



Agricultural and
Applied Economics
UNIVERSITY OF WISCONSIN-MADISON

AAE 320: AGRICULTURAL SYSTEMS MANAGEMENT

AAE 320 001 (3 credits) Fall 2022

Professor Paul D. Mitchell

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Course Description: Students will learn basic economic principles and their application to the management of agricultural production systems and gain an appreciation of the complexity of U.S. agriculture. The main topics include the economics of optimizing farm production, farm financial analysis and tax consequences of business arrangements, and how federal commodity support programs work from a farmer perspective. In addition, we cover several special topics to expose students to some of the complex issues impacting US agriculture.

Prerequisite(s): AAE 215, ECON 101 or 111 **Designations/Attributes:** None

Schedule and Location: MWF 9:55 – 10:45 in 1120 Biochemistry

This 3-credit course meets for three 50-minute class period each week over the semester with the expectation that students will work on course activities for a minimum of 2 hours out of classroom for every class period, including watching videos or reading course materials. This syllabus includes additional information about meeting times and expectations for student work.

Office Hours: By appointment. Contact me via email.

I can meet via Zoom, in-person or just talk on the phone. My Zoom personal meeting room is <https://uwmadison.zoom.us/j/2725603831>.

Course Page: <https://aae.wisc.edu/pdmitchell/aae-320/> (**not in Canvas**)

Materials will be posted regularly, including presentations, lecture videos, readings, podcasts, and spreadsheets, as well as discussion assignments, problem sets, exams, and answer keys. Classroom time will be used for answering questions on the lectures, working problems sets, and discussion of special topics. Materials from previous years will remain posted to be updated as the semester progresses. Canvas will be used to collect student assignments and to post student grades. FYI, the 2020 page: <https://aae.wisc.edu/pdmitchell/aae-320-2020-pandemic-edition/>.

Textbook

No textbook is required. If interested, the “classic” farm management text is *Farm Management*, 9th ed. R.D. Kay, W.M. Edwards, and P.A. Duffy. Dubuque, IA: McGraw Hill. 2019. Students will have costs for printing the materials freely available on the course page.

Departmental Contacts

Michaela Thaw, 424 Taylor Hall, 608-262-9488, pthaw@wisc.edu

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Regular and Substantive Student-Instructor Interaction

This course engages students in teaching, learning and assessment through direct instruction during regularly scheduled lectures, providing feedback on student work (including eight problem sets and three exams), and facilitating in-class and written discussion of course content (including four discussion days).

Learning Outcomes

1. Understand and apply economic principles for optimizing input use in agriculture.
2. Learn how to use a balance sheet and income statement for farm financial analysis and common agricultural modifications for depreciation, valuation basis and cash accounting.
3. Learn major taxes that apply to farming operations, commonly used farming business entities and their tax and legal implications, including for farm transfer.
4. Understand how major federal risk management programs to support agriculture work from a farmer's perspective, including crop insurance and commodity support programs.
5. Become aware of the underlying economic principles driving the environmental impacts of agriculture and the need for income and commodity support programs.

Grading

Grades will be calculated based on the following weights

Problem Sets	20%
Class Discussion & Participation	5%
Mid-Term Exams (2 x 25% each)	50%
Cumulative Final Exam	25%

Grading Scale:

≥ 93	A	$78 \leq \text{and} < 83$	BC	< 60	F
$88 \leq \text{and} < 93$	AB	$70 \leq \text{and} < 78$	C		
$83 \leq \text{and} < 88$	B	$60 \leq \text{and} < 70$	D		

Problem Sets

Students will be assigned 8 (or possibly more) problem sets based on lectures and discussion. Students will come to lecture with questions, work together in groups and we will work through example problems similar to the problem sets in the classroom. Problem sets will be posted on the Course Page (WordPress, not Canvas). Students will submit completed problem sets electronically as clearly readable scans or photos to Canvas (maybe email). Answer keys will be posted on the WordPress page soon after submission ends. Grading will take longer for the grader to complete and post to Canvas.

Class Discussion and Participation

The course will examine multiple special "issues" on food and agriculture with short readings, videos, and/or other materials posted on the course page for students to complete before class. Students will complete a Discussion Sheet of short discussion questions to be submit electronically before class; sheets submitted later will be given half credit. During class, students will discuss the materials and additional questions in small groups, then verbally summarize responses to the class as a whole. The goal is for students to learn some facts about each issue, to understand some of the complexity, and the potential for solutions or responses.

Exams

There will be two in-class exams and a comprehensive final. I will announce in-class exams at least 1 week in advance (but likely earlier than this).

In-Class Exams: Current best guess: **Oct 14th** and **Nov 11th**, but these dates may change.

Final Exam: **December 17 (Saturday), 10:05 AM – 12:05 PM**

Exam questions will be developed from class lectures, materials posted on the course page and discussed in class and problem sets. Previous exams and keys will be available on the course page. Questions will consist of true/false, multiple choice, and short answer problems, but mostly be mathematical problems. Graded exams will be returned as quickly as possible.

