



Please Note: This *Class Syllabus* is an important step in updating the format of our distance classes. If for any reason the *Class Syllabus* does not match the online class information, the *Class Syllabus* shall be taken as correct.

CLASS SYLLABUS

COURSE TITLE:	Vegetable Production	TERM:	Fall 2017
COURSE CODE:	HORT 20	DELIVERY:	Online
COURSE SECTION:	W01 or W05	START DATE:	Sept. 18, 2017
		END DATE:	Nov. 25, 2017

Course Description

The official course description and prerequisites are in the U of S Course and Program Catalogue available at <http://www.usask.ca/calendar/coursecat/>

Course Learning Outcomes

By the end of this class, students should be able to:

1. Classify vegetables according to various criteria.
2. Identify the ways in which the environment impacts vegetable production.
3. Explain the ways the farmer can modify the growing conditions to maximize crop production.
4. Develop an enterprise budget for various vegetable crops.
5. Use a variety of resources to determine current market value information for vegetable crops.
6. Identify the advantages and disadvantages of various marketing options.
7. Determine the suitability of a vegetable enterprise for a given management context.

Course Overview

This course provides an overview of the principles and practices involved in the production, management, and marketing of vegetables on the Canadian Prairies. It examines how

management interacts with the environment in conventional as well as non-conventional ways to produce vegetables profitably.

In addition to examining the individual crops that can be successfully produced on the Prairies, this course will outline some of the broader considerations that must be kept in mind when developing a vegetable enterprise, whether on a large or small scale. Topics like soil, climatic requirements, fertilizers and pesticides, harvesting, storage, and marketing will be considered at length. Assignments will seek to provide you with the opportunity to apply and integrate these aspects in ways that are at once challenging and practical.

Your Instructor

Tyler Guerrieri

Contact Information

Email: atg356@mail.usask.ca

Students should expect a reply within 24 hours.

Course updates and announcements will be sent out in Blackboard.

Office Hours

I am available by email (24-hour reply time) and chat in Blackboard (by appointment).

Profile

An avid gardener, academic, and lifelong student of agriculture, I completed an Agriculture Diploma program in 2005, a B.Sc. Ag. in 2008, and an M.Sc. in Plant Science in 2011. Throughout my studies, I have worked with various agricultural research programs at the University of Manitoba and went on to work in the public sector at Agriculture Canada's wheat breeding program. My academic experience and early career focused on field crop production; however, horticulture and vegetable production have been a subject of great personal interest to me, and the focus of much self-directed study. A few years ago, I took advantage of an opportunity to change career directions and pursue vegetable production with the goal of being self-employed as a producer. Since then I have spent my growing seasons working with small farms in Manitoba and British Columbia, producing a wide variety of vegetable crops and sessional instructing during the winters.

As a scientist and farmer, I'm passionate about agriculture and the social, economic, and environmental benefits that good farming practises produce. As a teacher, I enjoy sharing my knowledge and ideas with others, and I value the lessons I learn from my students in return. Agriculture is an applied science; hence, teaching it requires a firm understanding of the underlying scientific principles of chemistry, biology, and ecology to name a few. However, it is also highly contextual, changing greatly with region, soil type, climate, local policies, regulations, and culture. I feel that presenting topics in agriculture to students in the appropriate context is key to your learning success and your ability to reapply these concepts yourself in the future.

Required Resources

Readings/Textbooks

Howard, R. J., Garland, J. A., & Seaman, W. L. (Eds.). (1994). *Diseases and pests of vegetable crops in Canada: An illustrated compendium*. Canadian Phytopathological Society.

Available at: <https://phytopath.ca/wp-content/uploads/2015/03/Diseases-and-Pests-of-Vegetable-Crops-in-Canada.pdf> [free download]

Mobile Access

Blackboard Mobile Learn™ is an app that is available on many devices including iOS® and Android™ for those occasional times when you may want mobile access. It is still recommended that you use a laptop or desktop computer for the majority of your online studies.

Supplementary Resources

See the modules in Blackboard.

