ECONOMICS

Economics studies how people make choices when facing scarcity. Human behavior has important implications for the outcomes of markets, government policies, and all corporate and public decision-making. As a result, economics graduates are in high demand from employers across various industries, and a bachelor's degree in economics can open a successful career in almost anything and everything. The advantage of majoring in Economics is that it provides excellent preparation for diverse career opportunities and exceptional financial rewards. A bachelor's degree in economics prepares students with a solid foundation to go into a graduate degree in economics, business, finance, law, or other fields.

Missouri S&T's Economics degrees are with STEM designation because we believe in the power of data and take a decidedly quantitative approach to the economics curriculum. We design the curriculum to be rich in modern quantitative methods and applied analytical tools through a combination of business, econometrics, mathematics, programming, and statistics classes. In addition to enhancing students' understanding of human behavior by drawing upon information from social science fields, our economics curriculum focuses on providing students with the analytical ability to make effective resource allocation decisions and solve complex issues for businesses, organizations, and policymakers in modern society.

We offer two baccalaureate degrees in Economics, a Bachelor of Arts (BA), and a Bachelor of Science (BS) degree; both are STEM degree programs. The significant difference between a BA & BS degree is BA degree has a required component in foreign languages. Specifically, students with a BA degree must take 12 hours of a single foreign language in three consecutive semesters or take 16 hours (8+8) of two foreign languages. In addition, we offer three distinct emphasis areas and certificates that are industry-centric and career-ready. These emphasis areas and certificates are Decision Data Analytics, Energy Economics, and Financial Economics and Technology. Each emphasis area or certificate is carefully designed to meet the specific needs of students and industry:

- **Decision Data Analytics-**Positions students to succeed in all industry positions focused on data analysis.
- **Energy Economics-**Prepares students for positions across the energy sector.
- **Financial Economics and Technology-**Prepares students for success in the financial industry in a range of positions.

We also offer a minor in Quantitative Economics. For business, engineering, or science students who want to supplement their major, the quantitative economics minor is designed to prepare them to become future business and industry professionals who can apply the core economics principles and quantitative methods to articulate and make policy recommendations aligned with the current and projected economic environment. The minor provides foundational knowledge of market structure, the global business environment, data analytics, and public policies necessary for strategic corporate and government decision-making.

For further information, visit the department's web page at https://econ.mst.edu/ or contact us at 573-341-4800 or at econ@mst.edu.

Areas of Concentration

Students are encouraged to use their electives, both in economics and in general, to develop areas of concentration beyond the core requirements. Among the possibilities are business, finance, and international affairs. Faculty advisors will assist students in establishing these curricular tracks.

Bachelor of Science Economics

In addition to the general university requirements for a bachelor of science degree, a student must complete:

1. ECON 1100, ECON 1200, ECON 2100, ECON 2200, ECON 3300, ECON 3333, and ECON 4538 with a minimum grade of "C" in each.
2. At least 9 additional hours of economics electives, at or above the 2000 level, with a minimum grade of "C" in each.
3. BUS 1210, ENG MGT 2110, and STAT 3111.

Specific requirements for the Bachelor of Science degree are outlined in the sample program listed below.

Freshman Year

First Semester	Credits	Second Semester	Credits
ECON 1100[3]	3	ECON 1200[3]	3
ENGLISH 1120[1]	3	HISTORY 1200, or 1300, or 1310	3
BIO SCI 1113, or 1173, or 1223	3	MATH 1212	4
Lab w/Living or Physical Science Course	1	PSYCH 1101	3
MATH 1140	3	IS&T 1551, or 1561, or COMP SCI 1971[4]	3
	13		**16**

Sophomore Year

First Semester	Credits	Second Semester	Credits
ECON 2100[3]	3	ECON 2200[3]	3
SP&M S 1185	3	Chemistry, Geology, Geophysics, or Physics	3
ENGLISH 1211, or 1212, or 1231, or 1221, or 1222, or 2230	3	ART 1180, or 1185, or MUSIC 1150, or THEATRE 1190	3
STAT 3111	3	BUS 1210	3
Free Elective	3	Free Electives	3
	15		**15**

