



THE OHIO STATE UNIVERSITY

## **SYLLABUS: HCS 5100, ADVANCED CROPPING SYSTEMS SPRING 2019**

### **Course overview**

#### **Instructor**

Instructor: Dr. Alex Lindsey, CCA/CPAg

Email address: lindsey.227@osu.edu

Phone number: 614-292-3864

Office hours: By appointment

**Time and Date: MWF 10:20 – 11:15 AM**

**Location: 333 Kottman Hall or 123 Williams Hall (Wooster)**

**3 hr lecture (3 cr hr)**

#### **Course description**

This course will enable students to apply advanced content regarding row and forage crop management in Ohio, surrounding states, domestically, and globally. Students will also examine issues related to economic and environmental sustainability, legal and ethical responsibility, and production efficiencies to prepare students for transition from student to professional. Students will practice communication through oral and written methods, both individually and collaboratively, to improve their professional skillset. Application of concepts learned in previous courses will also be employed to enhance analytical thinking at the systems-scale and allow students to develop interdisciplinary/integrative solutions to address complex issues. This course fulfills the capstone requirement. The purpose of the Capstone is to:

- Provide for collaborative work among students
- Encourage systems-scale thinking
- Encourage strategic and futuristic thinking
- Develop interdisciplinary/integrative solutions to address complex issues

Introduction to industry professionals (including Extension faculty and Certified Crop Advisors) will help to prepare students with information on professional resources and expectations. Upon completion, students will also have the option to take the Certified Crop Advisor exam issued through the American Society of Agronomy for a reduced registration fee.

**Prereq:** HCS 3100 or graduate standing.

## Course learning outcomes and program learning goals

By the end of this course, undergraduate students will:

- Gain understanding of professionalism and professional expectations, learn about continuing education opportunities after graduation, as well as gain exposure to global production issues (Objectives 5, 6, and 7).
- Gain experience individually and collaboratively with conveying information in a concise written and oral format to help them grow professionally (Objective 4)
- Be able to apply concepts from their education and experiences to identify farming practices that could be altered to improve pest management, nutrient management, and cropping system sustainability through using systems-scale thinking and development of interdisciplinary/integrative solutions (Objectives 1, 2, 3, and 8).

In addition, Graduate students will be able to:

- Demonstrate scientific competence in horticultural and/or agronomic sciences
- Appreciate diverse issues within horticultural and agronomic sciences
- Use appropriate form of communication effectively at a professional level

## Course materials

### Recommended

1. ICCA Study Guide (IPNI): \$45 (<http://store.ipni.net/products/preparing-for-the-international-certified-crop-adviser-exam>)
2. CCA Examination Prep Materials

### Additional Resources

1. Ohio Agronomy Guide (Bulletin 472)
2. Corn, Soybean, Wheat and Alfalfa Field Guide (Bulletin 827)
3. Factsheets from [ohioline.osu.edu](http://ohioline.osu.edu)
4. Modern Corn and Soybean Production
5. Articles posted on Carmen
6. SPS Learning Goals

## Course technology

### Baseline technical skills necessary for online courses

- Basic computer and web-browsing skills
- Navigating Carmen
- Ability to access TopHat.com or phone with text option for in-class discussions

## Necessary equipment

- Computer: current Mac (OS X) or PC (Windows 7+)

## Grading and faculty response

This course will be graded using the OSU Standard format. Students' attendance and participation in class is expected. Exams will be offered during the course schedule. **Late assignments are subject to a 10% late penalty per day late.**

## Faculty feedback and response time

I am providing the following list to give you an idea of my intended availability throughout the course. (Remember that you can call **614-688-HELP** at any time if you have a technical problem.)

### Grading and feedback

For large weekly assignments, you can generally expect feedback within **7 days**.

### E-mail

I will reply to e-mails within **24 hours on school days**.

### Office Hours – By appointment

Office hours, are optional. Students are welcome to schedule meetings by appointment if they need additional help with course material.