Class Schedule

Week	Module	Readings	Evaluation Due Date
Weeks 1 - 2 September 18 – October 1	Module 1 Introduction to Vegetable Production	<p>Sanchez, Elsa S. & Ferretti, Petter A. (September 21, 2002). <i>Seasonal Classification of Vegetables</i>. Penn State Extension Services. http://extension.psu.edu/plants/gardening/fact-sheets/vegetable-gardening/seasonal-classification-of-vegetables [for Learning Activity 1-1]</p> <p>Nickel, Rod & Williams, Nia. (February 26, 2016). "Canadian Farmers Return to Growing Vegetables, Fruits as Low Loonie Lifts Prices." <i>Financial Post</i>. http://business.financialpost.com/news/agriculture/canadian-farmers-return-to-growing-vegetables-fruits-as-low-loonie-lifts-prices</p> <p>Statistics Canada. (February 2012). <i>Fruit and Vegetable Production</i> (Cat. 22-003-X). Ottawa, ON: Author. http://www.statcan.gc.ca/pub/22-003-x/22-003-x2011002-eng.pdf [Read pp. 5, 6, 10-16, 22-24, 27, 33-35]</p>	<p>Introductory Post (not evaluated)</p> <p>Due September 22, 2017</p> <p>Discussion Forum</p> <p>Due September 29</p>

		<p>Moore-Gough, C. & Gough, R. E. (May 2009). <i>Planting a Successful Home Vegetable Garden</i>. MontGuide 199502AG. Montana State University Extension. [for Learning Activity 1-2; PDF in Blackboard]</p> <p>Wikipedia.org. <i>Chicago Board of Trade</i>. https://en.wikipedia.org/wiki/Chicago_Board_of_Trade [for Learning Activity 1-4]</p> <p>Calgary ShawTV. (August 28, 2013). <i>Shirley's Greenhouses</i>. [video] https://www.youtube.com/watch?v=OMIWMMTFE-l&feature=youtu.be Length: 8:00 [for Learning Activity 1-5]</p>	
<p>Weeks 3 – 4</p> <p>October 2 – October 15</p>	<p>Module 2</p> <p>Site Selection and Modification</p>	<p>Agricultural Capability Maps on Google Earth Pro [for Learning Activity 2-1]</p> <ul style="list-style-type: none"> • Agricultural Capability Maps. http://sis.agr.gc.ca/cansis/publications/maps/index.html • Google Earth Pro. https://www.google.ca/earth/download/gep/agree.html <p>Last Spring Frost Maps [for Learning Activity 2-2]</p> <ul style="list-style-type: none"> • Alberta – Freezing date probabilities – http://www1.agric.gov.ab.ca/\$department/deptdocs.nsf/all/agdex10 • Saskatchewan – SCIC Maps - http://www.saskcropinsurance.com/resources/maps/last-spring-frost-map • Manitoba - Agricultural Climate of Manitoba https://www.gov.mb.ca/agriculture/weather/agricultural-climate-of-mb.html -summary-of-all-maps 	<p>Discussion Forum</p> <p>Due October 15</p>

		<p>Ronald, J., ed. (1994). <i>Diseases and Pests of Vegetable Crops in Canada: An Illustrated Compendium</i>. Canadian Phytopathological Society. http://phytopath.ca/wp-content/uploads/2015/03/Diseases-and-Pests-of-Vegetable-Crops-in-Canada.pdf [Free downloadable textbook; pp. 202-209 for Learning Activity 2-3; pp. 590-601 for Self-Test]</p> <p>Gabe Brown: <i>Keys to building a healthy soil</i>. (December 8, 2014). Idaho Center for sustainable Agriculture. [video]. https://youtu.be/9yPjoh9YJMK [for Learning Activity 2-4] Length: 58:52.</p> <p>Shelterbelt Planning and Establishment. (2015). Agriculture & Agri-Food Canada. http://www.agr.gc.ca/eng/science-and-innovation/agricultural-practices/agroforestry/shelterbelt-planning-and-establishment/?id=1344636433852 [For Learning Activity 2-5]</p> <p>Canada Land Inventory [for Self-Test]</p> <ul style="list-style-type: none"> • Canada Land Inventory (CLI) Overview – Agriculture & Agri-Food Canada http://sis.agr.gc.ca/cansis/nsdb/cli/clasdesc.html • Canadian Land Inventory (CLI) website. http://sis.agr.gc.ca/cansis/nsdb/cli/index.html • Canada Land Inventory Capability for Agriculture. Map of Saskatoon, Saskatchewan. 1:250,000 Scale. http://sis.agr.gc.ca/cansis/publications/maps/cli/250k/agr/cli_250k_agr_73b.jpg 	
<p>Week 5 October 16 - 22</p>	<p>Module 3 Crop Management</p>	<p>Hoorman, J.J., Sundermeier, A. & Reender, R. (2009). Using cover crops to convert to no-till. <i>Crops & Soils</i>, (pp. 9-13). <u>[PDF in Blackboard for Learning Activity 3-1]</u></p>	<p>Assignment 1 Due October 16 by 4 p.m. local time</p>

