

# Agricultural and Applied Economics (AAE) 719

## *Applied Business Economics*

### **1. Administrative Details**

Credits:	3
Instructional mode:	Lecture
Day & Time:	Mon/Wed, 11:00am – 12:15pm
Semester:	Spring
Dates:	January 21 – May 9, 2025
Room:	Taylor Hall B30
Instructor:	Jordan van Rijn, PhD
E-mail:	vanrijn@wisc.edu
Office:	Taylor Hall Room 318
Office hours:	Tuesdays 2pm – 3pm & Wednesdays 10am – 11am
Class website:	<a href="https://canvas.wisc.edu/courses/450136">https://canvas.wisc.edu/courses/450136</a>
Course designations/ attributes:	Graduate attribute
Instructional mode:	Face-to-face
Requisites:	Graduate/professional standing

*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**

Overview of fundamental topics related to macroeconomics, economic measurement and financial markets. Concepts include fiscal and monetary policy, the money system, models of aggregate supply and demand, business cycles, financial instruments, productivity, measurements and indicators of employment and economic growth, financial institutions, forecasting, international trade and finance, and various forecasting methods and models.

### 3. Learning Objectives & Outcomes

This course is specifically designed for Agricultural and Applied Economics (AAE) students in the Agricultural and Applied Economics Professional Option (MSPO) master's program and for students that want to obtain the National Association of Business Economists (NABE) [Certified Business Economist \(CBE\)](#) certification. It is an elective course for the MSPO master's degree and covers the essential knowledge necessary for the Macroeconomics and Economic Measurement sections of NABE's CBE exam. In addition to the below topics, students will develop the skills necessary to effectively communicate economic ideas and concepts through writing and presentations, and to understand and analyze how macroeconomic topics are presented in the news and popular media.

The course will cover the following topics:

- I. Fundamental Relationships and Tools:
  - a. National income accounting
  - b. GDP estimates
  - c. Economic indicators
- II. Dynamic Models and Long-term Growth:
  - a. Growth accounting
  - b. Life-cycle optimization
  - c. Real business cycle
  - d. Solow model
- III. Business Cycle Analysis:
  - a. Definitions of the business cycle
  - b. Theories of the business cycle
  - c. Consumption theories:
    - i. Consumption and saving
    - ii. Permanent income hypothesis
  - d. Investment cycle
    - i. Investment and inventory theories
- IV. Static Models/Frameworks:
  - a. Basic model building concepts
    - i. Expenditure relationships
    - ii. Multiplier concepts
  - b. IS/LM model
  - c. Aggregate demand and aggregate supply (AD/AS model)
  - d. Aggregate output and production function

- V. Fiscal Policy:
  - a. Government taxing and spending
  - b. Stabilization policy
  
- VI. Inflation dynamics:
  - a. Philips curve
  - b. Natural rate hypothesis
  - c. Quantity theory of money
  
- VII. Money and Monetary Policy:
  - a. Money, banking and credit
  - b. Money and credit creation
  - c. Monetary policy
  - d. Monetary rules and inflation targeting
  
- VIII. Financial Markets:
  - a. Interest rates
  - b. Risk & Term Structure of Interest Rates
  - c. The Stock Market
  - d. Efficient Market Hypothesis
  - e. Debt instruments
  - f. Measures of credit spreads
  - g. Cost of capital
  
- IX. Financial Institutions and Central Banking:
  - a. Financial Structure
  - b. Banking Management
  - c. Central Banks & the Federal Reserve System
  - d. Financial Crises
  - e. Credit Unions
  
- X. International Trade and Finance:
  - a. Exchange rate determination
  - b. Trade flows/balance
  - c. Financial linkages/contagion
  - d. Purchasing power parity
  
- XI. Forecasting:
  - a. Trends, Seasonality, Cycles & Forecast Errors
  - b. Autocorrelation, Stationarity and Unit Roots
  - c. Forecasting with regression analysis
  - d. ARMA, ARIMA and ARIMAX models
  - e. VAR models

***Student Learning Outcomes:***

By the end of the course students will be able to:

- Explain, contrast and analyze the importance of topics related to business economics.
- Analyze contemporary macroeconomic theories and understand their relevant strengths and weaknesses.
- Identify publicly available sources of data related to business economics and financial markets, download the data, create relevant graphs and forecasts, and analyze the forecasts in relation to theories learned in the class.
- Effectively communicate relevant ideas through writing and presentation.

