



Agricultural and Applied Economics (AAE) 419

Agricultural Finance

1. Administrative Details

Credits:	3
Instructional mode:	Lecture
Day & Time:	Tues/Thurs, 11:00am – 12:15pm
Semester:	Spring 2022
Dates:	January 25 – May 13, 2022
Room:	594 Van Hise Hall
Instructor:	Jordan van Rijn, PhD
E-mail:	vanrijn@wisc.edu
Office:	Taylor Hall Room 318
Office hours:	Tuesdays (2pm – 3pm) & Wednesdays (1pm – 2pm)
Class website:	Canvas
Course designations/ attributes:	Undergraduate attribute
Instructional mode:	Face-to-face
Prerequisites:	AAE 215, ECON 101, or 111

Please contact me by e-mail if you have any questions or concerns. I commit to responding to e-mails within 24 hours during the week and 48 hours on weekends/Holidays. I also encourage you to stop by my office hours.

2. Course description

Introduction to basic finance and accounting concepts related to agricultural business. Topics include financial statements, ratio analysis and interpretation, investment analysis, capital budgeting, risk management, credit markets and forecasting.

3. Learning Objectives & Outcomes

This course will acquaint students with financial concepts and principles used in managing the financial resources of a firm. We explore issues within the nexus of quantitative financial analysis, decision analysis, and firm management. Specific attention is given to financial management problems related to the operation of agricultural businesses, but the concepts considered in this course can be applied to any

form of business. Students will use Microsoft Excel throughout the course and will learn formulas, functions, graphs, and other statistical methods related to financial analysis and financial management.

The course is divided into three distinct sections. The first section focuses on financial analysis and control, and considers accounting concepts, financial strategies, and ratios used in assessing the financial performance of firms. In this section, students will become familiar with the main financial statements and ratios used in financial analysis. The second section focuses on capital budgeting techniques used to evaluate investment options over time. The emphasis will be on discounted cash flows and the time value of money. The final section familiarizes students with credit markets, sources of financing and credit risk analysis, including forecasting. This section will also introduce students to international agricultural finance and contemporary topics in finance, such as financial technology (FinTech), microfinance and behavioral finance.

In completing this class, students will:

- Correctly interpret accounting and financial statements.
- Explain the time value of money and how this concept relates to interest rates.
- Conduct firm-level investment analyses and develop capital budgeting strategies.
- Summarize characteristics of agricultural credit and capital markets for both borrowers and lenders.
- Learn Excel formulas, functions and graphs related to accounting, financial analysis, and forecasting.

4. Textbook & Software

4.1 Required Textbooks

- 1) Barry, P.J., and Ellinger P.N., Financial Management in Agriculture, 7th Edition, Publisher: Pearson Prentice Hall
Print ISBN: 9780135037591, 013503759X
eText ISBN: 9780133003666, 0133003663
- 2) Mayes, Timothy R. Financial Analysis with Microsoft Excel, 9th Edition
Publisher: Cengage
ISBN: 9780357442050

Generally, you will be required to complete the associated reading of the Barry and Ellinger text each week. The Mayes text will serve as a resource for the related Excel exercises. Unless otherwise noted, you are not required to complete the Mayes readings



before class as I will cover the important material during class time. However, you will find it a useful resource to review after class and for the take-home assignments.

4.2 Software

We will use Microsoft Excel for our assignments in this course, which is available to download for free from the [UW Campus Software Library](#). A basic understanding of Excel will be necessary to succeed in this course. Although there are no prerequisites for this class, some students may find it useful to take AAE 335: *Introduction to Data Analysis using Spreadsheets* to develop the required knowledge of Excel to succeed in this class. I will also provide a review of the basics of Excel during the first week of class. Nonetheless, if you have challenges with the Excel assignments, please e-mail me or see me in my office hours.

