

Economics

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Economics is the study of how people and societies choose to use scarce resources in the production of goods and services, and of the distribution of these goods and services among individuals and groups in society.

The economics major requires coursework in economics and mathematics. A student who enters Whitman with no prior college-level work in either of these areas would need to complete Math 124 or 125 and complete at least 35 credits in economics.

Learning Goals: Upon graduation, a student will be able to demonstrate:

- **Major-Specific Areas of Knowledge**
 - Students should have an understanding of how economics can be used to explain and interpret a) the behavior of agents (for example, firms and households) and the markets or settings in which they interact, and b) the structure and performance of national and global economies. Students should also be able to evaluate the structure, internal consistency and logic of economic models and the role of assumptions in economic arguments.
- **Communication**
 - Students should be able to communicate effectively in written, spoken, graphical, and quantitative form about specific economic issues.
- **Critical Reasoning**
 - Students should be able to apply economic analysis to evaluate everyday problems and policy proposals and to assess the assumptions, reasoning and evidence contained in an economic argument.
- **Quantitative Analysis**
 - Students should grasp the mathematical logic of standard macroeconomic and microeconomic models.
 - Students should know how to use empirical evidence to evaluate an economic argument (including the collection of relevant data for empirical analysis, statistical analysis, and interpretation of the results of the analysis) and how to understand empirical analyses of others.
- **Citizenship**
 - Students should include an economic way of thinking in their understanding of current events.
 - Students should know how to acquire information from databases of news and periodicals and from primary and secondary data sources.

Distribution: Courses completed in economics apply to the social sciences and quantitative analysis (selected courses) distribution areas.

Total credit requirements for an Economics major: A student who enters Whitman with no prior college-level work in either of these areas would need to complete Mathematics 124 or 125 and complete at least 35 credits in economics.

The Economics major:

- 35 Credits
- Required Courses
 - Economics 100 or 101, 102, 227 (or Mathematics 128 or 247), Economics 307, 308, 327
 - Mathematics 124 or 125 or the equivalent AP or transfer credits is a prerequisite for 307 and 308
 - Minimum grade of C is required in Economics 307 and 308
- Other major requirements
 - A minimum of 12 credits must be earned in economics courses numbered 310 through 490.

Four of those 12 credits would be Economics 327.

- Other notes
 - No more than 8 credits earned in domestic or foreign study programs, transfer credits, and/or AP or IB credits may be used to satisfy the course and credit requirements for the major.
 - Students with a score of 5 on the Principles of Microeconomics AP test will receive four credits for Economics 101
 - Students with a score of 5 on the Principles of Macroeconomics AP test will receive four credits for Economics 102.
 - Students with a score of 6 or higher on the higher level IB Economics test will receive a total of eight credits for Economics 101 and 102.
 - Students contemplating a major or minor in Economics are encouraged to take at least a year of calculus, Economics 227 (or Mathematics 128 or 247), and Economics 307 and 308 prior to their junior year.
 - Students are encouraged to enroll in Mathematics 124 or 125 as soon as possible as it is a prerequisite for Economics 307 and 308.
 - Economics 307 and 308 are prerequisites for many other courses.
 - Students planning to pursue honors in economics are strongly encouraged to complete Economics 327 prior to their senior year.
 - Courses taken P-D-F (including Economics 493 and 494) and Economics 498 may not be used to meet the credit requirement
- Senior Requirements
 - Senior assessment
 - Major Field Test (MFT; offered only in the spring semester)
 - Oral examination
- Honors
 - Students submit a Honors in Major Study Application to their department
 - Students must submit a proposal for their thesis or project
 - Must be submitted within the first six weeks of the two-semester period in which student is eligible
 - Accumulated at least 87 credits
 - Completed two semesters of residency at Whitman.
 - Cumulative GPA of at least 3.300 on all credits earned at Whitman College
 - Major GPA of at least 3.500
 - Complete a written thesis or research project prepared exclusively for the satisfaction of this program
 - Earn a grade of at least A- on the honors thesis or project.
 - Pass the senior assessment with distinction
 - The department will submit the Honors applications to the Registrar's Office of students pursuing Honors by the specified deadline
 - The department submit "Senior Assessment/Major Study Certificate" to the Registrar's Office no later the Reading Day
 - An acceptable digital copy of the Honors Thesis must be submitted to Penrose Library no later than Reading Day
 - For more details
 - <https://www.whitman.edu/academics/departments-and-programs/economics/economics-major-programs/department-honors>