## **4. Textbook & Software**

### 4.1 Textbooks

The required textbooks for this course are [\*Macroeconomics\* by Abel, Bernanke and Croushore 11<sup>th</sup> edition](#) and [\*The Economics of Money, Banking and Financial Markets\* by Mishkin \(13<sup>th</sup> edition\)](#).

For the material on forecasting, one recommended textbook is [\*Introduction to Time Series Using Stata\*](#) by Sam Beckett. I will have a copy of this textbook on reserve and share relevant material in my lecture slides. I will also post the PDFs of any chapters that are required reading.

### 4.2 Software

We will use Microsoft Excel and Stata for our assignments in this course. They are both available to download for free from the [UW Campus Software Library](#). (Students are welcome to do the assignments in R, Python or another statistical language if you prefer, but I will present the material in Excel and Stata). You will also need to download Microsoft Word and PowerPoint, which should download together in the Microsoft 365 suite. A basic understanding of Excel and Stata will be necessary to succeed in this course.

## 5. Course Format, Requirements & Grading

The course material is organized as a blended format that includes the following elements:

1. *Weekly recorded videos* of approximately 30 – 45 minutes covering the main topics for that week. I will attempt to record and release these videos by Friday of each week, and students are expected to watch them before class on the following Monday. It is expected that the recorded nature of these videos will allow students to pause and replay them as needed, use closed-captioning, and review them in preparation for the quizzes and final exam.
2. *Lectures* of 20 – 30 minutes at the beginning of each class that reviews the main material for that week, and adds examples, applications, context and connection to current events. This will typically be followed by 10 – 20 minutes of class discussion, polls, reflection questions, and/or videos.
3. *In-class assignments and practice problems* during the final 20 – 30 minutes of class. These should be submitted to Canvas each week, but will only be graded based on completion (not accuracy). Students are encouraged to work in pairs or groups, and ask the instructor for feedback (similar to a “flipped” style of classroom instruction).
4. *Weekly readings* from the textbooks as well as other suggested readings, as outlined in the schedule below.

Students are expected to complete the assigned readings and watch the video lectures before Monday’s lecture of each week, and come prepared for participating in discussion and in-class exercises.

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

Quizzes / CBE Practice tests (3)	15% (5% each)
In-class Assignments & Discussion	20%
Take-home Assignments (2)	20% (20% each)
Presentation	20%
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 / CBE Practice tests (3) (15%)

There will be three in-class quizzes that will closely mimic the CBE practice questions related to the Macroeconomics and Economic Measurement topics. Thus, the quizzes will all be multiple choice and closed book. CBE practice exams are available in Canvas and on the [NABE website](#).

### 5.2 In-class Assignments & Discussion (20%)

Students will be expected to actively participate in the class discussion. This includes preparing for class ahead of time, asking questions, and responding to questions from the professor. In addition to the textbook readings, we will have assigned readings—such as relevant news articles—that students will be required to read before class and be prepared to discuss. There will also be weekly in-class exercises and practice problems that will count towards your participation credit. You must upload these assignments to Canvas by Friday of each week; however, you will only be graded based on completion and not accuracy. In other words, you should make an honest attempt to answer each question but do not need to get it correct for full credit. You are also expected to attend each class. If you are unable to attend a class due to an emergency or other reason, please let me know as soon as possible (ideally, before the class takes place).

### 5.3 Assignments (2) (20%)

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

*Assignment #1:* GDP, Inflation, Productivity, Employment, Savings-Investment,

*Assignment #2:* Forecasting, Financial Markets, Financial Institutions, Unemployment & Inflation, Macroeconomic Policy

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.

