



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

CLASS SYLLABUS

COURSE TITLE: Medicinal and Aromatic Plants
COURSE CODE: HORT 29.3 **TERM:** Winter 2018 Term 2
COURSE HOURS: 3 **DELIVERY:** PHC
COURSE SECTION: W02/W06

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

Medicinal and Aromatic Plants is a course of study designed to assist students of the Prairie Horticulture Certificate develop and enhance their knowledge at both a backyard and commercial level. In addition to learning a variety of medicinal plants suitable for growing on the Prairies, students will develop an understanding of the basic requirements to manage a medicinal herb business in Canada.

Upon completion of this Course you should know be able to:

- identify medicinal and aromatic plants that are suitable for commercial and non-commercial cultivation on the prairies
- outline steps in planning and developing a field production operation for selected medicinal and aromatic plants
- determine the basic herb processing alternatives and uses of herbal products
- investigate marketing strategies for medicinal and aromatic crops and determine buyers' requirements.

Course Overview

This Course consists of the following nine modules:

Module 1: Introduction to Medicinal and Aromatic Plants

Module 2: Plant Physiological Processes and Environmental Factors

Module 3: General Crop Production and Management

Module 4: Crop Production of Selected Medicinal Plants

Module 5: Crop Production of Selected Aromatic Plants

Module 6: Wildcrafting Practices

Module 7: Processing and Packaging Alternatives

Module 8: Industry Regulations and Quality Control

Module 9: Marketing Medicinal and Aromatic Plants

Appendices: Internet Resources; Testing Laboratories; Organic Standards and Certification; Seed and Plant Sources; Wildcrafting Resources; Regulations and Standards; Processors, Manufacturers, and Analytical Services; Growers and Industry Associations.

Your Instructor

Vanessa Young

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.

Phone: 306-966-5097

Available Monday through Thursday between 9:30 and 4:00 PM CST, on Fridays messages will be returned.

Your instructor will be contacting you via messages (course mail) early in the term. Please reply to their initial contact. They may follow up with a phone call.

Profile

Vanessa Young started teaching at the University of Saskatchewan in the biology labs in 2002 and has been with the University ever since. In addition to her work with PHC, she also coordinates the U of S Master Gardener Program where she instructs workshops in Botanical Latin, Botany, Soil Science and Communications and manages professional development courses in Agriculture. Between scheduling courses and workshops, hiring instructors, developing curriculum and teaching, Vanessa also does freelance editing, consulting in curriculum development and hort therapy, and raises three very busy boys.

Required Resources

Readings/Textbooks

Carpenter, J. and Gladstar, M. (2015): The Organic Medicinal Herb Farmer: The Ultimate Guide to Producing High-Quality Herbs on a Market Scale. White River Junction, Vermont, USA. ISBN:978-1-60358-573-6

Textbooks are available from the University of Saskatchewan Bookstore:

<http://www.usask.ca/bookstore/>

Recommended, but not required, textbook: Marketing on the Edge: A Marketing Guide for Progressive Farmers

Available from Farm Management Canada website

<http://www.fmc-gac.com/publications/marketing-edge-marketing-guide-progressive-farmers>

Referred to in reading list below as MOE

Other Reference Materials

These are not required for the course

Saskatchewan Herb and Spice Association *The Herb and Spice Production Manual*

This manual is available from the Saskatchewan Herb and Spice Association at <http://www.saskherbspice.org/publications.html>.

Class Schedule

Week	Module	Readings (from your textbook unless otherwise stated)	Evaluation Due Date
1	Module 1: Introduction to Medicinal and Aromatic Plants And Module 2: Plant Physiological Processes and Environmental Factors	Carpenter: Chapter 1: Why Grow Medicinal Herbs Carpenter: Chapter 3: Thinking Like a Business Manager Carpenter: Chapter 6: Tools of the Trade Optional Reading MOE: Consumer Trends	
2	Module 3: General Crop Production and Management	Carpenter: Chapter 4: Facilities Layout and Design Carpenter: Chapter 5: Field and Crop Considerations and Planning Optional Reading MOE: Site Location for on farm retail Optional Reading MOE: Facilities	
	Assignment 1	Basic Input Cost Analysis	Jan. 30
3 and 4	Module 4: Crop Production of Selected Medicinal Plants	Carpenter: Chapter 8: Plant Propagation Carpenter: Chapter 9: Considerations for Growing Medicinals	