The Economics minor:

- 19 Credits
- Required Courses
 - Economics 100 or 101, 102, 227 (or Mathematics 128 or 247), 307 or 308
 - One additional course in Economics
- Other notes
 - No courses may be taken P-D-F

The Finance minor:

- 15-16 Credits
- Required Courses
 - Economics 114 and 358
 - One 200-level financial economics course: either Economics 255 or 260
 - One upper-level financial economics course: either Economics 350, 409, or 448
- Other Notes
 - If majoring in Economics or Economics-Environmental Studies and minoring in Finance, one financial economics course at any level may count towards both.
 - If majoring in Economics-Mathematics and minoring in Finance, one upper-level financial economics course (Economics 350,358, 409, or 448) may count towards both.
 - No courses may be taken P-D-F.

Economics combined majors: The economics department participates in two combined major programs, economics-environmental studies and economics-mathematics. All economics combined majors and all individually planned majors for which economics is a major component require a minimum grade of C (2.0) in Economics 307 and 308. Mathematics 124 or 125 is a prerequisite for Economics 307 and 308.

The Economics-Environmental Studies combined major: The requirements are fully described in the *Environmental Studies* section of the catalog.

The Economics-Mathematics major:

- 49 (27 credits in Economics and 22 credits in Mathematics)
- Required Courses
 - Economics 100 or 101, 102, 307, 308, 327, 428
 - One additional course in Economics (letter graded)
 - Mathematics 225, 240, 244, 247, 248, 349
 - 3 credits 200 level and above in mathematics and statistics
- Other notes
 - For Economics 327, Economics 227 or Mathematics 128 or 247 are a prerequisite
 - Economics 227 and Mathematics 128 do not count toward major requirements
 - Students with a score of 5 on the Principles of Microeconomics AP test will receive four credits for Economics 101
 - Students with a score of 5 on the Principles of Macroeconomics AP test will receive four credits for Economics 102.
 - Students with a score of 6 or higher on the higher level IB Economics test will receive a total of eight credits for Economics 101 and 102.
 - Courses taken P-D-F (including Economics 493 and 494) and Economics 498 may not be used to meet the credit requirement
- Senior Requirements
 - Senior assessment
 - Written exam in mathematics
 - Major Field Test (MFT; only offered in the spring) in economics
 - Combined oral exam
 - Scheduled by the Economics Department
- Honors
 - Students submit a Honors in Major Study Application to their department
 - Students must submit a proposal for their thesis or project
 - Must be submitted within the first six weeks of the two-semester period in which student is eligible
 - Accumulated at least 87 credits
 - Completed two semesters of residency at Whitman.
 - Cumulative GPA of at least 3.300 on all credits earned at Whitman College
 - Major GPA of at least 3.500
 - Complete a written thesis or research project prepared exclusively for the satisfaction of this program

- Earn a grade of at least A- on the honors thesis or project and the honors thesis course.
- Pass the senior assessment with distinction
- The department will submit the Honors applications to the Registrar's Office of students pursuing Honors by the specified deadline
- The department submit "Senior Assessment/Major Study Certificate" to the Registrar's Office no later the Reading Day
- An acceptable digital copy of the Honors Thesis must be submitted to Penrose Library no later than Reading Day
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100 Principles of Microeconomics and the Environment

Spring

R. Mueller

4 credits

This course provides the same coverage of topics as Economics 101, but special emphasis is placed on applying concepts to environmental and natural resource issues. Thus, the focus of this course is principles of microeconomics with applications to environmental and natural resource issues; this course is not about the economics of environmental and natural resource issues. Students pursuing an environmental studies combined major and others interested in the environment are encouraged to take this course. Students who receive credit for Economics 101 cannot receive credit for this course.

101 Principles of Microeconomics

Fall, Spring

Fall: Hazlett; Spring: Mamunuru

4 credits

This course and Economics 100 both introduce the standard economic theory of the behavior of firms, households and other agents, and the operation of markets. Topics include the production, distribution, and pricing of goods and services in product markets and input markets, and government intervention in markets. The course will emphasize applications to enable students to analyze contemporary economic society. Students who receive credit for Economics 100 cannot receive credit for this course.

