Economics Spring 2023 Course Listing

Spring 2023 enrollment is upon us! Read through this document thoroughly so you can effectively work with advisors and enroll yourself in classes best for you.

Class Enrollment Reminders:
General Electives in economics and Advanced Economics Electives are listed here. Do not get these groupings mixed up. A mistake distinguishing between these two categories could cost you a whole semester. Remember, our definition of "advanced" is *not* the same as UW's academic level description, so ensure you choose courses from the Advanced Electives section seen on this document to count for your Advanced Economics Electives.

Credits for these listed classes vary each semester and are determined based on enrollment size. Ensure you enroll for the correct number of credits. Economics classes *fill quickly and* enrolling on a waitlist is never a guarantee of enrollment. Waitlists will not be largely dealt with until the beginning of the Spring 2023 semester.

A collective list of FAQs can be found here: https://econ.wisc.edu/academic-advising-faq/

Honors in the Major

Econ 312: Intermediate Macroeconomic Theory (Adv. Treatment/Honors course)
Professor Simeon Alder, 3 credits

This is the honors version of Econ 302, *offered only in Spring*, and initially open only to students doing Honors in the Major. Students in this class are considering doing honors or look for a smaller, more mathematically rigorous course to meet the intermediate macroeconomics requirement. Themes in this course are the same as 302 but will be taught more in-depth and in an accelerated fashion. This course is required of students doing EconomicsME Honors.

Pre-reqs: Econ 101 or 111; and Econ 310. Not open to students with credit for Econ 302.

**Econ 580 is needed for EconME Honors as well but is an Advanced Elective and is housed under that category

General Electives in Economics

Econ 315: Data Visualization for Economists
Professor Gregory Pac, 3 Credits

This course will convey the fundamental concepts of economic data visualization and analysis. Students will develop a toolkit of skills to visualize, interpret, and communicate data. After examining the fundamentals of data visualization, emphasis is on methods using Tableau to design and develop dashboards, graphs, and charts to ease quick and accurate interpretation of economic relationships. Students will move beyond tabular results to display and demonstrate the findings of economic research.
This is a hands-on course which will require the use of a computer and to complete assignments in Tableau during and after class. The course will also provide a very brief overview of MS Excel. There will be 4 homework assignments where students will build visualizations using Tableau, an individual semester project, and a take-home final exam.

Pre-reqs: Econ 101 and 102, or 111; and Econ 310

Econ 330: Money and Banking
Professor Steven Rick, 4 Credits

Students will study the fundamental concepts of financial markets and financial institutions and how those concepts apply to real world issues. The course will also focus on central banking and the conduct of monetary policy. International finance and its impact on the foreign exchange market will be analyzed. Students will be able to construct and evaluate economic models, their assumptions and conclusions to evaluate monetary theory. An aggregate demand and supply model will be constructed to analyze the transmission mechanisms of monetary policy. Students will acquire a diverse set of skills and strategies in mathematical reasoning/statistical and computational techniques/deductive logic/problem solving. Students will use mathematics, computational, and statistical techniques to analyze real world situations and policies. Students will then use economic analysis to critically evaluate public policy proposals. The course homework will be assigned weekly and can be found on the weekly class notes that will be emailed to the students.

Pre-reqs: Econ 101 and 102, or 111

Econ 390: Microeconomics in Popular Culture
Professor Gwen Eudey, 3 credits

This class uses skills from Econ 101 to dig deeper into issues raised in the Oscar-winning films Nomadland (2020), The Big Short (2015), and Parasite (2019), as well as the film version of The Pursuit of Happyness (2006). Readings include Wisconsin-based non-fiction books Janesville (Goldstein, 2017) and Evicted (Desmond, 2016). Students are assessed weekly on their critical economic understanding of the texts and theory, use of supporting data, applications to current economic conditions, and groupwork. Final projects require economic analysis of a student-selected excerpt from a film, book, song, or other approved medium in popular culture. There are two in-class exams.

