

Please Note: This *Course Outline* is an important step in updating the format of our distance courses. If for any reason the *Course Outline* does not match the print *Course Guide* or online course information, the *Course Outline* shall be taken as correct.

## COURSE OUTLINE

<b>COURSE TITLE:</b>	Fruit Production		
<b>COURSE CODE:</b>	HORT 23.3	<b>TERM:</b>	Winter 2016 Term 2
<b>COURSE HOURS:</b>	3	<b>DELIVERY:</b>	PHC
<b>COURSE SECTION:</b>	W02 & W06		

### Course Description

Fruit Production is part of the Fruit and Vegetable Stream in the Prairie Horticulture Certificate Program. It is strongly recommended that you will have completed the two required courses: Applied Botany and Soils for Horticulture. Fruit production is a course of study designed to assist students to develop and enhance their knowledge of fruit production both at a backyard and commercial level.

### Course Overview

It is important that you recognize at the outset that this class is not intended to be, nor is it a “growers’ guide.” A single course in fruit production cannot possibly strive to present all of the relevant cultural information for the production of every prairie fruit crop.

The information presented in this class is designed to assist you in reading, interpreting and understanding existing growers’ guides. An unfortunate truth about fruit production on the prairies is that the relatively little information that is available is often scattered and difficult to access. No comprehensive text on fruit production has yet been written for the prairies. For that reason it is often required that we make reasonable interpretations of material that is written for other climatic areas. By learning the concepts and materials presented in this class, you should be better able to make reasonable interpretations, even if some of the information you are using is not focused directly on the prairies.

### Your Instructor

#### Contact Information

You will communicate with your instructor through the Blackboard Learning System, Messages (Course Mail) on all matters. You can expect a reply, from the messages (course mail) tool, within 48 hours. Instructors will not be using your personal email for communication. If you do need to speak with the instructor directly, a contact number is listed below.

**Please watch the messages (course mail) and announcements for information from the instructor and the PHC office**

Ellen Sawchuk

Phone: 306-966-7286 - 8:00 a.m. – 4:30 p.m. Monday - Friday

## **Profile**

Ellen recently graduated from the Horticulture Program at the University of Saskatchewan and is employed with the Fruit Program at the University of Saskatchewan. Ellen was first hired as a summer student and then upon graduation became a full time research technician. She has been working as a technician since April 2010.

This is Ellen's fourth time teaching Hort 23. She has given workshops for the U of S Master Gardener program as well as many other presentations. Ellen volunteers her free time at the museum in Saskatoon.

In regards to fruit and fruit production, Ellen has a lot of experience from both her occupation and her schooling. Ellen's areas of expertise are sour cherries and Haskap. When Ellen is not in the field, you can find her in the greenhouse or the tissue culture lab.

## **Required Resources**

### **Readings/Textbooks**

There are no required texts for this course. However, *Dwarf Sour Cherries: A Guide for Commercial Production* as well as *Saskatoon Berry Production Manual* are excellent resources. As prairie-specific grower's manuals, they function as supplemental reading for this course. You are not required to purchase either of the manuals but they are great sources of information

Bors, B. & Matthews, L. 2004. *Dwarf Sour Cherries: A Guide for Commercial Production*. University of Saskatchewan, University Extension Press, Saskatoon, Saskatchewan.

Spencer, Robert et al. 2013. *Saskatoon Berry Production Manual*. Alberta Agriculture and Rural Development.

Textbooks are available from the University of Saskatchewan Bookstore:  
[www.usask.ca/consumer\\_services/bookstore/textbooks](http://www.usask.ca/consumer_services/bookstore/textbooks)

### **Other Recommended Materials**

On-Line Text: *Growing Saskatoons – A Manual for Orchardists*. Download at  
<http://www.prairie-elements.ca/saskatoons.html>

[www.fruit.usask.ca](http://www.fruit.usask.ca) - U of S Fruit Programs. A valuable resource of information about all the different prairie crops, as well as many downloads of papers that the program has published.

## Supplementary Resources

There is a wealth of information on the Internet. This can be an excellent resource but please do not fall into the trap of believing everything published on the Internet. Use a critical eye when evaluating this information. University, Government and horticultural society links will be the most reliable. Remember that Wikipedia can be edited by anyone.