102 Principles of Macroeconomics

Fall, Spring

Fall: Belay, Staff; Spring: Belay, Han

4 credits

This course deals with broad economic aggregates such as national income, the overall level of prices, employment, unemployment, interest rates, public debt, and international trade. It provides an overview of macroeconomic issues and introduces concepts concerning the overall performance of the U.S. economy in a global context. It covers business cycles, economic growth, unemployment, and inflation, and explores the role of government fiscal and monetary policy.

114 Financial Accounting

Fall

Staff

4 credits

An introduction to the fundamental principles of accounting. The course examines the nature and limitations of financial information resulting from the application of generally accepted accounting principles. Financial accounting emphasizes the use of financial information by external decision makers, such as creditors, stockholders, and other investors, and governmental agencies. This course will focus upon the conceptual framework of the financial accounting model rather than bookkeeping techniques.

205 An Introduction to Development Economics

Fall

Mamunuru

4 credits

This is an introductory course in development economics. It is a broad overview of the institutional structures, policy issues and structural challenges pertaining to developing economies. We will be exploring broad themes of poverty and well-being, agriculture, urban development, trade, sustainability and the environment, and gender. The objective is to equip students to learn more about developing economies and engage in an informed discussion about

these issues. Should they choose to pursue further work in the field of development, this course is meant to act as a broad foundation or as a starting point. *Prerequisites:* Economics 101 and 102.

215 Behavioral Economics

Not offered 2023-24

4 credits

This course explores the ways individuals systematically deviate from rational economic behavior. Evidence of irrational behavior will be presented in the context of other topics in economics - such as health economics, development economics, and financial economics - with the objective of improving our understanding of decision-making in a variety of settings. There will be discussion regarding the role and capacity of public policy to improve decisions, such as how to share and frame information. Attention will also be given to new economic theories regarding altruism, trust and cooperation. *Prerequisite:* Economics 100 or 101.

227 Statistics for Economics

Fall, Spring

Mamunuru

4 credits

An introductory course, which surveys everyday economic statistics and topics in descriptive and inferential statistics. The concentration is on applications to problems in economics. Topics include techniques for organizing and summarizing economic statistical data; random variables and probability distributions; sampling distributions; estimation and hypothesis testing, and a brief introduction to linear regression methods. Assignments and coding applications in R (a statistical programming language) will be part of the course. *Prerequisite:* Economics 100 or 101, or 102.

255 Money and Banking

Not offered 2023-24

4 credits

This course covers the economics of money, banking, and financial markets. The course helps students understand the role of money, financial markets, financial institutions, financial regulations, and monetary policy. We will pay particular attention to the banking system, with an eye toward understanding the function and importance of banks. Topics include the role of money, the determination of interest rates, the valuation of bonds and stock, the structure, function and prudential regulation of commercial banks, the role of the shadow banking system, the structure of central banks, conventional and unconventional monetary policy, and the role of a central bank as a lender of last resort during the Great Recession. *Prerequisite:* Economics 102.

258 Global Political Economy

Not offered 2023-24

4 credits

This course will survey the emergence and evolution of the 'world economy' and how that history continues to shape contemporary global dynamics. Drawing upon a range of theoretical perspectives, we will examine structural features of the contemporary global political economy and new and enduring forms of inequality at multiple levels. The course will encourage critical analyses to more adequately understand deepening inequalities between and within economies, and the global insecurities these entail. The course will explore the human economic experience of trade, work, and inequality, using specific cases that connect individuals through microeconomic interactions, especially women and families, to macroeconomic forces. *Prerequisite:* Economics 102.

260 Personal Finance

Spring

Staff

3 credits

This course immerses students in the environment of personal financial decision making. The focus is on issues of managing cash, creating and keeping budgets, understanding and managing debt (credit cards, student loans, car loans, mortgages), dealing with risk (insurance policies), planning for retirement and valuing financial assets (Time Value of Money applications, understanding prices of stocks and bonds), managing investments (mutual/index funds, ETFs, stocks, bonds), and taxation. *Prerequisite:* Economics 102.