Junior Year

First Semester	Credits	Second Semester	Credits
ECON 3300[3]	3	ECON 3333[3]	3
ENGLISH 1600	3	Culture, Society and Religion[2]	3
POL SCI 1200	3	Economics Electives[5]	3
ENG MGT 2110	3	Free Elective	6
Economics Elective[5]	3		
	15		**15**

Senior Year

First Semester	Credits	Second Semester	Credits
ECON 4538[3]	3	Economics Elective[5]	3

Free Electives	12	Free Electives	13
	15		**16**

Total Credits: 120

1 In-Major Writing Intensive
2 One of ENGLISH 2410, ENGLISH 3215, ENGLISH 4290, Foreign Language Beyond Second Semester, HISTORY 3321, PHILOS 3225, PHILOS 3235, PHILOS 1175, PHILOS 4340, Any Political Science, PSYCH 4600, PSYCH 4992, Any Sociology, SP&M S 3235.
3 A Grade of "C" or better is required for ECON 1100, ECON 1200, ECON 2100, ECON 2200, ECON 3300, ECON 3333 and ECON 4538.
4 COMP SCI 1971 must also include COMP SCI 1981.
5 Must be 2000 level or higher, with a minimum grade of C.

Decision Data Analytics Emphasis

Junior and Senior Years

ECON 5360	Data Driven Strategic Insights	3
ECON 5380	Data Intelligence using Case Studies	3

Financial Economics and Technology Emphasis

Junior and Senior Years

ECON 4383	Financial Economics	3
ECON 5337	Financial Mathematics	3
ECON 5360	Data Driven Strategic Insights	3

Energy Economics Emphasis

Junior and Senior Years

ECON 4440	Environmental And Natural Resource Economics	3
ECON 4540	Energy Economics	3
Choose one of the following courses:		
ECON 3512	Mining Industry Economics	3
ECON 5532	Advanced Mining Economics	3
Choose one of the following courses:		
ENG MGT 5513	Energy and Sustainability Management Engineering	3
CIV ENG 5642	Sustainability, Population, Energy, Water, and Materials	3

Quantitative Economics Minor

The Quantitative Economics minor aims to increase job prospects for students across the campus. This minor is designed to prepare business, engineering, or science students to become future business and industry professionals who can apply the core economics principles and quantitative methods to articulate and make policy recommendations aligned with the current and projected economic environment. The minor provides foundational knowledge of market structure, the global business environment, data analytics, and public policies necessary for strategic corporate and government decision-making.

The Quantitative Economics minor requires completing of a minimum of 17 to 18 hours of coursework with a grade of "C" or better. Required courses in the minor program include both Principles of Microeconomics (ECON 1100) and Macroeconomics (ECON 1200), Introduction to Econometrics (ECON 3300), one course between Data Intelligence using Case Studies (ECON 5350) and Data-Driven Strategic Insights (ECON 5360), and two courses among Economic Analysis of Engineering Projects (ENG MGT 1210), ECON 2100, 2200, or any 3000 and above economic electives of the student's choices in consultation with the department's minor advisor.

ECON 1100	Principles Of Microeconomics	3
ECON 1200	Principles Of Macroeconomics	3
ECON 3300	Introduction to Econometrics	3

Choose One of the Following Courses: [1]		
ECON 5360	Data Driven Strategic Insights	3
ECON 5380	Data Intelligence using Case Studies	3
Choose Two of the Following Courses:		
ENG MGT 1210	Economic Analysis of Engineering Projects	2
ECON 2100	Intermediate Microeconomic Theory	3
ECON 2200	Intermediate Macroeconomic Theory	3
ECON 3333	Computational Economics	3
ECON 3512	Mining Industry Economics	3
ECON 3880	Introduction to Sports Economics	3
ECON 4383	Financial Economics	3
ECON 4430	Cost-Benefit Analysis	3
ECON 4440	Environmental And Natural Resource Economics	3
ECON 4538	Advanced Econometrics	3
ECON 4540	Energy Economics	3
ECON 4720	International Finance	3
ECON 5532	Advanced Mining Economics	3
ECON 5337	Financial Mathematics	3
Total Credits: 17 - 18		

1 Both data analytics courses can be counted as a total of six credit hours for this minor. When students choose to take both ECON 5350 and 5360, they must only choose one course from ENG MGT 1210, ECON 2100, 2200, or any other 3000-level and above economic electives to complete the minor.

