850. Independent Study
Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Open only to graduate students in College of Agriculture and Natural Resources, College of Engineering, or College of Natural Science. Individual study on field, laboratory, or library research.

891. Current Topics in Ecology and Evolution
Summer. 1 credit. Given only at W.K. Kellogg Biological Station. A student may earn a maximum of 8 credits in all enrollments for this course. Interdepartmental with Zoology, and Botany and Plant Pathology. Administered by Zoology. Presentation and critical evaluation of theoretical and empirical developments by visiting scientists.

891B. Selected Topics in Plant Breeding and Evolution
Fall, Spring, Summer. 1 to 2 credits. A student may earn a maximum of 6 credits in all enrollments for this course. Interdepartmental with Horticulture and Forestry. Administered by Horticulture. R: Open only to graduate students in Plant Breeding and Genetics or Botany. Theoretical and practical aspects of plant breeding.

930. Advanced Microeconomics
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 12 credits in all enrollments for this course. R: Approval of department. Laboratory experience and techniques in geological sciences, meteorology, soil science, or oceanology.

899. Doctoral Dissertation Research
Fall, Spring, Summer. 1 to 24 credits. A student may earn a maximum of 99 credits in all enrollments for this course. R: Open only to doctoral students in Crop and Soil Sciences.

446. Field Studies in Earth Science
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 12 credits in all enrollments for this course. R: Approval of department. Field experience and techniques in geological sciences, meteorology, soil science, or oceanology.

800. Special Problems in Earth Science
Fall, Spring. 1 to 4 credits. A student may earn a maximum of 12 credits in all enrollments for this course. R: Approval of department. Individual faculty directed study on topics in earth science.

894. Techniques of Analyzing Unbalanced Research Data
Spring (4-0) Interdepartmental with Animal Science, Forestry, Horticulture, and Fisheries and Wildlife. Administered by Animal Science. P: STT 494. R: Open only to graduate students in the College of Agriculture and Natural Resources. Linear model techniques to analyze research data characterized by missing and unequal number of observations in classes. Simultaneous consideration of multiple factors. Estimable comparison. Hypothesis testing. Computational strategies. Variance and covariance components. Breeding values.

253H. Microeconomics and Public Policy
Fall, Spring. (4-0) R: Not open to students with credit in EC 201. Theory of consumer behavior, production and cost, output and price determination in competition and monopoly. Welfare economics, general equilibrium, externalities, and public goods.

252H. Macroeconomics and Public Policy
Fall, Spring. (3-0) P: EC 251H; or EC 201, EC 301. R: Not open to students with credit in EC 202. Theory of national income, unemployment, inflation and economic growth and its application to economic analysis and policy.

301. Intermediate Microeconomics
Fall, Summer. (3-0) P: EC 201, EC 202. R: Not open to students with credit in EC 252H. Theory of consumer choice, production, cost, perfect competition, and monopoly. Welfare economics, general equilibrium, externalities and public goods.

302. Intermediate Macroeconomics

306. Comparative Economic Systems
Fall, Spring. (3-0) P: EC 201 or EC 251H; EC 202 or EC 252H. Characteristics and functions of economic systems. Alternative patterns of economic control, planning, and market structure. Theories, philosophies, and experiences associated with capitalism, socialism, and mixed economies.

330. Money, Banking, and Financial Markets
Fall, Spring, Summer. (3-0) P: EC 201 or EC 251H; EC 202 or EC 252H. Money markets and financial intermediation. Money, the Federal Reserve System, and monetary policy. Regulation of money markets.

335. Survey of Public Economics
Fall, Spring. (3-0) Interdepartmental with Public Resource Management. P: EC 201 or EC 251H. R: Not open to students with credit in EC 405 or EC 406. Economics of the public sector. Public goods, externalities, design and incidence of the tax system. Equity and efficiency effects of government programs.

340. Survey of International Economics
Fall, Spring. (3-0) P: EC 201 or EC 251H; EC 202 or EC 252H. R: Not open to students with credit in EC 440 or EC 441. Comparative advantage, balance of trade, international economic policies, balance of payments, foreign exchange markets. The international monetary system. Contemporary trade and international currency issues.

360. Private Enterprise and Public Policy
Fall, Spring. (3-0) P: EC 201 or EC 251H. Effects of antitrust, economic regulation, and other public policies on competition, monopoly, and other market problems in the United States economy.
330. Labor Relations and Labor Market Policy
Fall, Spring, Summer. 3(3-0)
P: EC 201 or EC 251H.

401. Advanced Macroeconomics
Fall, Spring. 3(3-0)
P: EC 301 or EC 251H.
Economics of uncertainty and incomplete information. Game theory and theories of oligopoly. Transaction costs. Advanced topics in welfare economics, general equilibrium, externalities, and public goods.

402. Advanced Macroeconomics
Fall, Spring. 3(3-0)
P: EC 251H or EC 301; EC 252H or EC 302.
Consumption, investment, and monetary theories. The role of expectations. Theories of economic growth and cycles. Stabilization policies.