Pre-reqs: Econ 101 or 111

Econ 390: The Chinese Economy
Professor Stella Chan, 3 Credits

The rise of China as an economic powerhouse is rapidly reshaping the global economic landscape. This course will examine the history of China's economic reforms and development, the nature of its growth, and the fundamental institutions that underlie its economic transformation. The integration of this powerful economy and its impact on the world economy through trade and financial flows will be examined. Lastly, this course will consider some of the major challenges modern China faces, such as regional inequalities, environmental concerns, and the prospects for sustainable growth in the future. Students are expected to provide responses to reading assignments, participate in online and class discussions, and complete a research project that will be shared with the class in both oral and written form.

Pre-reqs*:* Econ 101 and 102, or Econ 111

Advanced Electives in Economics

Declared economics students must complete **a minimum of 2 Advanced Economics** courses from UW Madison.

Econ 400: Introduction to Applied Econometrics
Professor Christopher McKelvey, 4 credits

Econ 400 provides an introduction to applied econometrics – the body of statistical methods economists use to evaluate empirical relationships and test economic theories. The focus is on the application of these methods to the analysis of real-world data. Students who best learn through hands-on experience in analysis should choose this class. Problem sets make extensive use of the statistical software package STATA. This course intends to provide econometric skills necessary to read and understand empirical papers which statistical models can be used to establish causal relationships. Topics include univariate & multiple regression, differences-in-differences, instrumental variables, limited dependent variables, time series, and fixed-effects models. This course is a good match for those interested in developing data analysis skills, which are useful for a wide variety of analytically oriented professions.

Pre-reqs: Econ 310. Not open to students with credit for Econ 410

Econ 410: Introductory Econometrics
Professor Christopher McKelvey, 4 credits

Econ 410 is also an introductory econometrics course but takes a more theoretical and mathematical approach. The focus is on deriving estimators and evaluating the properties of these estimators. The problem sets make use of the statistical software STATA but place less emphasis on the application of statistical methods and a correspondingly greater emphasis on proofs. The topics covered are largely identical to those covered in Econ 400; it is the more mathematical treatment of these topics in Econ 410 that differentiates these two courses. This course is a good match for those interested in pursuing graduate school in economics.

Pre-reqs: Econ 310 and Math 217, or 221. Not open to students with credit for Econ 400.

What is the difference between Econ 400 and Econ 410?

Econ 441: Analytical Public Finance
Professor Naoki Aizawa, 3 credits

This is a course in applied microeconomic theory, focusing on the role of the government in the economy. This course will examine the reasons for governmental intervention in the economy, the extent of that intervention, and the response of private agents to such governmental actions. The course aims to provide students with an improved ability to think about the logic and consequences of public policies and interventions. Topics covered include government policies concerning externalities, public goods, education markets, insurance markets, welfare programs, and taxation. Weekly problem sets are a combination of (1) solving and evaluating relevant economic models and (2) analyzing existing governmental policies.

Pre-reqs: Econ 301 or 311

Econ 450: Wages and the Labor Market
Professor Chao Fu, 4 credits

Economics and institutional forces determining labor supply and demand; wages theories, wages in the economy, the labor force, unemployment, wages, labor mobility, functioning of labor markets. The object is to provide students with a detailed outline of the basics of labor economics. The course will also consider the importance for students to be aware of the simple facts of labor market in the US. Using the theory and facts, it should be possible to evaluate labor market policies and to form an informed view on current policy debates.

Pre-reqs: Econ 301 or 311

Econ 455: Behavioral Economics
Professor Matthew Friedman, 4 credits

This course explores some of the systematic ways in which people fail to be perfectly rational; e.g. in succumbing to temptation, suffering from biases, failing to properly incorporate all available information when making decisions, forgetting things, or being influenced by the way a problem is framed. This class will look to the psychological and experimental literature for evidence of how real people behave, build simple models of this behavior, and then explore the economic and policy implications. This course is more theoretical than empirical and will assume familiarity with intermediate micro as well as basic calculus and probability. Students will complete a final capstone project based on what they have learned during the semester.

