

221 Cumberland Ave North Saskatoon SK S7N 1M3 Canada Telephone: 306-966-5563

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		
COURSE CODE:	HORT 20	TERM:	Winter 2018
COURSE SECTION:	W02 or W06	DELIVERY:	Online
		START DATE:	Jan. 15, 2018
		END DATE:	Mar. 24, 2018

Course Description

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

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: <u>atg356@mail.usask.ca</u>

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

Week	Module	Readings	Evaluation Due Date
Weeks 1 - 2 January 15 th – 28th	Module 1 Introduction to Vegetable Production	 Sanchez, Elsa S. & Ferretti, Petter A. (September 21, 2002). Seasonal Classification of Vegetables. Penn State Extension Services. http://extension.psu.edu/plants/gardening/ fact-sheets/vegetable- gardening/seasonal-classification-of- vegetables [for Learning Activity 1-1] 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/ag riculture/canadian-farmers-return-to- growing-vegetables-fruits-as-low-loonie- lifts-prices Statistics Canada. (February 2012). Fruit and Vegetable Production (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] 	Introductory Post (not evaluated) Due January 19 th , 2018 Discussion Forum Due January 26 th , 2018

Class Schedule

		 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] Wikipedia.org. <i>Chicago Board of Trade</i>. https://en.wikipedia.org/wiki/Chicago Boa rd of Trade [for Learning Activity 1-4] Calgary ShawTV. (August 28, 2013). <i>Shirley's Greenhouses</i>. [video] https://www.youtube.com/watch?v=OMIW mMTFE-l&feature=youtu.be Length: 8:00 [for Learning Activity 1-5] 	
Weeks 3 – 4 January 29 th – February 11th	Module 2 Site Selection and Modification	Agricultural Capability Maps on Google Earth Pro [for Learning Activity 2-1] • Agricultural Capability Maps. <u>http://sis.agr.gc.ca/cansis/publications</u> <u>/maps/index.html</u> • Google Earth Pro. <u>https://www.google.ca/earth/download</u> <u>/gep/agree.html</u> Last Spring Frost Maps [for Learning Activity 2-2] • Alberta – Freezing date probabilities – <u>http://www1.agric.gov.ab.ca/\$departm</u> <u>ent/deptdocs.nsf/all/agdex10</u> • Saskatchewan – SCIC Maps - <u>http://www.saskcropinsurance.com/re</u> <u>sources/maps/last-spring-frost-map</u> • Manitoba - Agricultural Climate of Manitoba <u>https://www.gov.mb.ca/agriculture/we</u> <u>ather/agricultural-climate-of-mb.html -</u> <u>summary-of-all-maps</u>	Discussion Forum Due February 11th

		Ronald, J., ed. (1994). Diseases and Pests of Vegetable Crops in Canada: An Illustrated Compendium. Canadian Phytopathological Society. <u>http://phytopath.ca/wp-</u> <u>content/uploads/2015/03/Diseases-and-</u> <u>Pests-of-Vegetable-Crops-in-</u> <u>Canada.pdf[Free downloadable</u>	
		textbook; pp. 202-209 for Learning Activity 2-3; pp. 590-601 for Self-Test] Gabe Brown: Keys to building a healthy soil. (December 8, 2014). Idaho Center for sustainable Agriculture. [video]. <u>https://youtu.be/9yPjoh9YJMk</u> [for Learning Activity 2-4] Length: 58:52.	
		Shelterbelt Planning and Establishment. (2015). Agriculture & Agri-Food Canada. <u>http://www.agr.gc.ca/eng/science-and-innovation/agricultural-practices/agroforestry/shelterbelt-planning-and-establishment/?id=1344636433852</u> [For Learning Activity 2-5]	
		Canada Land Inventory [for Self-Test]	
		 Canada Land Inventory (CLI) Overview – Agriculture & Agri-Food Canada <u>http://sis.agr.gc.ca/cansis/nsdb/cli/clas</u> <u>sdesc.html</u> 	
		 Canadian Land Inventory (CLI) website. <u>http://sis.agr.gc.ca/cansis/nsdb/cli/ind</u> <u>ex.html</u> 	
		Canada Land Inventory Capability for Agriculture. Map of Saskatoon, Saskatchewan. 1:250,000 Scale. <u>http://sis.agr.gc.ca/cansis/publications</u> /maps/cli/250k/agr/cli_250k_agr_73b.j pg	
Week 5 February 12 th – 18 th	Module 3 Crop Management	 Hoorman, J.J., Sundermeier, A. & Reender, R. (2009). Using cover crops to convert to no-till. <i>Crops & Soils,</i> (pp. 9-13). [PDF in Blackboard for Learning Activity 3-1] 	Assignment 1 Due February 12 th by 4 p.m.