	<p>Midterm Exam</p>	<p>Seeded Legume Cover Crops for Late Season Production. http://www.umanitoba.ca/outreach/natural_agriculture/articles/seededcover.html</p> <p>Seefeldt, S. Commercial Agriculture Development - Procedures for the Wet Paper Towel Germination Test. http://www.uaf.edu/files/ces/publications-db/catalog/anr/FGV-00249.pdf</p> <p>Shared Legacy. (April 15, 2014) <i>How a vacuum seeder works</i>. [video] https://youtu.be/siuY7120YQ4 Length: 2:00</p> <p>City of Holland. (October 23, 2014) <i>Planting 55,000 tulips at Windmill Island</i>. [video] https://vimeo.com/109854102 Length: 1:40</p> <p>Ski Hearth Farm. (June 10, 2014) <i>Water Wheel Transplanter In Action</i>. [video] https://youtu.be/6r1ynDPNYLo Length 0:45</p> <p>Mts1150. (January 8, 2015). <i>Mechanical Transplanter Model 1000</i>. [video] https://youtu.be/QbcnSzfxORw Length 2:43</p> <p>Juandev. (August 2011). Drip Irrigation of Strawberries. [video]. https://commons.wikimedia.org/wiki/File:Drip_irrigation.ogv Length: 0:32</p> <p>Schere, T. (2015) <i>Selecting a Sprinkler Irrigation System</i>. [PDF in Blackboard for Learning Activity 3-4]</p> <p>Lamont, W. J. (Jr.), Orzolek, M. D., Harper, J. K., Kime, L. F., Jarrett, A. R. (2012). <i>Drip Irrigation for Vegetable Production</i>. Penn State Extension Service. Available at: http://extension.psu.edu/business/ag-alternatives/horticulture/horticultural-production-options/drip-irrigation-for-vegetable-production [for Learning Activity 3-5]</p>	<p>Midterm Exam</p> <p>Date: October 21-22</p> <p>Discussion Forum</p> <p>Due October 22</p>
Week 7	Module 4	Government of Manitoba. (2017). <i>Potato</i>	Discussion

October 30 – November 5	Harvesting, Marketing, and Storage	<p><i>Small Grower Exemption Order (The Farm Products Marketing Act)</i>. http://web2.gov.mb.ca/laws/regs/current/pdf-regs.php?reg=54/2011 [for Learning Activity 4-1]</p> <p>Agriculture and Agri-Food Canada, Infohort. (2016). <i>Horticulture Wholesale Price Reports</i>. Ottawa, ON: Author. https://infohort.agr.gc.ca/IH5_Reports/wholesalePriceReports.xhtml?lang=e&ref=wholesale_price_reports&pageMenuId=IH1000 [for Learning Activity 4-2 and Self-Test]</p> <p>United States Department of Agriculture, Agricultural Marketing Service. <i>Specialty Crops</i>. https://www.ams.usda.gov/market-news/fruits-vegetables [for Learning Activity 4-2]</p> <p><i>The Real Canadian Superstore – Fruits & Vegetables</i>. https://www.realcanadiansuperstore.ca/Food/Fruits-%26-Vegetables/c/RCSS001001000000 [for Learning Activity 4-2]</p> <p>Sargent, S. (March 2000). <i>Ripening Tomatoes with Ethylene</i>. University of Florida Extension, Institute of Food and Agricultural Sciences. [PDF in Blackboard; for Learning Activity 4-3]</p> <p>Government of Canada, Canadian Food Inspection Agency. (Last modified 2011-04-05). <i>Vegetable Inspection Manuals – Carrots</i>. Available at: http://www.inspection.gc.ca/food/fresh-fruits-and-vegetables/quality-inspection/vegetable-inspection-manuals/carrots/eng/1303762739912/1303762802189 [for Learning Activity 4-4]</p> <p>Howard, R. J., Garland, J. A., & Seaman, W. L. (Eds.). (1994). <i>Diseases and Pests of Vegetable Crops in Canada: An Illustrated Compendium</i>. Canadian Phytopathological Society. Available at: http://phytopath.ca/wp-content/uploads/2015/03/Diseases-and-</p>	Forum Due November 5
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		Pests-of-Vegetable-Crops-in-Canada.pdf [Free downloadable textbook; pp. 185-188 for Self-Test]	
Week 8 Nov 6 - 12	Module 5 Crop Production Practices	<p>Howard, R. J., Garland, J. A., & Seaman, W. L. (Eds.). (1994). <i>Diseases and Pests of Vegetable Crops in Canada: An Illustrated Compendium</i>. Canadian Phytopathological Society. http://phytopath.ca/wp-content/uploads/2015/03/Diseases-and-Pests-of-Vegetable-Crops-in-Canada.pdf [Free downloadable textbook for the following Learning Activities:</p> <p><i>Onions – Vegetable Inspection Manual</i>. Canadian Food Inspection Agency. http://www.inspection.gc.ca/food/fresh-fruits-and-vegetables/quality-inspection/vegetable-inspection-manuals/onions/eng/1303758727333/1303758985347 [for Learning Activity 5-3]</p> <p>Bachmann, J and Earles, R. (2000). Post Harvest Handling of Fruits and Vegetables. https://attra.ncat.org/attra-pub/summaries/summary.php?pub=378 [for Learning Activity 5-8]</p> <p><i>Article #1844 How to Ripen Green Tomatoes</i>. (2016, October 12). Planttalk Colorado - Colorado State University Extension, Denver Botanic Gardens, and the Green Industries of Colorado. http://planttalk.colostate.edu/topics/vegetables/1844-ripen-green-tomatoes/ [for Learning Activity 5-13]</p> <p>Norfolk County Tourism – Ontario South Coast. (2013, January 25). <i>Sweet Corn – Picking – Packing – Norfolk County</i>. [video]. https://youtu.be/9UWKq6-MZkQ Length: 10:05. [for Learning Activity 5-15]</p>	Discussion Forum Due November 12
Week 9 November 13 - 19	Module 6 Budgeting	<p>Weins, K. (2015). <i>New High-Tech Farm Equipment Is a Nightmare for Farmers</i>. Wired. Available at: https://www.wired.com/2015/02/new-high-tech-farm-equipment-nightmare-farmers/ [for Learning Activity 6-1]</p> <p><i>Farm Workers Factsheet</i>. (July 2016). British</p>	Assignment 2 (due at end of Module 6) Due: November 19 by 4 p.m.