Note that you are expected to bring a laptop to class with Excel in order to follow-along with the lecture material and in-class assignments. If you do not have a laptop you can borrow or rent one from the UW-Madison [Computer Lending Program](#) or [UW-Madison Libraries](#). If you use UW-Madison laptops, you should make sure to save your work online, such as in your [Wisc Box](#).

5. Course Requirements & Grading

The distribution of points for your final grade in this course is as follows:

Quizzes (4)	20% (5% each)
Take-home Assignments (3)	30% (10% each)
In-class Assignments / Participation	25%
Final exam	25%

Grades will be allocated as follows:

A	94% - 100%
AB	87% - 93%
B	80% - 86%
BC	74% - 79%
C	68% - 73%
D	60% - 67%
F	< 60%

5.1 Quizzes (20%)

Throughout the semester there will be a quiz approximately every 3 - 4 weeks for a total of four. Each quiz will be based on assigned material from the textbooks and lectures. Quizzes will be closed-book, multiple choice and typically assigned at the beginning or end of class.

5.2 Take-home assignments (3) (30%)

There will be three take-home assignments throughout the course during weeks 4, 8 and 12. Generally, the assignments will cover the following topics:

Assignment #1: Financial statements, financial ratios, profitability

Assignment #2: Credit risk, break-even analysis, cost of capital, capital budgeting

Assignment #3: Risk management, time value of money, discounting, present value, internal rate-of-return, forecasting

You will have one week to complete each assignment. If you have trouble with a particular assignment, feel free to contact me via e-mail, visit me during office hours, or post your question to the course website's Discussion Board on Canvas. You may also work on the assignments in groups as long as you do not directly copy each other's work or share files—each student must turn in his or her own assignment. Copying another student's work is not allowed and will be dealt with per UW policies and procedures. At a minimum, no credit will be given for the plagiarized material and a report will be forwarded to the Dean of CALS.

5.3 In-class assignments / Participation (25%)

Students are expected to regularly attend and participate in class and let the professor know if they cannot attend due to an emergency or other unforeseen circumstance. If you are not able to attend class due to COVID, quarantining or any other emergency, please let me know—before class if possible—and I am happy to excuse those absences. Participation will be based on in-class assignments and polls/surveys throughout the semester. In-class assignments may be in groups, pairs and/or as individuals. This is similar to a “flipped” style classroom and provides an opportunity for students to practice the formulas and methods in Excel with the instructor's help and feedback. The instructor will generally provide an example of a formula or method in Excel, and then have students work on a similar example or assignment in class. Students are expected to actively work on the assignments and upload them to Canvas by midnight on the day of the in-class assignment. For the most part, these assignments will be graded based on completion and are not expected to be 100% accurate for full credit.

**Late Assignments:* Late submissions receive a 10% deduction for every day that they are turned in past the deadline up to (3) days. Submissions received after 3 days will receive a zero. I recognize that during the COVID-19 pandemic there is significant uncertainty and I plan to be as supportive and flexible as I can during this challenging semester. However, please notify me by e-mail as soon as possible if you do have an emergency or other extenuating circumstance regarding a particular assignment. You should generally still plan to do your assignments on time and not miss deadlines without valid excuses.

5.4 Final exam (25%)

There will be a comprehensive in-class (closed book) multiple choice final exam during finals week.

6. Course Outline

Week	Topics	Tasks	Readings
Week 1	<i>Introduction:</i> 1. Introduction to Financial Management 2. Excel Review		BE Ch. 1 Mayes Ch. 1
Week 2	<i>Financial Statements:</i> 1. Balance Sheet 2. Income Statement 3. Cash Flow Statement		BE Ch. 2 Mayes Ch. 2
Week 3	<i>Financial Analysis & Control</i> 1. Profitability 2. Risk 3. Liquidity	Quiz #1	BE Ch. 3 Mayes Ch. 3
Week 4	<i>Financial Planning & Feasibility Analysis:</i> 1. Financial feasibility 2. The cash budget 3. Debt structure 4. Asset financing	Assignment #1	BE Ch. 4 Mayes Ch. 4
Week 5	<i>Credit Risk & Lender-Borrower Relationships:</i> 1. Credit risk 2. Risk rating systems 3. Break-even analysis 4. Leverage analysis		BE Ch. 5 Mayes Ch. 5
Week 6	<i>Capital Structure, Leverage & Risk</i> 1. Cost of capital	Quiz #2	BE Ch. 6 Mayes Ch. 7