	Midterm Exam	 Seeded Legume Cover Crops for Late Season Production. http://www.umanitoba.ca/outreach/natural agriculture/articles/seededcover.html 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 Shared Legacy. (April 15, 2014) <i>How a</i> <i>vacuum seeder works</i>. [video] https://youtu.be/siuY7120YQ4 Length: 2:00 City of Holland. (October 23, 2014) <i>Planting</i> <i>55,000 tulips at Windmill Island</i>. [video] https://vimeo.com/109854102 Length: 1:40 Ski Hearth Farm. (June 10, 2014) <i>Water</i> <i>Wheel Transplanter In Action</i>. [video] https://youtu.be/6r1ynDPNYLo Length 0:45 Mts1150. (January 8, 2015). <i>Mechanical</i> <i>Transplanter Model 1000</i>. [video] https://youtu.be/QbcnSzfxORw Length 2:43 Juandev. (August 2011). Drip Irrigation of Strawberries. [video]. https://commons.wikimedia.org/wiki/File:D rip_irrigation.ogy Length: 0:32 Schere, T. (2015) <i>Selecting a Sprinkler</i> <i>Irrigation System</i>. [PDF in Blackboard for Learning Activity 3-4] Lamont, W. J. (Jr.), Orzolek, M. D., Harper, J. K., Kime, L. F., Jarrett, A. R. (2012). <i>Drip</i> <i>Irrigation for Vegetable Production</i>. Penn State Extension Service. Available at: http://extension.psu.edu/business/ag- alternatives/horticulture/horticultural- 	local time Midterm Exam Date: February 18th Discussion Forum Due February 18th
		K., Kime, L. F., Jarrett, A. R. (2012). <i>Drip</i> <i>Irrigation for Vegetable Production.</i> Penn State Extension Service. Available at: <u>http://extension.psu.edu/business/ag-</u>	
1	1		1

February 26 th	Module 4	Government of Manitoba. (2017). Potato	Discussion
– March 4 th	Harvesting,	Small Grower Exemption Order (The	Forum
	Marketing, and	Farm Products Marketing Act). http://web2.gov.mb.ca/laws/regs/current/	Due March
	Storage	pdf-regs.php?reg=54/2011 [for Learning	4th
		Activity 4-1]	
		Agriculture and Agri-Food Canada, Infohort.	
		(2016). Horticulture Wholesale Price	
		Reports. Ottawa, ON: Author.	
		https://infohort.agr.gc.ca/IH5_Reports/wh	
		olesalePriceReports.xhtml?lang=e&r ef=wholesale_price_reports&pageM	
		enuld=IH1000 [for Learning Activity 4-2	
		and Self-Test]	
		United States Department of Agriculture,	
		Agricultural Marketing Service. Specialty	
		Crops. https://www.ams.usda.gov/market-	
		<u>news/fruits-vegetables</u> [for Learning Activity 4-2]	
		The Real Canadian Superstore – Fruits &	
		Vegetables. https://www.realcanadiansuperstore.ca/F	
		ood/Fruits-%26-	
		Vegetables/c/RCSS001001000000	
		[for Learning Activity 4-2]	
		Sargent, S. (March 2000). Ripening	
		Tomatoes with Ethylene. University of	
		Florida Extension, Institute of Food and Agricultural Sciences.	
		[PDF in Blackboard; for Learning	
		Activity 4-3]	
		Government of Canada, Canadian Food	
		Inspection Agency. (Last modified 2011-	
		04-05). Vegetable Inspection Manuals –	
		Carrots. Available at: http://www.inspection.gc.ca/food/fresh-	
		fruits-and-vegetables/quality-	
		inspection/vegetable-inspection-	
		manuals/carrots/eng/1303762739912/130	
		3762802189 [for Learning Activity 4-4]	

		Howard, R. J., Garland, J. A., & Seaman, W. L. (Eds.). (1994). <i>Diseases and Pests of</i> <i>Vegetable Crops in Canada: An</i> <i>Illustrated Compendium</i> . Canadian Phytopathological Society. Available at: <u>http://phytopath.ca/wp-</u> <u>content/uploads/2015/03/Diseases-and-</u> <u>Pests-of-Vegetable-Crops-in-Canada.pdf</u> [Free downloadable textbook; pp. 185- 188 for Self-Test]	
Week 8 March 5 th – March 11 th	Module 5 Crop Production Practices	 Howard, R. J., Garland, J. A., & Seaman, W. L. (Eds.). (1994). <i>Diseases and Pests of</i> <i>Vegetable Crops in Canada: An</i> <i>Illustrated Compendium</i>. Canadian Phytopathological Society. http://phytopath.ca/wp- content/uploads/2015/03/Diseases-and- <u>Pests-of-Vegetable-Crops-in-Canada.pdf</u> [Free downloadable textbook for the following Learning Activities: <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/1303758727333/130 <u>3758985347</u> [for Learning Activity 5-3] Bachmann, J and Earles, R. (2000). Post Harvest Handling of Fruits and Vegetables. <u>https://attra.ncat.org/attra- pub/summaries/summary.php?pub=378</u> [for Learning Activity 5-8] Article #1844 How to Ripen Green Tomatoes. (2016, October 12). Planttalk Colorado - Colorado State University Extension, Denver Botanic Gardens, and the Green Industries of Colorado. http://planttalk.colostate.edu/topics/vegeta bles/1844-ripen-green-tomatoes/ [for Learning Activity 5-13] Norfolk County Tourism – Ontario South Coast. (2013, January 25). <i>Sweet Corn –</i> <i>Picking – Packing – Norfolk County.</i> [video]. https://youtu.be/9UWKq6-MZkQ Length: 10:05. [for Learning Activity 5- 15] 	Discussion Forum Due March 11th