## Course Schedule

Week	Module	Readings	Evaluation Due Date
	Module 1 – Introduction to Genetics and Plant Breeding	There are no required texts for this course. However, <i>Dwarf Sour Cherries: A Guide for Commercial Production</i> is an excellent resource. As a prairie-specific grower's manual, it will function as supplemental reading for this course.	January 30
	Module 2 – Flowering and Pollination		February 6
	Module 3 – Growth, Thinning, Maturity and Harvest		February 13
	Module 4 – Site Selection, Orchard Establishment and Management <b>Assignment 1 Due</b>		February 20
	Module 5 – Pruning and Grafting		February 27
	Module 6 – Plums, Pears, Apples and Dwarf Sour Cherries		March 5
	Module 7 – Strawberries, Raspberries, Currents, Gooseberries, Saskatoons, and Blue Honeysuckle		March 12
	Module 8 – Integrated Pest Management <b>Assignment 2 Due</b>		March 19
	FINAL EXAM		March 19

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

## Grading Scheme

Assignment One	25%
Assignment Two	35%

Final Exam	40%
Total	100%

Information on literal descriptors for grading at the University of Saskatchewan can be found at: <http://www.usask.ca/calendar/> then follow the links to see Exams & Grades/Grading system.

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

More information on University policy related to grading and examinations 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

### CCDE Writing Centre – Quality Writing Help for Free!

Anyone taking a distance class (online, independent studies, televised, or multi-mode delivery) administered by the CCDE 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 CCDE Writing Centre at <http://www.ccde.usask.ca/writing>

All assignment found under Evaluations in the Course Menu

### Assignment One

**Value:** 25% of final grade

**Due Date:** Complete after studying Modules 1 through 3 **DUE: FEBRUARY 20**

**Purpose:** To provide you with the opportunity to analyze, synthesize and apply your learning in both intellectual and practical terms.

**Description:** Complete answers to the following questions:

1. Why must almost all fruit crops be propagated vegetatively? When is the only time that most fruit crops would be propagated by seed? (5 marks)
2. In a row of fruit crop seedlings, you find that all of the seedlings at the east end of the row are taller and more robust than those at the west end of the same row. Is this likely a genotypic or environmental difference? Explain. (5 marks)
3. Knowing what you now do about the genetic inheritance of peach fuzz, do you think it would be possible to cross two peaches and get seedlings that are nectarines? If so, what percentage of the seedlings would you expect to be nectarines? (Hint: draw a Punnett square for a monohybrid cross to solve the problem. (8 marks)

4. Why is the polyploidy condition an advantage in horticultural plants? (3 marks)
5. What is biennial bearing? Would you select for or against biennial bearing in a fruit breeding program? Why? (5 marks)
6. How do bees contribute to fruit size? Can this phenomenon enhance the fruit size of plums and cherries? (5 marks)
7. What is difference between pollination and fertilization? (3 marks)
8. Knowledge of the different stages of flower bud development is important for fruit producers. Name a stage of flower bud development that would be an ideal time to introduce a colony of bees to an apple orchard. Why would you not want to introduce the hive earlier than this, or later than this? (8 marks)
9. How do wind pollinated crops differ from insect pollinated crops (3 marks)
10. What do you call a tree that supplies pollen? Describe the characteristics of a good “pollen supplier”. (5 marks)
11. Explain “June drop”. (4 marks)
12. What is the difference between physiological maturity and horticultural maturity? (3 marks)
13. How does fruit develop colour? (5 marks)
14. How do you determine the time required for fruit crops to reach maturity under local climatic conditions? Fully explain the concepts involved in the maturity determination. (8 marks)

## Assignment Two

**Value:** 35% of final grade

**Due Date:** Complete after module 7 or whenever you want **DUE MARCH 12**

**Purpose:** To provide you with the opportunity to analyze, synthesize and apply your learning in both intellectual and practical terms.

**Description:** Write a report on the **PRAIRIE-HARDY FRUIT CROP** of your choice describing it in terms of:

**Crop History:** Is it a native crop, or was breeding work required to introduce adequate hardiness for it to survive on the prairies? What breeding work has been conducted on the crop to improve its fruit production characteristics? For some crops there will be a great deal of information on some of these points, while for others there will be less.

**Plant Structure:** Your discussion here should demonstrate a basic understanding of the plant in terms of its structure, flowering habits, ripening and any other factors you see as important to the production of that fruit crop.

**Cultivation Practices:** Describe the recommended cultivation practices for this crop in sufficient detail to enable its large-scale production. These should include discussion of cultivar selection, orchard establishment, soil and fertility, irrigation, harvest and storage, weed, insect and disease management.

**Please Note:** Report is to be no more than a maximum of 12 pages double spaced (excluding title page, table of contents, and references).

