canadian agriculture 	Padlet Discussion & Assessment

Module 5	Food Security	<ul style="list-style-type: none"> • Introduction to Food Security • Climate Change and Food Security • Food Policy in Canada • Key Global Initiatives 	<ul style="list-style-type: none"> • Describe food security and why it's important • Explain the role of sustainable agriculture in food security • Recognize the history of food policy in Canada • Identify key global initiatives to improve sustainability in agriculture • Discuss the impact of agriculture on health, nutrition, and well-being 	Padlet Discussion & Assessment
Module 6	Agriculture and Net Zero	<ul style="list-style-type: none"> • Introduction to Net Zero • The Role of Sustainable Agriculture in Supporting and Achieving Net Zero Goals • Projects and Initiatives to Achieve Net Zero 	<ul style="list-style-type: none"> • Define net zero and what it means in the global context • Recognize the Canadian policies around net zero • Describe the role of sustainable agriculture in supporting and achieving net-zero goals • Identify 2-3 projects or initiatives to achieve net zero 	Padlet Discussion & Assessment
Module 7	Sustainable Agriculture Labour Market	<ul style="list-style-type: none"> • Overview of In-Demand Jobs Across Sectors • Skills Needed to Work in Sustainable Agriculture • Common Education and Credentialing Pathways • Practical Approaches to Pathways to Employment 	<ul style="list-style-type: none"> • Identify the diverse types of in-demand jobs across the sectors • Describe key careers in sustainable agriculture • Discuss the technical and human skills required for the sustainable agriculture sector • Recognize the practical approaches for pathways to employment 	Padlet Discussion & Assessment
Module 8	Sustainable Agriculture Business Plans	<ul style="list-style-type: none"> • Introduction to Business Plans • Key Sections in a Business Plan • Creating a Business Plan • Ensuring Your Business Plan is Sustainable and Still Profitable 	<ul style="list-style-type: none"> • Explain what a business plan is and why it is important • Discuss the steps required to develop an agriculture business plan • Describe the requirements for a business plan to be sustainable • Identify practices that can be adopted to better integrate sustainability into a farm operation • Identify financial costs and benefits of a sustainable agriculture business 	Assessment

Funded by the
Government
of Canada



The Information and Communications Technology Council (ICTC) is a neutral, not-for-profit national centre of expertise with the mission of strengthening Canada's digital advantage in the global economy.