Decision Data Analytics

This certificate aims to offer students across the campus an opportunity to gain knowledge and experience hands-on practices in Decision Data Analytics. There is an increasing market demand for decision data scientists, who are equipped with the talents to manage and analyze data and apply the results to fine decision-making, in a variety of economic, social, and scientific fields. The certificate is designed to turn S&T students into data-driven professionals through a case study and project-based curriculum where they will learn by doing. A unique feature of this certificate is that corporate executives will teach 50% of the certificate (one course on Data Intelligence and another course on Data Insights) so that students learn valuable perspectives from today's marketplace. This four-course Decision Data Analytics certificate develops the knowledge and skills in programming, economic modeling, forecasting, econometrics, and data analytics necessary to play a leading role in decision-making at private corporations, government agencies, and international organizations.

To be awarded a certificate in Decision Data Analytics, a student must meet the general requirement of taking the following four courses (12 credit hours):

ECON 3300	Introduction to Econometrics	3
ECON 3333	Computational Economics	3
ECON 5360	Data Driven Strategic Insights	3
ECON 5380	Data Intelligence using Case Studies	3

Energy Economics

This certificate aims to offer students across the campus an opportunity to gain knowledge in Energy Economics. Missouri S&T is recognized as one of the top universities in the nation offering energy engineering programs, and this certificate will further synergize with S&T's research and education focus in energy. This certificate focuses on addressing current and future energy challenges in a comprehensive manner by studying energy choices, policies, and their impacts on the sustainability of the economy, the welfare of society, and the environmental conditions. The Energy Economics certificate is complementary to those pursuing an

undergraduate degree with a focus on energy engineering, environmental sciences, or sustainability. The certificate is especially valuable to students interested in a career in the energy sector.

General requirement: Four classes (12 credit hours) in economics or related disciplines.

Required Two Classes (6 hours):		
ECON 4440	Environmental And Natural Resource Economics	3
ECON 4540	Energy Economics	3
Two of the following classes (6 hours):		
CHEM ENG 5325	Carbon Capture Process Engineering	3
ELEC ENG 3540	Power System Design And Analysis	3
ELEC ENG 5150	Photovoltaic Systems Engineering	3
ELEC ENG 5510	Electric-Drive Vehicles	3
ECON 3512	Mining Industry Economics	3
or ECON 5532	Advanced Mining Economics	
ENG MGT 5513	Energy and Sustainability Management Engineering	3
ENV ENG 5642	Sustainability, Population, Energy, Water, and Materials	3
MECH ENG 5541	Applied Energy Conversion	3
MECH ENG 5543	Energy Efficiency of Vehicles	3
MS&E 5230	Energy Materials	3
PET ENG 4531	Natural Gas Engineering	3
PET ENG 4590	Subsurface Energy Economics	3
PET ENG 5050	Carbon Storage	3
PET ENG 5801	Petroleum Data Analytics	3
NUC ENG 4207	Nuclear Fuel Cycle	3
NUC ENG 4281	Probabilistic Risk Assessment	3

Financial Economics and Technology

This certificate aims to offer students across the campus an opportunity to gain knowledge and experience in Financial Economics & Technology. This certificate integrates courses synthesizing programming techniques, quantitative methods, and theoretical foundations in economics with applications in financial decisions. The certificate explores essential concepts in behavior economics, monetary economics, and international finance to develop foundational knowledge in financial economics. To give students an edge to pursue a career in the modern financial industry, this certificate is designed to be partially delivered by corporate executives who can offer students real financial problems to work on. Students completing this certificate are equipped with tools and knowledge especially valued by banks, consulting firms, financial technology, insurance firms, and investment firms.