Final Comment: Occasionally it becomes necessary to change the grading scheme, topics covered, or other course details. I reserve the right to do so, but I will discuss such changes with students during lecture.

Outline of Topics Covered in AAE 320

I. Introduction

1. Course Overview
2. Wisconsin Agriculture and the US Food System

II. Production Economics

1. Partial Budget Analysis
2. Single Input Production Economics
3. Multiple Input Production Economics
4. Cost Economics

Special Topics: Nitrogen in Agriculture, The More-On Principle

EXAM #1

(ABOUT OCTOBER 14TH)

III. Farm Finance

1. Balance Sheets
2. Depreciation
3. Income Statement

III. Taxes, Business Arrangements and Farm Transfer

1. Overview of Taxes on Farms
2. Business Arrangement Alternatives
3. Tax Considerations for Farm Transfer

Special Topics: Dairy Farming in Wisconsin, Inelasticity in Agriculture, Thanksgiving: Farmer Share of the Food Dollar

EXAM #2

(ABOUT NOVEMBER 11TH)

IV. U.S. Farm Policy and Programs

1. Commodity Support Programs
2. Crop Insurance Programs

Special Topics: Farm Size and Income, Land Access, Technological Change

V. Agricultural Sustainability

1. Definitions and Concepts
2. Programs and Impacts

FINAL EXAM

(DECEMBER 17, 10:05 AM – 12:05 PM)

Teaching & Learning Data Transparency Statement

The privacy and security of faculty, staff and students' personal information is a top priority for UW-Madison and so it carefully evaluates and vets all campus-supported digital tools used to support teaching and learning, to help support success through [learning analytics](#), and to enable proctoring capabilities. View the university's [teaching and learning data transparency statement](#).

Privacy of Student Records & the Use of Audio Recorded Lectures Statement

Lecture materials and recordings for this course are protected intellectual property at UW-Madison. Students in this course may use the materials and recordings for their personal use related to participation in this class. Students may also take notes solely for their personal use. If a lecture is not already recorded, you are not authorized to record my lectures without my permission unless you are considered by the university to be a qualified student with a disability requiring accommodation. [Regent Policy Document 4-1] Students may not copy or have lecture materials and recordings outside of class, including posting on internet sites or selling to commercial entities. Students are also prohibited from providing or selling their personal notes to anyone else or being paid for taking notes by any person or commercial firm without the instructor's express written permission. Unauthorized use of these copyrighted lecture materials and recordings constitutes copyright infringement and may be addressed under the university's policies, UWS Chapters 14 and 17, governing student academic and non-academic misconduct. View [more information about FERPA](#).

Course Evaluations

UW-Madison uses a digital course evaluation survey tool called [AEFIS](#). For this course, you will receive an official email two weeks prior to the end of the semester, notifying you that your course evaluation is available. In the email you will receive a link to log into the course evaluation with your NetID. Evaluations are anonymous. Your participation is an integral component of this course, and your feedback is important to me. I strongly encourage you to participate in the course evaluation.

Diversity & Inclusion Statement

[Diversity](#) is a source of strength, creativity, and innovation for UW-Madison. We value the contributions of each person and respect the profound ways their identity, culture, background, experience, status, abilities, and opinion enrich the university community. We commit ourselves to the pursuit of excellence in teaching, research, outreach, and diversity as inextricably linked goals. The University of Wisconsin-Madison fulfills its public mission by creating a welcoming and inclusive community for people from every background – people who as students, faculty, and staff serve Wisconsin and the world.

Academic Integrity Statement

By virtue of enrollment, each student agrees to uphold the high academic standards of the University of Wisconsin-Madison; academic misconduct is behavior that negatively impacts the integrity of the institution. Cheating, fabrication, plagiarism, unauthorized collaboration, and helping others commit these previously listed acts are examples of misconduct which may result in disciplinary action. Examples of disciplinary action include, but is not limited to, failure on the assignment/course, written reprimand, disciplinary probation, suspension, or expulsion.

Students' Rules, [Rights & Responsibilities](#)

Accommodations for Students with Disabilities Statement

The University of Wisconsin-Madison supports the right of all enrolled students to a full and equal educational opportunity. The Americans with Disabilities Act (ADA), Wisconsin State Statute (36.12), and UW-Madison policy (Faculty Document 1071) require that students with disabilities be reasonably accommodated in instruction and campus life. Reasonable accommodations for students with disabilities is a shared faculty and student responsibility. Students are expected to inform faculty [me] of their need for instructional accommodations by the end of the third week of the semester, or as soon as possible after a disability has been incurred or recognized. Faculty [I], will work either directly with the student [you] or in coordination with the McBurney Center to identify and provide reasonable instructional accommodations. Disability information, including instructional accommodations as part of a student's educational record, is confidential and protected under FERPA. (See: [McBurney Disability Resource Center](#))

Academic Calendar and Religious Observances

See: <https://secfac.wisc.edu/academic-calendar/#religious-observances>