Pre-reqs*:* Econ 301 or 311; and Econ 310

Econ 458: Industrial Structure and Competitive Strategy
Professor Raymond Deneckere, 3 credits

This class analyzes competition among firms and its effect on industrial structure. Theoretical models and case studies are used, thereby challenging both analytical and synthetic skills. Covered topics include: Entry barriers, price competition dynamics, entry and exit strategies, and competitive tactics such as product differentiation, advertising and technological change. The unique course framework has students working on projects in a team-oriented environment, in a manner reflective of many workplace environments. Grading will be based on case analyses, review questions on class material, class participation, and a final research paper. This class size is designed to be small, so collaborative efforts are enforced. This is a great course for the entrepreneurially talented as well as those preparing for a career in consulting.

Pre-reqs: Econ 301 or 311

Econ 461: International Macroeconomics
Professor Stella Chan, 3 Credits

This course studies the theories and policy issues in international finance, or open macroeconomics. Topics such as the workings of the foreign exchange markets, the determination of the exchange rates, the relationships between trade, income, and financial flows, and the effects of macroeconomic policy under fixed and flexible exchange rate regimes will be explored. Students will discuss the causes and consequences of currency and financial crises and learn about the European Monetary Union. Problem sets, data analysis exercises, and exams constitute the class.

Pre-reqs*:* 302 or 312

Econ 464: International Trade
Professor Maria Muniagurria, 4 credits

This class uses the contemporary theory of international trade. It focuses on what nation's trade and why they trade. This class will ask, "In what sense is international trade beneficial to trading countries?" And, "What effects of trade, tariffs, and international trade agreements do we see when looking at the welfare of impacted groups?" Current policy issues will be examined to demonstrate the usefulness and limitations of the theory. Throughout the semester there will be 6-7 homework assignments, exams, and short reports.

Pre-reqs: Econ 301 or 311

Econ 475: Economics of Growth
Professor Maria Muniagurria, 3 credits

This course studies models of economic growth and relate them to country experiences. Topics include growth and technology, education, natural resources, government policies, and population growth. Questions asked are: How does technological change affect growth? What impact does education have on growth? What is the role of institutions on determining income levels and economic growth? Expect weekly readings, homework, in-class discussions, and calculus!

Pre-reqs: (Econ 301 or 311 and Econ 302 or 312); and Math 217 or 221

Econ 522: Law and Economics
Professor Fran Flanagan, 4 credits

An economic analysis of laws and legal systems, using microeconomic tools to study the incentives created by particular laws and the outcomes to which they will lead. Specific topics include property, contracts, torts, and criminal law. The class has regular homework assignments, quizzes, multiple midterm exams, a term paper, and a final. This is a very popular Advanced Elective that fills quickly every semester!

Pre-reqs*:* Econ 301 or 311

Econ 548: Economics of Healthcare
Professor Korinna Hansen, 3 credits

This is a course in applied microeconomics. It is designed for those who already understand basic consumer and producer theory, and focuses on how health care markets differ from other markets. Due to asymmetric information, uncertainty, government involvement, and externalities, the economics of the health care sector and its players (patients, providers, insurers, employers, and government) require a special analysis. You will learn how to apply microeconomic tools to study the medical care system and analyze the economic aspects of health care policy implications. In the process you will also learn the institutional structure of the US health care market. A large group paper/presentation requirement will provide experience on how to research and present academic material.

Pre-reqs: Econ 301 or 311

Econ 570 Data Analytics for Economists
Professor Ashley Swanson, 4 credits

This course teaches students the fundamentals of modern data analytics. These skills are needed to provide data-driven answers to relevant questions. Data analytics is a fundamental aspect of business management, academic research, and good governance. The course is taught using the python programming language, but programming is *not a prerequisite*. We will spend the first three weeks of class learning how to write python code. Following, the course focuses on cleaning and shaping data (a major challenge!), visualization, and statistical modeling. The course culminates in a group research project in which teams of students formulate a research question, find the appropriate data to analyze, and produce an executive report on their findings. Approximately half of the in-class time consists of students working on data programming problems: laptops are required. More details: http://badgerdata.org/pages/econ-570/

Pre-reqs: ECON 310, (STAT 240 and 340), or (STAT 303 and 333); and ECON 301 or 311
**This is the same class as Econ690 Data Analytics taught previously; it just now has an official number! If you took Data Analytics with Kim Ruhl as Econ 690 previously, you cannot take Econ 570 now!