To be awarded a certificate in Financial Economics & Technology, a student must meet the general requirement of taking the following four courses (12 credit hours):

Required Courses (12 hours):		
ECON 3333	Computational Economics	3
ECON 4383	Financial Economics	3
ECON 5337	Financial Mathematics	3
ECON 5360	Data Driven Strategic Insights	3

Bonnie J Bachman, Professor and Director, NSF/Missouri S&T I-Corps Site Program
PHD Rutgers University

Michael C Davis, Associate Professor
PHD University of California-San Diego

Mahelet Fikru, Associate Professor
PHD Southern Illinois University-Carbondale

Gregory Gelles, Professor Emeritus
PHD West Virginia University

Melody Lo, Steinmeyer Edowed Economics Department Chair
PHD Purdue University

Eun Soo Park, Associate Professor
PHD Northwestern University

Radu Puslenghea, Assistant Teaching Professor
PHD University of Virginia

Yishu Zhou, Assistant Professor
PHD University of Connecticut

ECON 1000 Special Problems (IND 1.0-6.0)
Problems or readings on specific subjects or projects in the department. Prerequisite: Consent of instructor required.

ECON 1001 Special Topics (IND 0.0-6.0)
This course is designed to give the department an opportunity to test a new course. Variable title.

ECON 1100 Principles Of Microeconomics (LEC 3.0)
An examination of how resources and products are priced and how income is distributed within various types of market structures.
ECON 1100 - MOTR ECON 102: Introduction to Microeconomics

ECON 1200 Principles Of Macroeconomics (LEC 3.0)
A study of alternative strategies for managing the U.S. economy within a global environment, to attain the goals of full employment, stability and growth.
ECON 1200 - MOTR ECON 101: Introduction to Macroeconomics

ECON 1300 Business And Economic Statistics I (LEC 3.0)
This is an introductory course in business and economic statistics. Our main objective is to familiarize the student with elementary statistical concepts within the context of numerous applications in Business and Economics. We will highlight the primary use of statistics, that is, to glean information from an available sample regarding the underlying population. Prerequisite: Math 1120 or Math 1140 with a grade of "C" or better. (Co-listed with Stat 1111).

ECON 2000 Special Problems (IND 1.0-6.0)
Problems or readings on specific subjects or projects in the department. Prerequisite: Consent of instructor required.

ECON 2001 Special Topics (LEC 0.0-6.0)
This course is designed to give the department an opportunity to test a new course. Variable title.

ECON 2100 Intermediate Microeconomic Theory (LEC 3.0)
Analysis of demand and supply in various market environments using the theories of production, resource pricing, and distribution of income. Emphasis on efficiency attainment and the rationale for market intervention. Prerequisites: Econ 1100 and 1200.

ECON 2114 Managerial Economics (LEC 3.0)
Focuses on micro- and macroeconomic contributions to managerial decision-making, business analysis and strategy. The roles of information, economic incentives, efficient markets, profits and decision-making under risk and uncertainty will be explored in both domestic and global settings. Prerequisites: Econ 1100 & 1200.

ECON 2200 Intermediate Macroeconomic Theory (LEC 3.0)
Examines the theoretical framework of national income and product generation, and the use of this theory to construct approaches such as, monetary and fiscal policy to attain economic, political and social goals. Prerequisites: Econ 1100 and 1200.

ECON 3000 Special Problems (IND 0.0-6.0)
Problems or readings on specific subjects or projects in the department. Consent of instructor required.

ECON 3001 Special Topics (IND 0.0 and LAB 0.0 and LEC 0.0)
This course is designed to give the department an opportunity to test a new course. Variable title.

ECON 3300 Introduction to Econometrics (LEC 3.0)
This course covers applied perspectives on basic concepts of econometrics using regression methods, including simple regression, multiple regression, and generalized least squares. In addition, the course introduces students to the practice of econometric analysis on real-world applications using the programming languages R and STATA. Prerequisite: Econ 1100 and Econ 1200 and, one of the following: Stat 1115, Stat 3111, Stat 3113, Stat 3115, Stat 3117, or Stat 3546.