	Module 5: Crop Production of Selected Aromatic Plants	<p>Carpenter: Chapter 10: Weed Control</p> <p>Carpenter: Chapter 11: Pest and Disease Prevention and Control</p> <p>Carpenter: Chapter 12: Harvest</p>	
5	Module 6: Wildcrafting Practices	Carpenter: Chapter 13: Geo-Authentic Botanicals	
	Assignment 2	Comparing Plants	Feb. 13
6	Module 7: Processing and Packaging Alternatives	<p>Carpenter: Chapter 14: Postharvest Processing</p> <p>Carpenter: Chapter 15: Herb Packaging and Storage Recommendations</p> <p>Carpenter: Chapter 16: Producing Value-Added Products</p> <p>Optional Reading MOE: Value Added Processing</p>	
7	Module 8: Industry Regulations and Quality Control	<p>Optional Reading MOE: Regulations</p> <p>Readings to be found online:</p> <p>Health Canada: Natural Health Products http://www.hc-sc.gc.ca/dhp-mpps/prodnatur/index-eng.php</p> <p>Small, E. and Catling, P.M. 1999. Canadian Medicinal Crops, pp. 177–181. http://books.google.ca/books?id=FYuRSmqISQsC&printsec=frontcover&dq=Small,+E.+and+Catling,+P.M.+1999.+Canadian+Medicinal+Crops+p+177&hl=en&sa=X&ei=CvqFVMThAY6vogSW04KwBw&ved=0CDMQ6AEwAg#v=onepage&q&f=false</p> <p>WHO Guidelines for the Assessment of Herbal Medicines. WHO Technical Report Series, No. 863, WHO Geneva, 1996. See http://apps.who.int/medicinedocs/en/d/Jh1813e/3.html</p>	
8	Module 9: Marketing Medicinal and Aromatic Plants	<p>Carpenter: Chapter 17: Marketing</p> <p>Optional Reading MOE: Types of Direct Marketing</p> <p>Optional Reading MOE: Components of Direct Marketing</p> <p>Optional Reading MOE: Marketing Plan</p>	

		Optional Reading MOE: Merchandising Optional Reading MOE: Advertising and Promotion	
	Assignment 3	Final Project	March 13
	FINAL EXAM		March 24

Please note that the above schedule is just a rough estimate of how you should balance your time. Feel free to work as fast or slow as you want as long as the assignments are completed and uploaded on time.

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 One	10%
Assignment Two	20%
Assignment Three	30%
Final Examination	40%
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: <https://teaching.usask.ca/about/policies/learning-charter.php>

Evaluation Components

The purpose of this class is to walk you through all the considerations necessary to successfully manage a medicinal or aromatic crop of your own. As such, the primary assignment for this class is to build the framework of a usable plan for you to grow your selected crop. Each assignment in this class will work towards the final goal of preparing an integrated plan. For an example of the relevant questions you need to ask yourself throughout this process, please see

Table 3-1 page 27 in your textbook, *The Organic Medicinal Herb Farmer*. The final integrated plan is the major assignment of this class and is worth 40% of your final grade.

Assignment 1: Inventory of Capital Costs

Value: see grading scheme

Due Date: see class schedule

Purpose: Student will make an inventory of their current assets and needs for field and/or greenhouse production. This is the first step in building a detailed growing plan for a successful medicinal herb business so as you work through these exercises, keep in mind your final goal.

Description: Consider the crop production options discussed in your modules and text readings to decide if a field or greenhouse production (or a combination thereof) is best for your situation. List all of the costs necessary to grow a general medicinal or organic crop in your area – make sure to include buildings, equipment and land or other resources that would be required. As you have yet to decide a crop, you do not need to consider costs specific to an individual plant (such as seed costs) in this example. You may scale this assignment to whatever amount of product is reasonable to your desired production needs. Your assignment should be one to two pages long and should include the following information:

1. Write a brief description of the scale of your proposed production situation – is it a backyard scale or a field scale? Ask yourself, “How much product do I want to produce?” Why have you chosen to grow this amount of product? Include a detailed, growing-oriented analysis of your chosen location to justify your choice.
2. Create a chart detailing the significant costs (including buildings, equipment, machinery, and land) necessary to meet the scale of production you feel is best suited to your situation. If you do not currently own or have access to the necessary resources, list an estimated cost next to this item.

Assignment 2: Comparing Plants

Value: see grading scheme

Due Date: see class schedule

Purpose: The opportunity to think about and integrate what you are learning and apply your learning to practice. Students will research three different plants and evaluate this information to decide which crop will work best for their situation.