## Grades

Assignment or category	Percent of Grade
Class Participation (five discussions/group exercises, attend two guest lectures)	10%
Presentation on one category identified within a competency area	15%
Assignments (five)	25%
Midterm Exams	20%
Final Project	30%

*See course schedule, below, for course activities*

## Explanation of Assessment

### Class Participation

Students are expected to behave in a professional manner, which includes regular class attendance and participation. Students will be graded on participation in a total of five discussions and group exercises. Students will also be required to attend two of the class periods when Extension faculty and industry professionals come to discuss their responsibilities, resources they utilize or develop professionally, and if/how they have used the CCA status in their careers. At least three guest lectures will be arranged to ensure full participation points can be achieved.

The following are my expectations for how we should communicate as a class. Above all, please remember to be respectful and thoughtful.

- **Writing style:** All written materials presented in class should be of professional standard, using correct grammar, spelling, and punctuation. Informality (including an occasional emoticon) is fine for non-academic topics, but should be used with discretion.
- **Tone and civility:** Let's maintain a supportive learning community where everyone feels safe and where people can disagree amicably. Each person will have a different life experience related to the course topics, and can offer valuable insight into the course discussion topics.
- **Citing your sources:** When we have academic discussions, please cite your sources to back up what you say. (For the textbook or other course materials, list at least the title and page numbers. For online sources, include a link.)

### Presentation and Handout Development

Students are required to develop a presentation to address one of the competency areas during the semester. Presentation schedules will be determined in advance with the students to attempt to avoid scheduling conflicts. Presentations will not be rescheduled without an acceptable excused absence. If rescheduled, failure to complete the presentation and handout development within the determined timeframe may result in a failing grade.

Another tool useful for communication is a summative fact sheet or handout. Students will be required to develop a handout on one of the competency areas covered during the semester. The handout will need to include the references used to develop the material for citation purposes. The handouts will be made available to the students in the class upon completion as an additional study material.

## Course Assignments

Students will be asked to complete five assignments throughout the semester (25%). Instruction as to which will be individual or group assignments, will be given at the beginning of the semester. Assignments include (but are not limited to):

- 1.) Completing fertilizer recommendations based on soil test values (Nutrient Management).
- 2.) Writing a professional email response to a producer or consultant (Soil and Water Management).
- 3.) Developing a scouting plan or handout for a producer (Integrated Pest Management)
- 4.) Reviewing a problem from a grower and developing a solution to alleviate the issue. (Integrated Pest Management/Crop Management).
- 5.) Writing a current events newsletter article adapted from a peer-reviewed scientific article (Crop Management).

## Midterm Exams

The exam format will be multiple choice. The multiple choice sections will be reflective of the certifying exams in style, content, and format. Practice quizzes will be offered on Carmen. The quizzes will serve as a review tool to help students prepare for the course exams as well as the Certified Crop Advisor exam (should students elect to take it on the offered date). The quizzes will be multiple choice and reflective of the certifying exams in style, content, and format.

## Final Project

The final project is developing a farm history of production practices through interviewing a producer. Components of the report include components such as cropping history, soil type and drainage characteristics, field maps, and fertilizer and pest control history. After assembling the history of the field, students will be asked to outline five potential changes they can identify that would improve the sustainability of the operation. These should be a mixture of economic, environmental, and (potentially) social. Graduate students will have the option of completing an alternative assignment through the development of a research summary related to their thesis or dissertation work. Specific details of what will be expected from the report will be presented in class.

## Grading scale

This course is graded on the OSU standard format.

A	93-100%	C	73-76%
A-	90-92%	C-	70-72%
B+	87-89%	D+	67-69%
B	83-86%	D	60-66%
B-	80-82%	E	<60%
C+	77-79%		

## Other course policies

### Academic integrity policy

The Ohio State University's *Code of Student Conduct* (Section 3335-23-04) defines academic misconduct as: "Any activity that tends to compromise the academic integrity of the University, or subvert the educational process." Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the University's *Code of Student Conduct* is never considered an "excuse" for academic misconduct, so I recommend that you review the *Code of Student Conduct* and, specifically, the sections dealing with academic misconduct.

**If I suspect that a student has committed academic misconduct in this course, I am obligated by University Rules to report my suspicions to the Committee on Academic Misconduct.** If COAM determines that you have violated the University's *Code of Student Conduct* (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University.

If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact me.