ECON 3333 Computational Economics (LEC 3.0)
This course introduces concepts of computational economics using machine learning and artificial intelligence and the practice of analysis using applications related to microeconomics, macroeconomics, and econometrics. The course teaches data and text mining, deep learning, and causal machine learning using Python programming to extract economic insights. Prerequisite: Econ 1100 and Econ 1200, and one of the following: Stat 1115, Stat 3111, Stat 3113, Stat 3115, Stat 3117, or Stat 3546.

ECON 3512 Mining Industry Economics (LEC 3.0)
Importance of the mineral industry to national economy, uses, distribution, and trade of economic minerals, time value of money, mineral taxation, economic evaluation utilizing depreciation, depletion, and discounted cashflow concepts, social and economical significance of mineral resources. Prerequisite: Econ 1100 or 1200. (Co-listed with Min Eng 3512).

ECON 3810 Law And Economics (LEC 3.0)
Study of application of economics analysis to legal concepts, issues and reasoning. Emphasizes the use of microeconomic theory to examine questions of efficacy and efficiency of decisions emanating from three major areas of common law -property rights, contracts and torts. Prerequisite: Econ 1100 or equivalent.

ECON 3880 Introduction to Sports Economics (LEC 3.0)
The course uses economics to analyze the business of sports. The course is designed for students with both an introductory or broader economics background, but who have not studied the economics of sports. Topics include labor relations, stadium financing, league structure, competitive balance, amateurism, sports gambling and in-game strategy. Prerequisite: Econ 1100 or Econ 1200.

ECON 4000 Special Problems (IND 0.0-6.0)
Problems or readings on specific subjects or projects in the department. Consent of instructor required.

ECON 4001 Special Topics (LAB 0.0 and LEC 0.0)
This course is designed to give the department an opportunity to test a new course. Variable title.

ECON 4010 Seminar (RSD 0.0-6.0)
Discussion of current topics.

ECON 4085 Internship (IND 0.0-6.0)
Internship will involve students applying critical thinking skills and discipline-specific knowledge in a work setting based on a project designed by the advisor and employee. Activities will vary depending on the student's background and the setting. Prerequisite: Senior status; must have completed 24 hours in major.

ECON 4130 Network Economy (LEC 3.0)
Emerging Network/Internet economy, using traditional economic tools. Topics: production and reproduction cost of information, information as an "experience good, " versions of products, switching cost, lock-in effects, market adoption dynamics, first-mover advantage, intellectual property rights. Prerequisite: Econ 1100 or Econ 1200.

ECON 4300 Research Methods and Applications in Economics and Business (LAB 1.0 and LEC 2.0)
Introduction of basic econometric and statistical techniques with empirical illustrations that reference real economic and business issues. Students will be introduced to modern statistical software packages (STATA, R), but also work with productivity software (Excel, PowerPoint) to perform quantitative analysis and present their results. Prerequisites: Econ 1100 or Econ 1200; Math 1140 or higher; Stat 1115 or Stat 3111 or Stat 3113 or Stat 3115 or Stat 3117 or Stat 5643.

ECON 4310 Mathematical Economics (LEC 3.0)
Marginal analysis, calculus, and linear algebraic systems are applied in selected advanced topics in economics such as price theory, general equilibrium theory, input-output analysis, activity analysis, and game theory. Prerequisite: Econ 2100, 2200, and Math 1208.

ECON 4350 Statistical Models in Actuarial Science (LEC 3.0)
This course covers the statistical foundation of actuarial models and their applications. Topics include survival and severity models, Kaplan-Meier and Nelson-Aalen estimators, aggregate and credibility models for insurance losses, discrete time Markov chains, ruin theory, and simulation. Prerequisite: Stat 5643 and either Stat 5644 or a 3000-level Stat course. (Co-listed with Stat 5755).