Description: Select **three** medicinal, aromatic, or wildcrafted crops that you may be interested in for your medicinal plant business. These crops may be chosen from your textbook or selected from other medicinal, aromatic, or wildcrafted plants outside of the course materials. For each plant consider the following:

1. Describe your reasons for choosing this plant to investigate.
2. In point form, list a quick overview of the general growing requirements, insect, pest and disease issues of this crop.
3. Decide if the growing requirements dictate the need to grow it in a field, greenhouse or combination of both.
4. What scale is reasonable to successfully grow this crop? Refer to Assignment 1 for a discussion on scale.

5. List a minimum of three different ways to sell the plant once it is harvested. You do not need to be specific here, this is a quick survey to help guide your decision making process.
6. Based on the information gathered in Assignment 1, include any additional specialized costs that are required in your situation to successfully grow this crop from seeding through to market. You do not have to list anything that is already listed in Assignment 1. Do not overlook that some crops have special harvesting, processing, or storage needs.
7. Look up the current price to purchase seed for your plant. You may wish to consult the appendices for references.
8. Explain how much labour would be necessary to successfully grow each crop at your desired scale from seed to harvest to market. That is, can one person successfully grow it on his or her own or will there be peak times when additional labour is necessary? If so, estimate the cost need. For example, perhaps during harvest, 2 additional people would be necessary. See Figure 3-3, page 29 in your text for some considerations.

Based on the information gathered above, decide which crop of the three would be best for you to grow. Defend your answer in one paragraph.

Assignment 3: Final Project

Value: see grading scheme

Due Date: see class schedule

Purpose: The opportunity to think about and integrate what you are learning and apply your learning to practice. Each student will create a basic, individualized growing and marketing plan for one medicinal, aromatic or wildcrafted plant. Students will expand on the information provided in Assignments 1 and 2 to create a more detailed plan for successfully moving their chosen product from seed through to market. Refer to the Guiding Questions in Table 3-1, page 27 of your textbook to help you decide what information may be important in your situation.

1. **Location:** Describe in detail the situation you will be growing your crop in. For example, if you are proposing a field production, outline the field size, general soil type and texture. Describe your processing and storage facilities as well as equipment on hand. What other site or equipment investments do you need to make? This discussion may be pulled from your Assignment 1.
2. **Crop:** Choose **one** of the crops that you researched in Assignment 2 that could provide you with a viable operation. For example, growing peppermint for aromatherapy, or borage for oil. Briefly justify the grower and medicinal reasons why you are choosing this crop for your situation. As this business plan develops, the financial justification will develop.
3. **Growing Plan:** Develop a plan for growing this crop beginning with crop establishment and ending with shipping your product to a buyer. Much of this information can be tailored from your previous assignments into a more detailed action plan. Some considerations should include:
 - a. Describe in detail the production method you have selected for your operation. Include pre-seeding activities through to harvest, processing, storage.

- b. Describe planting or seeding methods along with all fertilization and pest control considerations. Detail when and how the crop will be harvested, as well as all post-harvest handling.
 - c. List any and all post-harvest processing steps.
 - d. Outline how you will sell your product and whether you will perform any value and added processing. If so, describe these processes.
 - e. Discuss the regulations you have to comply with in order to bring your product to market.
4. **Business:** You have your product in hand. Detail your marketing strategy. For example, direct sales, internet marketing, buyer, a third party such as a restaurant. Convince me you can make money selling it. Consult current research to inform and defend your harvesting and marketing decisions. You may wish to include some of the considerations on page 29 of your text.

Final Exam (Online & Closed Book)

Value: see grading scheme

Date: see class 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 3-hour exam. Once you log in and access the exam the clock will start ticking in which you will have only 3 hours to complete. At the end of that 3-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 3-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, fill-in-the-blanks, matching and short answer questions requiring three or four sentences to answer fully as well as essay style 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.

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 (<http://www.usask.ca/secretariat/student->

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

Additional Information

Module Activities

Activities are designed to help your learning. We encourage you to actively go through the following steps for each module:

Research demonstrates that we remember more if we write things down. Writing out definitions and answers will help prepare you for the exam.

- write out definitions for Key Terms and Concepts and add new ones that you find as you study the materials
- write out answers to the Study Questions
- identify questions and mark any items that you have trouble understanding
- discuss questions and any confusion you have with your tutor
- add your own comments from your observations and experiences about a particular topic

Being an active learner in this way helps make the experience much more satisfying, and enables you to learn much more effectively.

Assignment Submission

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 Class 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.

Evaluation and 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.

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.

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. <https://students.usask.ca/health/centres/access-equity-services.php> or 306-966-7273 or aes@usask.ca.

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

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Acknowledgements

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