#### 5.4 Presentation (20%)

Communicating your ideas effectively is a critical aspect of business economics. This assignment will provide you with the opportunity to practice your presentation and communication skills, such as those developed in AAE 720: *Seminar in Quantitative and Applied Economics*. The details will be provided in a separate document, but for your final presentation you will pick from a list of questions/topics (or come up with your own) and download data of economic indicators, create graphs, perform econometric analysis or a forecast, and prepare a 10-15-minute presentation that addresses your question of interest. You should pick your presentation topic and e-mail it to me by **March 19<sup>th</sup>**. A good source of data you may wish to use is: <https://fred.stlouisfed.org/>

#### 5.5. Final exam (25%)

There will be a comprehensive final exam that will be similar in format to the CBE exam (i.e., closed book and multiple choice). It will be based on all the material covered in class up to that point. The exam is scheduled for **Monday, May 5<sup>th</sup>** from 11am – 12:15pm. If for some reason you cannot attend the final exam on this day, please let the instructor know to schedule another day and time.

*\*Late Assignments:* Late assignments receive a 10% deduction of the total grade for each day that they are turned in past the deadline up to three days.

## 6. Course Outline

Week	Topics	Tasks	Reading
Week 1	<i>Introduction to Class</i> 1. Syllabus review 2. Intro to Business Economics 3. St. Louis FRED Website		Abel et al., Ch. 1
Week 2	<i>Macroeconomics Basics</i> 1. GDP 2. Prices & Inflation 3. Productivity & Output 4. Savings & Investment		Abel et al., Chs. 2 - 3
Week 3	<i>Consumption &amp; Saving</i> 1. Consumption & Saving 2. Savings & Investment in an Open Economy		Abel et al., Chs. 4 - 5
Week 4	<i>Long-Run Growth</i> 1. Solow Model 2. Asset Market, Money & Prices	Assignment #1	Abel et al., Chs. 6 - 7
Week 5	<i>Business Cycles</i> 1. Intro to Business Cycles 2. IS-LM/AD-AS Model	Quiz #1	Abel et al., Ch. 8
Week 6	<i>General Equilibrium</i> 1. IS-LM/AD-AS Model		Abel et al., Ch. 9
Week 7	<i>Business Cycles &amp; General Equilibrium</i> 1. Classical Business Cycle Analysis 2. Keynesianism		Abel et al., Chs. 10 - 11
Week 8	<i>Macroeconomic Policy</i> 1. Unemployment & Inflation 2. Exchange Rates	Quiz #2	Abel et al., Chs. 12 - 13
Week 9	<i>Macroeconomic Policy</i> 1. Money Supply 2. Government spending & financing 3. Federal Reserve System	Pick presentation topic (e-mail to instructor)	Abel et al., Chs. 14 - 15
Week 10	<b>Spring Break</b>		
Week 11	<i>Forecasting in Excel</i> 1. Principles of Forecasting 2. Time series forecasting basics 3. Forecasting using Regression Analysis 4. Holt-Winters		Silver, Ch. 6 Beckett Chs. 5 - 6 Mayes (optional – PDF in Canvas)
Week 12	<i>Forecasting in Stata</i> 1. Autocorrelation 2. ARMA & ARIMA Models	Assignment #2	Beckett Chs. 7, 9 - 10



	3. Unit Roots 4. VAR Models 5. Granger Causality 6. Cointegration		
Week 13	<i>Financial Markets</i> 1. Risk & Term Structure of Interest Rates 2. The Stock Market 3. Efficient Market Hypothesis	Quiz #3	Mishkin, Chs. 6 - 7
Week 14	<i>Financial Institutions</i> 1. Financial Structure 2. Financial Regulation 3. Financial Crises 4. Banking management		Mishkin, Chs. 8 – 10 Li & van Rijn (2021)
Week 15	<b>Student Presentations</b>		
Finals Week	<b>Final Exam</b> (May 5th, 11am – 12:15pm)		

## 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), 30 hours total on assignments (10 hours on each assignment), 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. The instructor will also record weekly videos of 30 – 45 minutes in length.

## 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/](http://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/>