ECON 4383 Financial Economics (LEC 3.0)
The course introduces the construction of financial modeling. The first part of the course develops the theoretical economic foundation of financial models including security valuation, interest-rate, and exchange-rate models, while the second part covers applications using these models to derive corporate financial strategies to solve business problems. Prerequisite: Econ 1100 and Econ 1200.

ECON 4410 Public Finance (LEC 3.0)
Study of government expenditures and sources of revenue. Particular emphasis is given to governmental decision making--how these decisions affect the economy and the behavior of individuals, firms, and families within the economy; and how these decisions may be evaluated. Prerequisite: Econ 2100.

ECON 4430 Cost-Benefit Analysis (LEC 3.0)
Investigates the rationale for cost-benefit analysis within a free enterprise setting. Discussion of market efficiency and failure; determination of social costs and benefits; applications of cost-benefit analysis; and, problems remaining in theory and practice. Prerequisite: Econ 1100.

ECON 4440 Environmental And Natural Resource Economics (LEC 3.0)
Optimum use of replenishable and non-replenishable resources, public goods and common resources, externalities, private vs. public costs, and quality of the environment; emphasis on public policy related to environmental and natural resource economics. Prerequisite: Econ 1100. (Co-listed with Min Eng 4523).

ECON 4512 Mine Management (LEC 3.0)
Theory and practice of mine management, including basic managerial functions, management theories, communication skills, motivation, leadership, organization, maintenance management, managerial decision making, cost control, labor relations, government relations, ethics and risks management with emphasis in presentation skills. Prerequisite: Completion of 50 credits toward Mining Engineering degree. (Co-listed with MIN ENG 4512).

ECON 4538 Advanced Econometrics (LEC 3.0)
This course covers advanced topics in econometrics, including causal inference (such as instrument variable estimation, two-stage least squares, difference-in-difference, and regression discontinuity design), discrete choice models, and time series models. The statistical programming language of R is used, while STATA is introduced as a complementary tool. Prerequisite: Econ 1100 and Econ 1200 and Econ 3300 and Stat 3111.

ECON 4540 Energy Economics (LEC 3.0)
For students interested in both economic and engineering issues of energy policy. Provides an assessment of economics and technology issues related to traditional and renewable energy resources. Presented in a framework that allows for analysis of the economic trade-offs between energy sources and the technologies associated with their use and extraction. Prerequisite: Econ 1100 or Econ 1200. (Co-listed with Min Eng 4524).

ECON 4641 Foundations of Sustainability (LEC 3.0)
This interdisciplinary course is designed as an introduction to sustainability in commerce. It examines the concept of environmental, social, and economic issues in an organizational context. Principles, processes, and practices of sustainability will be explored.

ECON 4642 Introduction to Global Eco- and Social-preneurship and Innovation (LEC 3.0)
This interdisciplinary course applies an entrepreneurial mindset to the environmental and social opportunities and challenges facing the global community. Topics are examined from multiple perspectives: nonprofit, hybrid, and for-profit organizations.

ECON 4643 Ethical Problems in a Global Environment (LEC 3.0)
Focuses on the international dimension of ethics including corporate responsibility from economic, social, and environmental perspectives. It addresses the ethical challenges of decision making, stakeholder engagement, and governance at micro- (personal), meso- (org), and macro- (system) levels.

ECON 4710 International Trade (LEC 3.0)
Analysis of gains from trade; the effects of factor mobility; effects of trade restrictions on trade flow and income distribution; arguments for restricting trade; and effects of trade on economic development, employment and human capital development. Prerequisite: Econ 2100.

ECON 4720 International Finance (LEC 3.0)
Examination of the international monetary system, the Balance of Payments, the foreign exchange market, futures and options markets; foreign exchange and other risk management for firms, financing from a global perspective and direct foreign investment. Prerequisite: Econ 2200.

ECON 4820 Labor Economics (LEC 3.0)
Labor as a factor of production, collective bargaining, trade unionism, labor legislation, from the viewpoint of public policy. Prerequisite: Econ 2100 or Econ 2200.

ECON 5000 Special Problems (IND 0.0-6.0)
Problems or readings on specific subjects or projects in the department. Consent of instructor required.