266 Crime and Punishment**Not offered 2023-24****4 credits**

Does crime pay? Do governments punish and regulate crime too much or too little? Using economic concepts, this course examines the economic issues of crime, crime control, and criminal punishment. Topics include the economic costs of crime, models of criminal choice, economic analysis of allocating criminal justice resources to control criminal behavior, the underground economy, costs and benefits of drug laws, and policies for crime prevention. Some of the current issues to be addressed may include criminal justice policies, gun laws, drugs, abortion, gangs, terrorism, prison privatization, the death penalty, three strikes and you are out laws, gambling, and prostitution. Basic economic tools will be used, and they will be developed as needed. One or two field trips to correctional facilities may be taken during the semester. *Prerequisite:* Economics 100 or 101, or consent of instructor.

268 Government and the Economy**Not offered 2023-24****4 credits**

This course examines some ways in which the government intervenes in the economic system. One-half of the course will focus on antitrust by studying some important court cases. The other half of the course will explore regulation of particular sectors of the economy, which may include electricity, energy, communications, transportation, health care, environmental quality, and worker and product safety. *Prerequisite:* Economics 100 or 101.

277 Global Environmental and Resource Issues**Not offered 2023-24****4 credits**

This course applies the tools of economic analysis to global environmental and natural resource issues such as pollution, the relationship between trade and the environment, economic growth, and resource scarcity. *Prerequisite:* Economics 100 or 101.

293, 294 Special Studies in Economics: Intermediate Level**3-4 credits**

An intermediate course designed to review selected topics in the field of economics through lectures, seminars, or group research projects. *Prerequisite:* Economics 100 or 101 and/or Economics 102, depending upon the topic of the course. Any current offerings follow.

307 Intermediate Microeconomics**Fall, Spring****R. Mueller****4 credits**

A course in intermediate microeconomics (price theory) which includes the theory of consumer behavior, the theory of the firm (including production theory), the pricing and employment of resources, market supply and demand, general equilibrium, and welfare economics. All economics and economics-combined majors must pass this course with a minimum grade of C (2.0). *Prerequisites:* Economics 100 or 101 and Mathematics 124 or 125.

308 Intermediate Macroeconomics**Fall, Spring****Fall: Hazlett; Spring: Belay****4 credits**

This course provides an extensive analysis of current macroeconomics issues and events from the perspective of mainstream schools of economic thought. It covers theories of economic growth, business cycles, labor markets, interest rates, inflation and exchange rates; causes and consequences of government deficits, effects of trade deficits; short- and long-term effects of monetary and fiscal policies. All economics and economics-combined majors must pass this course with a minimum grade of C (2.0). *Prerequisites:* Economics 102 and Mathematics 124 or 125.

310 Public Economics**Not offered 2023-24****4 credits**

Public economics applies microeconomic tools to analyze the impact of public policy on the allocation of resources and the distribution of income in the economy. This course considers when and how government intervenes in areas

such as education, health care, taxation, voting, and welfare programs. *Prerequisites:* Economics 227 (or Mathematics 128 or 247) and Economics 307 or consent of instructor.

320 Causal Inference and Research Design

Not offered 2023-24

4 credits

The phrase “correlation does not imply causation” is often touted, but how does one practically disentangle the two when randomized control trials are not possible? This class introduces students to the modern theory of “causal inference.” In addition to learning a variety of prominent research designs in applied microeconometrics (e.g. differences-in-differences, regression discontinuity, instrumental variables), students will gain some competency at executing these research methods. Students will grapple with and think analytically about the efficacy of data, methods, and research design. Taking Economics-327 is strongly recommended before registering for this course. *Prerequisites:* Economics 101, 102, 307, and one of the following: Economy 227 or Mathematics 128 or Mathematics 247.

322 Industrial Organization

Not offered 2023-24

4 credits

This course will explore how firms compete using the latest advances in microeconomic theory. Empirical evidence on real industries will provide a critical analysis of these theories. Primary topics include market structure, performance and resource allocation. Secondary topics include auction theory and information economics. There will be discussion over the role of public policy toward monopoly through anti-trust policies. *Prerequisite:* Economics 307.

325 Game Theory

Not offered 2023-24

4 credits

Game theory is the study of strategic decision making by autonomous and interdependent individuals. This course emphasizes the roles information and incentives play in determining strategic outcomes. Applications include free-rider problems, voting paradoxes, the tragedy of the commons, social unrest, pricing models, the effects of reputation, bargaining, and auctions. Formerly Economics 220-may not be taken for credit if completed 220. *Prerequisites:* Economics 100 or 101 and Economics 307.