Week 9	Module 6	Weins, K. (2015). New High-Tech Farm	Assignment
		Equipment Is a Nightmare for Farmers.	2 (due at end
March 12 th –	Budgeting	Wired. Available at:	of Module 6)
18 th		https://www.wired.com/2015/02/new-high-	_
		tech-farm-equipment-nightmare-farmers/	Due: March
		[for Learning Activity 6-1]	18 th by 4 p.m. local time
		Farm Workers Factsheet. (July 2016). British	
		Columbia Employment Standards.	
		Available at:	
		http://www2.gov.bc.ca/gov/content/emplo	
		yment-business/employment-standards-	
		advice/employment-	
		standards/factsheets/farm-workers [for	
		Learning Activity 6-2]	
		Billikopf, G. (January 30, 2008). <i>Designing an</i>	
		Effective Piece Rate. Agricultural Labor	
		Management, University of California	
		Berkley. Available at:	
		http://nature.berkeley.edu/ucce50/ag-	
		labor/7research/7calag06.htm [for	
		Learning Activity 6-2]	
		Statistics Canada – CANSIM. (January 31,	
		2017). Table 001-0013 Area, production	
		and farmgate value of vegetables –	
		Annual. Available at:	
		http://www5.statcan.gc.ca/cansim/a26?la	
		ng=eng&retrLang=eng&id=0010013&patt	
		ern=vegetables&tabMode=dataTable&src	
		<u>hLan=-1&p1=1&p2=-1</u> [For Learning Activity 6-3]	
		Farmplan 2.0 XP – Loan Calculator.	
		Manitoba Agriculture – Financial	
		Management – Farm Software and	
		Worksheets. Available at:	
		https://www.gov.mb.ca/agriculture/busine ss-and-economics/financial-	
		management/pubs/software farmplan lo	
		ancalculator.xls [for Learning Activity 6-	
		4]	
Week 10		Studying for Final Exam	
March 19 th –			
23rd			
			Caturday
	FINAL EXAM		Saturday, March 24,
			2018
			2010

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: <u>http://policies.usask.ca/policies/academic-affairs/academic-courses.php</u>

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: https://teaching.usask.ca/about/policies/learning-charter.php

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: <u>https://distanceeducation.usask.ca/support/writing-centre.php</u>

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 a have a 24-hour window in which to start the exam; once started, students will have 2 hours in which to finish the exam.

Please note that online exams are viewed and treated the same as any other exam. Online exams are tracked and monitored for irregularities.

Any collusion, collaborating, copying, cheating or any form of academic misconduct is a very serious offence at the University of Saskatchewan and could result in suspension or expulsion from the university.

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

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 SchemeDate:See Class ScheduleLength: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 a 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 are a student needing accommodations based on a diagnosed disability (learning, medical, physical, and/or mental health), religion, family status (including pregnancy), and/or gender identity, you must register with Access and Equity Services (AES) in order to access AES programs and supports. <u>https://students.usask.ca/health/centres/access-equity-services.php</u> or 306-966-7273 or <u>aes@usask.ca</u>.

For AES exam accommodations please ensure that you fill out the AES Exam Accommodation form within the applicable deadlines. (https://students.usask.ca/health/aes/accommodations.php)

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 (<u>http://www.usask.ca/secretariat/student-conduct-appeals/academic-misconduct.php</u>) and Non-Academic Misconduct (<u>http://www.usask.ca/secretariat/student-conduct-appeals/non-academic-misconduct.php</u>).

Copyright

Every effort has been made to trace ownership of all copyrighted material and to secure permission from copyright holders. In the event of any question arising as to the use of any material, we will be pleased to make the necessary corrections. The University of Saskatchewan copyright policy is available at http://www.usask.ca/copyright/

Module Objectives

See the Modules in Blackboard.

Acknowledgements

Class Author Tyler Guerrieri, M.Sc., Distance Education Unit, University of Saskatchewan

Instructional Design and Class Development Jeanette McKee, M.Ed., Instructional Designer, Distance Education Unit, University of Saskatchewan