



## AAE 320: FARMING SYSTEMS MANAGEMENT

AAE 320 001 (3 credits) 2021 Fall

Professor Paul D. Mitchell

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608-320-1162

**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 2317 Engineering Hall

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.

### 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.

**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*, 9<sup>th</sup> 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

Linda Davis, 424 Taylor Hall, 608-262-9488, [linda.davis@wisc.edu](mailto:linda.davis@wisc.edu)

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## Grading

Grades will be calculated based on the following weights

Problem Sets	20%
Class Discussion & Participation	20%
Mid-Term Exams (2 x 20% each)	40%
Cumulative Final Exam	20%

Grading Scale:

$\geq 93$	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 several (8 or 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 15<sup>th</sup>** and **Nov 12<sup>th</sup>**, but these dates may change.

**Final Exam:** **December 18 (Saturday), 2:45 – 4:45 PM**

Exam questions will be developed from class lectures, materials posted on the course page and discussed in class and the problem sets. Previous exams and keys will be available on the course page to aid your studies. Questions will consist of true/false, multiple choice, and short answer problems, but mostly mathematical problems. Expect questions to challenge your understanding and use of managerial concepts and tools. 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 15<sup>TH</sup>)**

### **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 12<sup>TH</sup>)**

### **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

If time allows

### **V. Agricultural Sustainability**

1. Definitions and Concepts
2. Programs and Impacts

**FINAL EXAM**

**(DECEMBER 18, 2:45 PM – 4:45 PM)**

## COVID-19 Update for Campus Leaders (*Abridged*)

### HOW THE UNIVERSITY IS PREPARING

- Effective August 30, employees and students who have not shared proof of COVID-19 vaccination with UHS will be required to test weekly on campus. Affected students and employees are receiving a follow-up message with more details.
- UW–Madison has reimposed an indoor masking requirement. Masks help prevent healthy people from contracting the virus and infected people from spreading it.

**Short Answer: Get vaccinated if you can or be tested weekly, and wear a mask inside.**

### **Q. When students need to miss class due to isolation or quarantine, what kind of support are instructors expected to provide?**

A. Individual students unable to attend in-person class meetings for COVID-19-related reasons (or for any reason) should contact their instructor to discuss options for access to course materials and activities. Instructors are encouraged to be flexible and supportive of all students in such circumstances. Students who must miss multiple class sessions should talk with their instructor and with their academic advisor about the best course of action. If multiple students in a course section must miss in-person class meetings for COVID-19-related reasons, every effort should be made to avoid a disruption of in-person instruction. Instructors should work with their department, school and college to explore ways to provide students who cannot attend in-person sessions access to course materials and activities.

**Short Answer: Let me know via email, text or call and I will work with you, likely using videos from the 2020 web page (<https://aae.wisc.edu/pdmitchell/aae-320-2020-pandemic-edition/>) and additional zoom meetings with affected students.**

### **Q. Where can I find more information or have my questions answered?**

A: See the campus website at <https://covidresponse.wisc.edu/> or email your question to [covidresponse@vc.wisc.edu](mailto:covidresponse@vc.wisc.edu), or check with your instructor.

## **Additional Information**

### **Academic Calendar and Religious Observances**

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

### **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.

### **Accommodations of Students with Disabilities**

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 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. I will work either directly with 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 the McBurney Disability Resource Center: <https://mcburney.wisc.edu/>.

### **Diversity and 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.