### Mark Breakdown:

- **Crop History:** 25 marks total. If the crop chosen has limited information on the history the mark breakdown will be adjusted. All of the above points are expected to be included if the information is available
- **Plant Structure:** 20 marks total. Describe the basic botany of the crop, leaf arrangement and appearance, flowering requirements, ripening, growth habit, types of flowers (appearance etc). Feel free to include any other information you would like to about the basic structure of the plant
- **Cultivation Practices:** 35 marks total. It is expected that in this section all information for growing this crops is presented. Planting, pruning, weeding, harvesting, post harvest storage, pests and diseases etc. It is expected that all, if possible, of the previously mentioned points of information are included.
- **Writing Style:** 20 marks total: Your grammar, spelling, sentence structure, paragraph structure, layout, organization and referencing will be marked.

### Final Exam (Online & Closed book)

**Value:** 40% of final grade

**Date:** See Course Schedule

**Format:** The final examination will be an online exam and open for 24hrs (from 9:00 a.m. on the exam day until 9:00 a.m. the following day). Please go to the assignment tool to view the exam within that time frame.

It is very important to note that this is a 2-hour exam. Once you log in and access the exam the clock will start ticking in which you will have only 2 hours to complete. At the end of that 2-hour time period, you will be logged out of the exam.

Please be aware that once you have logged into the exam you cannot leave or try to navigate to another part of the course. If you do exit the exam, you will not be allowed back in as you are only allowed one attempt at this exam.

The 2-hour time limit does not allow you enough time to look up answers or review assignments so make sure you are prepared.

**Description:** The final exam will be **closed book** and will include material from all parts of the course. It will be two hours long. The exam will be composed of multiple choice, true and false, fill-in-the-blanks, matching and short answer questions requiring three or four sentences to answer fully, as well as a few long answer questions. In answering these questions you should include as many specific details as you can to demonstrate a clear understanding of the material presented in the course guide. Some of the questions may involve solving small production problems such as those presented in the module review questions. Information presented in the review questions may appear on the final, but information from FYI sections of the course will not appear on the exam.

### Grading

The following criteria are considered in grading assignments and the final examination:

- demonstrated analytical/critical insight and ability
- evidence of appropriate level of understanding of course content
- breadth/depth of coverage of the question(s)
- assignment organization
- syntax, technical errors, clarity of expression.

## **Additional Information**

### **Submitting Assignments**

To obtain your best mark, you should complete all assignments and attempt all questions in each assignment in the course. If you know only part of the answer, put it down and you may receive partial marks. Remember, instructors find it very easy to mark a question that has not been attempted.

**You are expected to submit assignments by the due dates indicated in your Course Syllabus.** The instructor has the discretion to penalize late submissions or not. Assignments submitted beyond the final exam date may or may not be accepted by the instructor. If you experience legitimate problems such as accident or family illness, discuss it with your instructor so that some suitable arrangement can be worked out.

**Before submitting any assignment, ensure to save a backup copy of it in case the original is lost.**

**All of the assignments are located under assignments in the course menu .**

Please submit all assignments online, using the Assignments tool in Blackboard.

#### **Assignments Tool in Blackboard:**

1. From the Course Home Page, on the left menu click Assignments.
2. On the Assignments page, click the Assignment you want to submit and download any attached files.
3. In the Upload Assignment area, key in the Assignment Materials text box or attach your file. Note the file naming rules.
4. Add any Comments for your instructor.
5. Click Submit to submit the assignment.
6. Review Submission History that appears after you Submit. Click OK if you need to go back and revise.

**For Further Information about Using the Blackboard Assignments Tool:**

1. From inside Blackboard, click on the Help tab to see U of S Course Tools/BBLearn 9.
2. On the tool bar under Course Tools, click the Students' Help tab and then click one of the following options:
  - Videos and then click Working with Assignments (2 min 59 sec video).
  - Course Tools Help Documents and click Working with Assignments (a pdf document)
  - FAQs

## Checking Your Assignment Grades

1. From the Course Home Page, on the left menu click My Grades.
2. To see the grade for the specific assignment, click on the assignment grade.
3. View the details of your grade and any instructor comments.

## Integrity Defined

“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 *Guidelines for Academic Conduct*. More information is available at <http://www.usask.ca/secretariat/student-conduct-appeals/IntegrityDefined.pdf>

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.

## 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.

## Acknowledgements

### Course Author(s)

Brian Baldwin, B.S.A., B.Sc., M.Sc., (College of Agriculture, University of Saskatchewan)



Maureen Troesch, B.Sc., B.S.A.

Revised 2009

Linda Mathews, B.S.A., PAg (College of Agriculture & Bioresources, University of Saskatchewan)

Revised 2012

Ellen Sawchuk B.S.A.(College of Agriculture & Bioresources, University of Saskatchewan)

### **Instructional Design and Course Development**

Melissa Ann Spore, B.A., M.A. (CCDE, University of Saskatchewan)

Jordan Epp (CCDE, University of Saskatchewan)