Econ 580: Honors Tutorial in Research Project Design
Professor Matthew Wiswall, 3 credits

This is a small, CommB course in which students learn to conduct their own original research in economics and write and present their research. In a later semester, students may choose to continue their research with a faculty member as independent study. The course is limited to Honors students only, and requires satisfactory completion of intermediate micro, intermediate macro, and econometrics. It is strongly encouraged that students choose to pursue research related to upper elective courses they have completed to give them a solid foundation in their topic.

Pre-reqs: Initially open only to Econ Honors in the Major students who have completed Econ 311, 312, and 410. With advisor permission, remaining seats open to students with a minimum of 301 or 311; 302 or 312; and Econ 410. Concurrent enrollment in any of these classes is not allowed.

Econ 690: Experimental Economics
Professor David Hansen, 3 credits

Experimental economics uses experimental methods to examine questions that are of interest to economists. This involves carrying out experiments in a laboratory setting or in the field. In this class, we will consider how to design experiments and understand their results. We will use principles from statistical models, survey design, game theory, understanding of incentives, and behavioral economics to allow us to understand answers to key questions about economic policy, development economics, learning in uncertain situations, behavior in markets, market design, auctions, finance, altruism and selfishness, bargaining, and many other topics, as well as the processes that produced these answers. Students will participate in economic simulations, present on key experimental economics research, and practice designing experiments to answer questions they are interested in.

Pre-reqs: Econ 301 or 311; and Econ 310

Econ 695: Data Analysis and Big Data
Professor Matthew Friedman, 3 credits

This course teaches students how to extract economically meaningful information from data on a scale beyond what basic data-processing software packages (Excel, Access, SPSS) are designed to handle. This will include hands-on training that will teach students to measure spatial distance between data points, group data by physical location, calculate spatial statistics, visually represent spatial data using maps, and analyze relationships between variables using clustering algorithms and spatial regression analysis. Students who successfully complete the course will be able to build a database and analyze it using several econometric methods, including regression analysis, supervised and unsupervised machine learning. In addition, the course will introduce students to spatial data analysis using Geographic Information Systems (GIS).

These skills will be taught through guided practice and weekly exercises to verify understanding. We will focus on practical applications using 'real-world' examples – getting hands on programming experience while answering policy relevant research questions. Students will be evaluated based upon their weekly participation completing these exercises. Additionally, a capstone group project that require students to work collaboratively to demonstrate their mastery of course topics, producing a research paper based on their own novel analysis.
This class is designed for those who have little or no programming background in Python. Students are expected to work at least six (6) hours per week outside of class to complete assignments and review learning enrichment materials.

Pre-reqs: ECON 310, (STAT 240 and 340), or (STAT 303 and 333)

Econ 695: Econometrics and Machine Learning for Big Data
Professor Harold Chiang, 3 credits

This course introduces state-of-the-art econometric and statistical learning methods to analyze big and complex datasets. Topics include statistical learning, linear regression, classification, resampling methods, linear model selection and regularization, nonlinear model selection and regularization, tree-based methods, and support vector machines. The course will focus on both methodology and R programming (knowledge of R programming is not required). Each week we will have one synchronous lecture covering concepts in the methodology and a pre-recorded lecture on applications of the methodology with R-programming. Laptops are required. The course contains coding problem sets, an in-class midterm focusing on methodology and a group big data research project in which teams of students formulate a research question, find the appropriate big data to analyze, and produce a report on their findings.

Pre-reqs: Econ 301 or 311; and Econ 400 or 410.
Knowledge of linear/matrix algebra is recommended but not required. We will review the necessary matrix algebra concepts in the first few lectures.

Please note that our schedules will be very busy during this shortened enrollment time. Please use Starfish to schedule an appointment or email **one** advisor from Economics- Alicia Johanning, Madison Hartup, or Sam Dziuk.
Remember, too, we have drop in hours in 7238 Social Sciences during the following times:
Wednesday: 10AM-12PM, and 1PM-4PM

For questions pertaining to pre-requisites, enrollment difficulties, or other logistical inquiries should be sent to our general Econ Advise account, econadvise@ssc.wisc.edu.