	2. Capital budgeting		
Week 7	<i>Time Value of Money:</i> 1. Present value 2. Compounding 3. Future value		BE Ch. 8 Mayes Ch. 8
Week 8	Spring Break		
Week 9	<i>Risk Management:</i> 1. Diversification 2. Portfolio theory 3. Liquidity management	Assignment #2	BE Ch. 7 Mayes Chs. 13 - 14
Week 10	<i>Investment Analysis & Costs of Financial Capital:</i> 1. Internal rate of return 2. Net present value 3. Interest rate 4. Borrowing costs 5. Costs of equity capital	Quiz #3	BE Chs. 9 - 10 Mayes Ch. 12
Week 11	<i>Forecasting:</i> 1. Financial statement forecasting 2. Regression forecast 3. Time series forecasting		Mayes Chs. 5 - 6
Week 12	<i>Ownership & Leasing of Farm Land & Non-Real Estate Assets:</i> 1. Characteristics of farm land 2. Analyzing land investments 3. Leasing farm land 4. Capital leasing		BE Chs. 12 - 13
Week 13	<i>Credit Markets & Financial Intermediaries in Agriculture:</i> 1. Loan pricing 2. Loan profitability 3. Farm credit system 4. Banks & Credit Unions	Quiz #4	BE Chs. 15, 17
Week 14	<i>Microfinance & Agricultural Finance in Developing Countries:</i> 1. Microfinance 2. Credit cooperatives 3. Group lending	Assignment #3	<i>Portfolios of the Poor</i> Chs. 1 - 2 VoxDev article (optional)
Week 15	<i>Alternative Finance & Financial Innovation:</i> 1. Alternative finance 2. FinTech financing 3. Behavioral finance		ideas42 Case Studies
Finals Week	Final Exam		

7. How Course Hours are Met by the Course

In accordance with the [UW-Madison Credit Hour Policy](#) (b), it is expected that students in this course will engage in at least 135 hours of learning activities (45 hours per credit). For this course, that includes 3.0 hours per week in lecture (45 total hours), 2.0 hours per week spent on weekly assignments (30 total hours), 3.0 hours per week reading and studying the lecture notes, textbooks or other outside materials in preparation for class participation and quizzes (45 total hours), and 1.0 hour per week (on average) preparing for the final presentation and the final exam (15 total hours).

8. Regular and Substantive Student-Instructor Interaction

This course provides two 75-minute live instructor-led face-to-face lectures per week throughout the semester. The instructor will provide students with qualitative feedback on assignments and the final presentation. Additionally, the instructor will facilitate group discussions periodically and lead in-class practice problems as part of the lecture period.

9. Academic Integrity

By enrolling in this course, each student assumes the responsibilities of an active participant in UW-Madison's community of scholars in which everyone's academic work and behavior are held to the highest academic integrity standards. Academic misconduct compromises the integrity of the university. Cheating, fabrication, plagiarism, unauthorized collaboration, and helping others commit these acts are examples of academic misconduct, which can result in disciplinary action. This includes but is not limited to failure on the assignment/course, disciplinary probation, or suspension. Substantial or repeated cases of misconduct will be forwarded to the Office of Student Conduct & Community Standards for additional review. For more information, refer to studentconduct.wiscweb.wisc.edu/academic-integrity/.

10. Accommodations for 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 the 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.

<http://mcburney.wisc.edu/facstaffother/faculty/syllabus.php>

11. Diversity & Inclusion

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. <https://diversity.wisc.edu/>