		<p>Columbia Employment Standards. Available at: http://www2.gov.bc.ca/gov/content/employment-business/employment-standards-advice/employment-standards/factsheets/farm-workers [for Learning Activity 6-2]</p> <p>Billikopf, G. (January 30, 2008). <i>Designing an Effective Piece Rate</i>. Agricultural Labor Management, University of California Berkley. Available at: http://nature.berkeley.edu/ucce50/ag-labor/7research/7calag06.htm [for Learning Activity 6-2]</p> <p>Statistics Canada – CANSIM. (January 31, 2017). <i>Table 001-0013 Area, production and farmgate value of vegetables – Annual</i>. Available at: http://www5.statcan.gc.ca/cansim/a26?lang=eng&retrLang=eng&id=0010013&pattern=vegetables&tabMode=dataTable&srcHLan=-1&p1=1&p2=-1 [For Learning Activity 6-3]</p> <p><i>Farmplan 2.0 XP – Loan Calculator</i>. Manitoba Agriculture – Financial Management – Farm Software and Worksheets. Available at: https://www.gov.mb.ca/agriculture/business-and-economics/financial-management/pubs/software_farmplan_loancalculator.xls [for Learning Activity 6-4]</p>	local time
Week 10 November 20 - 24		Studying for Final Exam	
	FINAL EXAM		Saturday, November 25, 2017

Note: If for any reason the Class Syllabus Reading List does not match the Module Reading List, the Class Syllabus shall be taken as correct.

Grading Scheme

Assignment	%
Assignment 1: Assessment of Vegetable Crops	10%
Discussion Forums	10%
Midterm Exam	20%
Assignment 2: Crop Enterprise Budgets	25%
Final Exam	35%
Total	100%

Information on literal descriptors for grading at the University of Saskatchewan can be found at: <https://students.usask.ca/academics/grading/grading-system.php>

Please note: There are different literal descriptors for undergraduate and graduate students.

More information on the Academic Courses Policy on course delivery, examinations and assessment of student learning can be found at: <http://policies.usask.ca/policies/academic-affairs/academic-courses.php>

The University of Saskatchewan Learning Charter is intended to define aspirations about the learning experience that the University aims to provide, and the roles to be played in realizing these aspirations by students, instructors and the institution. A copy of the Learning Charter can be found at: <http://policies.usask.ca/documents/LearningCharter.pdf>

Evaluation Components

DEU Writing Centre - Quality writing help for free!