Other sources of information on academic misconduct (integrity) to which you can refer include:

- The Committee on Academic Misconduct web pages ([COAM Home](#))
- *Ten Suggestions for Preserving Academic Integrity* ([Ten Suggestions](#))
- *Eight Cardinal Rules of Academic Integrity* ([www.northwestern.edu/uacc/8cards.htm](http://www.northwestern.edu/uacc/8cards.htm))

### Accommodations for accessibility

#### Requesting accommodations

If you would like to request academic accommodations based on the impact of a disability qualified under the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973, contact your instructor privately as soon as possible to discuss your specific needs. Discussions are confidential.

In addition to contacting the instructor, please contact the Office for Disability Services at [614-292-3307](tel:614-292-3307) or [ods@osu.edu](mailto:ods@osu.edu) to register for services and/or to coordinate any accommodations you might need in your courses at The Ohio State University.

Go to <http://ods.osu.edu> for more information.

## Accessibility of course technology

This online course requires use of Carmen (Ohio State's learning management system) and other online communication and multimedia tools. If you need additional services to use these technologies, please request accommodations with your instructor.

- [Carmen accessibility](#)
- Synchronous course tools

## Course Topics\*

Weeks	Dates	Topics, Readings, Assignments, Deadlines
1	Jan 7-11	<b>Professional Activities and Expectations</b> <ul style="list-style-type: none"> <li>• History of the CCA, Code of Conduct</li> <li>• Professional Communication and On-Line Presence</li> <li>• Expectations of the Capstone</li> <li>• Final Project Expectations</li> </ul> <b><u>Nutrient Management</u></b> <ul style="list-style-type: none"> <li>• Introduction and Available Resources</li> <li>• Soil Science Review</li> </ul>
2-4	Jan. 14-Jan. 28	<ul style="list-style-type: none"> <li>• Soil pH and Liming</li> <li>• Soil Testing and Plant Tissue Analysis</li> <li>• Crop Nutrient Deficiencies</li> <li>• Nutrient Sources, Placement, Timing, and Restrictions</li> <li>• Nutrient Management Planning and Manure Management</li> </ul>
4-6	Jan. 30-Feb. 11	<b><u>Soil and Water Management</u></b> <ul style="list-style-type: none"> <li>• Soil Properties and Site Characterization</li> <li>• Soil Erosion and Water and Solute Management</li> <li>• Residue, Tillage, and Restrictive Soil Layers</li> <li>• Soil-Plant Water Relations</li> <li>• Irrigation and Drainage</li> <li>• Air and Water Quality</li> <li>• Sustainability Communication</li> </ul>
6	Feb 13	Midterm Exam
7-9	Feb. 15-Mar. 8	<b><u>Integrated Pest Management</u></b> <ul style="list-style-type: none"> <li>• Introduction and Available Resources</li> <li>• Basic Concepts of Pest Management</li> <li>• Sampling and Monitoring for Pests</li> <li>• Identification Tools</li> <li>• Ohio Insects, Diseases, and Weeds</li> </ul>

		<ul style="list-style-type: none"> <li>• Decision-Making Guidelines</li> <li>• Pest Management Strategies</li> <li>• Environmental Stewardship</li> <li>• Health and Safety</li> </ul>
10	Mar. 11-15	Spring Break
11-13	Mar. 18-Apr. 1	<u>Crop Management</u> <ul style="list-style-type: none"> <li>• Introduction and Available Resources</li> <li>• Cropping Systems</li> <li>• Hybrid/Variety Selection</li> <li>• Crop Establishment, Growth, Development, and Diagnostics</li> <li>• Applied Information Technologies</li> <li>• Harvest and Storage</li> <li>• Crop Production Economics</li> </ul>
13	Apr. 3	<ul style="list-style-type: none"> <li>• Midterm Exam</li> </ul>
14-15	Throughout semester, but focused Apr.8-19	<u>Application Activities (Case Studies)</u> <ul style="list-style-type: none"> <li>• Develop a plan to address a grower concern (i.e., management challenges, fertility, pest management, site preparation requirements)</li> <li>• Conduct an assessment of the sustainability of an existing production farm, and identify areas for improvement in practices</li> <li>• Working to improve the “cold” call sales experience</li> <li>• Connect students with Extension Faculty</li> <li>• Presentations and handouts</li> </ul>
15	Apr. 22	Final Project Due

\*Schedule may be subject to change based on speed of material coverage.