327 Introduction to Econometrics

Fall, Spring

Han

4 credits

Econometrics is concerned with the testing of economic theories using mathematical statistics. This course is an introduction to the science and art of building models and will explore the theory and use of regression analysis to make quantitative estimates of economic relationships. Descriptions of economic reality, testing hypotheses about economic theory, forecasting future economic activity, and causal inference are topics that will be covered. Simple and multivariate regression will be examined. *Prerequisites:* Economics 227 (or Math 128 or Math 247), Economics 307, or consent from instructor. Students pursuing honors in economics are strongly encouraged to complete this course before their senior year.

338 Applied Macroeconomics

Not offered 2023-24

4 credits

This course will turn students’ attention to the problems of integrating empirical methods into macroeconomics analysis. It provides students with hands-on computer based exercises on some of the results of testing or estimating macroeconomics models. This course covers a range of domestic topics, such as the behavior of investment spending, consumer spending, government spending, and business cycles in the United States. On the international side, it covers world growth rates, exchange rates, and international business cycles and the global economy. *Prerequisite:* Economics 308.

345 Political Economy of Women

Spring

Mamunuru

4 credits

This course focuses on the economic conditions women confront in the contemporary world and the historical foundations of these conditions. The course will consider the ways in which reproduction is a precondition for production, how sex matters in economic life, and the ways economic systems shape the distribution of opportunities, resources, and power between women and men. The course uses qualitative and quantitative methods to explore the importance and social construction of women and men's labor in the economy. The course uses analytical tools such as gender analysis, class analysis, neoclassical economics, and game theory. Open to juniors and seniors only. *Prerequisite:* Economics 100 or 101.

349 Wine Economics

Not offered 2023-24

4 credits

This course will apply the material taught in microeconomics and econometrics classes. Using the wine industry as an example, it will cover a wide range of theoretical concepts such as auction theory, voting and ranking, revealed preferences, market structure and pricing, and input-output analysis. A particular emphasis will be given to the interaction between environmental parameters and wine price and quality. *Prerequisites:* Economics 307 and 327 or consent of instructor.

350 Financial Time Series Econometrics

Not offered 2023-24

4 credits

This course is designed to be an introduction to time series analysis and forecasting methods with focus on applications in financial economics. It introduces a set of tools and techniques for analyzing various forms of univariate and multivariate time series. These tools and techniques are used in economics and finance for asset pricing prediction, dynamic portfolio selection, risk management and asset management. Some of the main topics include basic returns data characteristics, Autoregressive Moving Average (ARMA) models, Vector Autoregressive (VAR) models, testing for unit roots and cointegration, Vector Error Correction Models (VECM), Structural VAR and ARCH/GARCH models with extensions, and value at risk (VaR). Upon successful completion of this course, students are expected to use advanced data analysis software packages to estimate time series models. *Prerequisites:* Economics 102 and Economics 227 or Mathematics 247.

358 Corporate Finance

Fall

Han

4 credits

This course is designed to immerse students in the field of Finance and the techniques of financial analysis. This course is the first in the Financial Economics sequence. The course builds upon the theoretical foundations of micro and macroeconomics as well as statistics to introduce students to the major topics in corporate finance, financial analysis, and valuation. By the end of the course, students are expected to articulate the underpinnings of Time Value of Money (TVM), Discounted Cash Flow (DCF) valuation models, the Efficient Market Hypothesis and elements of Behavioral Finance, valuation techniques for bonds and stocks, evaluation of enterprise financing and investment decisions, types of financial risks, the opportunity cost of capital, and the Weighted Average Cost of Capital (WACC). *Prerequisites:* Economics 100 or 101, 102, and 227 (or Mathematics 128 or 247).

388 Labor Economics

Fall

Belay

4 credits

This course presents labor markets from a microeconomic, macroeconomic, and historical perspective. Coverage includes the structure of labor markets, wage determination, unemployment, discrimination, role of unions, the economics of education, and wage inequality. *Prerequisites:* Economics 307 and 327.