Anyone taking a distance class administered by the DEU can use this free service. The Writing Centre provides tools and support to help you write effective essays, reports, or reviews. Simply submit a project draft, and a qualified tutor will assess your work and offer advice to improve your project. Contact the DEU Writing Centre at <http://www.ccde.usask.ca/writing>

Assignment 1: Assessment of Vegetable Crops

Value: See Grading Scheme

Due Date: See Class Schedule

Purpose: This assignment asks you to assess your own farm or horticultural business to determine the potential of producing vegetables as a viable crop. You can also assume that you do have land, preferably land you are somewhat familiar with. Alternatively, you may either complete one of the 3 case studies, or you may make arrangements with a local business to use their business as the subject of the case study. You are required to select up to three vegetable crops and develop a profile of the crops that will enable you to decide which crops best suit your operation.

Description: See Assignments in Blackboard for details.

Discussion Forums

Value: See Grading Scheme

Due Date: See Class Schedule

Purpose: The purpose of the discussions is to encourage reflection and sharing of ideas centered on the topics specific to each module.

Description: Students are required to make one original content (O.C.) post **per** topic and reply to one post of someone else.

Posts and replies should be of sufficient length to contribute value to the conversation, i.e. “I agree” is not an acceptable reply as it does not make a substantial contribution to the conversation.

Please conduct yourself with respect for yourself and others in the Discussion Forum.

Midterm Exam

Value: See Grading Scheme

Date: See Class Schedule

Length: 2 hours

Purpose: The Midterm Exam covers Modules 1-3. The questions will focus on the content of the modules and will not include Supplementary Readings or material from the Learning Activities.

Description: The format for the exam is a range of multiple choice, short, and long answer questions. The exam is open book, and students are encouraged to have course material and notes available and arranged efficiently prior to starting the exam.

The Midterm Exam is online through Blackboard, and students will have a 24-hour window in which to start the exam; once started, students will have 2 hours in which to finish the exam.

Assignment 2: Crop Enterprise Budgets

Value: See Grading Scheme

Due Date: See Class Schedule (to be completed after Module 6)

Purpose: In this assignment, you are required to examine the economics of at least two vegetable crops on your farm or horticultural business. Alternatively, you may either complete one of the case studies described under Assignment 1: Case Studies, or make arrangements with a local business to use their business for the case study. This assignment requires you to prepare crop enterprise budgets for the two crops and to provide all the basic information in terms of how the costs and potential returns have been calculated. Provide analysis of the budget and conclusions in which you explain whether the crop will be profitable or where you may be able to reduce costs and increase profit.

Description: See Assignments in Blackboard for details.

Final Exam

Value: See Grading Scheme

Date: See Class Schedule

Length: 3 hours

Purpose: The Final Exam covers all modules of the course but with a stronger focus on the second half of the course (Modules 4-6). The questions will focus on the content of the modules and will not include Supplementary Readings or material from the Learning Activities.

Description: The format for the exam is a range of multiple choice, short answer, long answer and essay questions. The exam is open book, and students are encouraged to have course material and notes available and arranged efficiently prior to starting the exam.

The Final Exam is online through Blackboard, and students will have a 24-hour window in which to start the exam; once started, students will have 3 hours in which to finish the exam.

Submitting Assignments

Assignments need to be submitted electronically using the Blackboard Assignments Tool.

Assignments should be titled with course number, students last name and assignment number; Hort20_Guerrieri_Assignment_1.doc

Save your file as “.doc” or “.docx” and submit it as an attachment in the Blackboard Assignments Tool. Further information is provided in your online course.

Please note that assignments need to be submitted by **4:00 p.m. local time** on the due date.

Note: You should keep a personal copy of all assignments submitted.

Additional Information

All assignments submitted after the due date are subject to the late penalties specified below.

Late assignments are subject to a 10% penalty per day, and are assigned a grade of zero after 3 days late.

Late assignments will not receive comments or written feedback.

Students with Disabilities

If you have a diagnosed disability (learning, medical, physical, or mental health), you must register with Disability Services for Students (DSS) in order to access DSS programs and supports. <http://www.students.usask.ca/disability/> or 306-966-7273 or dss@usask.ca.

For DSS exam accommodations please ensure that you fill out the DSS Exam Accommodation form within the applicable deadlines.

(<https://students.usask.ca/health/dss/accommodations.php#ExamAccommodations>).

Integrity Defined (from the Office of the University Secretary)

“Integrity is expected of all students in their academic work – class participation, examinations, assignments, research, practica – and in their non-academic interactions and activities as well.”
(Office of the University Secretary)

It is your responsibility to be familiar with the University of Saskatchewan policies and procedures on Academic Misconduct (<http://www.usask.ca/secretariat/student-conduct-appeals/academic-misconduct.php>) and Non-Academic Conduct (<http://www.usask.ca/secretariat/student-conduct-appeals/non-academic-misconduct.php>).

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Module Objectives

See the Modules in Blackboard.

Acknowledgements

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Instructional Design and Class Development

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