ECON 5001 Special Topics (LAB 0.0 and LEC 0.0)
This course is designed to give the department an opportunity to test a new course.

ECON 5010 Seminar (RSD 0.0-6.0)
Discussion of current topics.

ECON 5310 Advanced Mathematical Economics (LEC 3.0)
Marginal analysis, calculus, and linear algebraic systems are applied in selected advanced topics in economics such as price theory, general equilibrium theory, input-output analysis, activity analysis, and game theory. This course is an advanced version of Econ 4310, and will include additional research and project assignments. Credit cannot be obtained for both Econ 4310 and Econ 5310. Prerequisites: Econ 2100, 2200 and Math 1208, Math 3103.

ECON 5337 Financial Mathematics (LEC 3.0)
The course objective is to provide an understanding of the fundamental concepts of financial mathematics. Topics include pricing, assets-liability management, capital budgeting, valuing cash flow, bonds, futures, swaps, options. Preparation for the financial mathematics actuarial exam will be provided. Prerequisites: Math 1215 or Math 1221, Econ 1100 or Econ 1200, and one of the following: Stat 3111, Stat 3113, Stat 3115, Stat 3117 or Stat 5643. (Co-listed with Math 5737).

ECON 5360 Data Driven Strategic Insights (LEC 3.0)
This course designates a corporate executive to teach identifying the appropriate data analytics for corporate decision-making using modeling frameworks such as regression analysis, forecasting, Monte Carlo simulation, and optimization. The course utilizes Python and cloud-based software platforms to work with large databases in financial contexts. Prerequisites: Econ 1100 and Econ 1200.

ECON 5380 Data Intelligence using Case Studies (LEC 3.0)
This course designates a corporate executive to teach students the processes of data collecting, analyzing, visualization, and statistical tests with case studies from various industries. Students will have the opportunity to do group projects showcasing their ability to apply data intelligence in real-world scenarios using Python programming. Prerequisite: Econ 1100 and Econ 1200 and one of the following: Stat 1115, Stat 3111, Stat 3113, Stat 3115, or Stat 3117.

ECON 5430 Advanced Cost-Benefit Analysis (LEC 3.0)
Investigates the rationale for cost-benefit analysis within a free enterprise setting. Discussion of market efficiency and failure; determination of social costs and benefits; applications of cost-benefit analysis; and, problems remaining in theory and practice. This course is an advanced version of Econ 4430, and will include additional research and project assignments. Credit cannot be obtained for both Econ 4430 and Econ 5430. Prerequisite: Econ 2100.

ECON 5532 Advanced Mining Economics (LEC 3.0)
Mining industry & national economics. Social & economics significance of mined commodities. Marketing of mined commodities. Innovation approaches to mine financing, project loans, and leasing. Mining feasibility studies, government influence & policy, mining industry foreign investment, investment strategies, mining taxation, cost predictions. Case Studies. (Co-listed with MIN ENG 5532).

ECON 5644 Creativity, Innovation, and Sustainability (LEC 3.0)
This interdisciplinary course examines the use of innovation as a competitive technological strategy with a sustainability perspective. It explores ways in which individuals, groups, and organizations can become more creative and how leadership and a culture of change can be implemented.

ECON 5710 Advanced International Trade (LEC 3.0)
Analysis of gains from trade; the effects of factor mobility; effects of trade restrictions on trade flow and income distribution; arguments for restricting trade; and effects of trade on economic development, employment and human capital development. This course is an advanced version of Econ 4710+D1194, and will include additional research and project assignments. Credit cannot be obtained for both Econ 4710 and Econ 5710. Prerequisite: Econ 2100.

ECON 5720 Advanced International Finance (LEC 3.0)
Examination of the international monetary system, the Balance of Payments, the foreign exchange market, futures and options markets; foreign exchange and other risk management for firms, financing from a global perspective and direct foreign investment. This course is an advanced version of Econ 4720, and will include additional research and project assignments. Credit cannot be obtained for both Econ 4720 and Econ 5720. Prerequisite: Econ 2200.