393, 394 Special Studies in Economics: Advanced Level

4 credits

A course designed to review selected topics in the field of economics through lectures, seminars, or group research projects. *Prerequisite:* consent of instructor. Any current offerings follow.

407 Monetary Theory and Policy

Spring

Hazlett

4 credits

A study of money, private and public banking institutions, central bank controls, monetary theory, and an analysis of the problems associated with contemporary monetary policy. Emphasis is on theory and national policy rather than bank operations. *Prerequisite:* Economics 308.

409 Investment Theory and Analysis

Spring

Staff

4 credits

The purpose of this course is to expand on the material introduced in the Corporate Finance (Economics 358) course and provide a more comprehensive discussion about investment theory and the various types of financial assets. The course focuses on: portfolio theory with an emphasis on risk vs. return and diversification rules, capital asset pricing and arbitrage theories, the fundamentals of Behavioral Finance and technical analysis, management of bond portfolios, analysis of derivative securities (options and futures) and risk management, and the issues of globalization and international investing. *Prerequisite:* Economics 358.

428 Mathematical Economics

Fall

Belay

4 credits

An introduction to the application of mathematics to the theoretical aspects of economic analysis. Such mathematical methods as matrix algebra, differential calculus, and difference equations are employed to develop and analyze numerous economic models, including several models of the market, models of the firm and consumer, national income models, as well as models of economic growth. The course does not require exceptional mathematical ability. It is intended for all students with an interest in mathematics and statistics and economics. *Prerequisites:* Mathematics 240; Economics 307 and 308.

448 International Finance

Spring

Hazlett

4 credits

Consideration of recent developments in international finance and open-economy macroeconomics, and of policy issues in their historical context and in modern theory. Issues include inflation and business cycles in open economies, fixed versus floating exchange rates, a gold standard, banking and currency crises, monetary unions, balance of payments issues, and the role of the International Monetary Fund. *Prerequisite:* Economics 308.

467 Law and Economics

Not offered 2023-24

4 credits

This seminar examines the ways in which the legal system acts as a complement to, and a substitute for, the market system. Specific topics will include property rights, contracts, torts, product liability, and criminal law. *Prerequisite:* Economics 227 or (Mathematics 128 or 247) and Economics 307. *Recommended prerequisite:* Economics 327.

477 Environmental and Natural Resource Economics

Fall

R. Mueller

4 credits

The first portion of this seminar deals with environmental economics and establishes a framework with which to view environmental problems. Topics covered include the theory of externalities and the features of different remedies, the evaluation of environmental amenities, and a survey of current environmental policies. The second portion of the course deals with natural resource economics and considers the use of renewable and nonrenewable resources over time. *Prerequisites:* Economics 227 or (Mathematics 128 or 247) and Economics 307. *Recommended prerequisite:* Economics 327.

478 Urban Economics**Not offered 2023-24****4 credits**

A study of the economic framework of urban areas. Economic interrelationships between the urban core and the metropolitan area will be examined, including problems of location, land use, the distribution of population and industry, transportation, finance, housing, race, and poverty. *Prerequisites:* Economics 227, or Mathematics 128 or 247, and Economics 307.

479 Economic Geography**Not offered 2023-24****4 credits**

The study of locational, organizational, and behavioral principles and processes associated with the spatial allocation of scarce resources, and the spatial patterns and (direct, indirect, economic, social, and environmental) consequences resulting from such allocations. State-of-the-art Geographical Information Systems (GIS) software will be used for analysis and computer-based projects. *Prerequisites:* Economics 227 (or Mathematics 128 or 247) and Economics 307; or consent of instructor.

493, 494 Directed Reading**Fall, Spring****Staff****1-4 credits**

Independent reading, reports, and tutorials in areas chosen by students. Graded P-D-F. *Prerequisite:* consent of instructor.

498 Honors Thesis**Fall, Spring****Staff****3-4 credits**

Designed to further independent research projects leading to the preparation of an undergraduate thesis or a project report. Required of and limited to senior honors candidates in economics or economics-environmental studies or those economics-mathematics students who choose to write an economics thesis. Honors students in economics (or economics-mathematics who choose to write an economics thesis) take four credits of Economics 498; honors students in economics-environmental studies take three credits in Economics 498 and one credit in Environmental Studies 498 for a total of four credits. *Prerequisite:* admission to honors candidacy.