403. Economic Thought I
Fall. 3(3-0)
P: EC 201 or EC 251H; EC 202 or EC 252H.
Forerunners of classical economics. Classical economic thought from Adam Smith to J.S. Mill. The socialist reaction.

404. Economic Thought II
Spring. 3(3-0)
P: EC 201 or EC 251H; EC 202 or EC 252H.
Decline of classical economics and rise of marginalist value and distribution theory. Marxism and institutionalism.

405. The Development of the American Economy
Spring. 3(3-0)
P: EC 201 or EC 251H; EC 202 or EC 252H.
Causes and consequences of American economic development. Economic analysis of topics such as British trade policies, slavery, industrialization, immigration, the Great Depression, wars and income distribution.

406. Economic Analysis of the Soviet Union and Transition Economy
Spring of even-numbered years. 3(3-0)
P: EC 201 or EC 251H; EC 202 or EC 252H.
History and analysis of Soviet planning, banking, and pricing systems. Analysis of labor markets and capital allocation under planning and transition.

410. Principles of Economic Development
Fall. 3(3-0)
P: EC 201 or EC 251H; EC 202 or EC 252H.
Principles and theory of efficiency and the incidence of taxation. Income and sales taxes and other major revenue sources.

411. Issues in Economic Development
Spring. 3(3-0)
P: EC 201 or EC 251H; EC 202 or EC 252H.
Mobility and allocation of capital for raising productivity. Monetary policy, financial intermediaries. Investment criteria and project analysis. Taxes and public expenditures. Trade policy, foreign capital, international disbursement, and structural adjustment.

412. Economic Analysis of Latin America
Fall of even-numbered years. 3(3-0)
P: EC 201 or EC 251H; EC 202 or EC 252H.

413. Economic Analysis of Asia
Spring of odd-numbered years. 3(3-0)
P: EC 201 or EC 251H; EC 202 or EC 252H.
Development of agriculture, industry, labor markets, and trade in some of the following: India and South Asia, China, the Pacific Rim countries, and Japan. Productivity, income distribution, finance, and planning.

414. Economic Analysis of Sub-Saharan Africa
Fall of odd-numbered years. 3(3-0)
P: EC 201 or EC 251H; EC 202 or EC 252H.

420. Introduction to Econometric Methods
Fall, Spring. 3(3-0)
P: EC 251H or EC 301; EC 252H or EC 302; SIT 315 or SIT 316.

421. Public Expenditures
Fall. 3(3-0)
P: EC 251H or EC 301.

422. Public Revenues
Spring. 3(3-0)
P: EC 251H or EC 301.
Principles and theory of efficiency and the incidence of taxation. Income and sales taxes and other major revenue sources.

441. International Finance
Fall. 3(3-0)
P: EC 251H or EC 301.
International trade. Theoretical and policy analysis of state and local government fiscal behavior. Revenues, expenditures, borrowing, international fiscal relations. Applications to such areas as education, transportation, and economic development. Intergovernmental comparisons.

450. A-408

453. Women and Work: Issues and Policy Analysis
Spring. 3(3-0)
P: EC 252H or EC 302.
Neoclassical and modern theories pertaining to balance of payments and exchange rate determination. Macroeconomic performance under alternative exchange rate regimes. Contemporary issues involving international monetary arrangements.

461. Economic Analysis of Labor Markets
Fall, Spring. 3(3-0)
P: EC 201 or EC 251H.
Labor supply and demand. Human capital, search, migration, and labor turnover. Analysis of unemployment and wage growth. Structure of wages, including economics of discrimination.

460. American Industry: Structure and Behavior
Fall, Spring. 3(3-0)
P: EC 251H or EC 301.
Market structure and performance. Empirical analysis of market definition, concentration, product differentiation, vertical integration, innovativeness, collusion, and entry deterrence.

461. Regional Economics
P: EC 201 or RD 460. R: Not open to freshmen and sophomores.
Location decisions of firms and households. Relevant government policies. Applications of regional analysis to industrial, regional, and community development.

480. Analysis of Labor Markets
Fall, Spring. 3(3-0)
P: EC 251H or EC 301.
Factor supply and demand. Human capital, search, migration, and labor turnover. Analysis of unemployment and wage growth. Structure of wages, including economics of discrimination.

490. Independent Study
Fall, Spring, Summer. 1 to 3 credits. R: student may earn a maximum of 3 credits in all enrollments for this course.
Research and reading course for students interested in doing independent work in economics under faculty supervision.

495. Economics of Poverty and Income Distribution
Fall. 3(3-0)
P: EC 201 or EC 251H.

496. Interpreting Economic News and Research
Fall, Spring. 3(3-0)
P: EC 201 or EC 251H.
Interpreting economic news and research. Sources of data and research information. Critical analysis of written and broadcast reports through application of economic principles. Case studies.

497. Economics of Education
Fall of odd-numbered years. 3(3-0)
P: EC 201 or EC 251H.

498. Economics of Health Care
Fall of odd-numbered years. 3(3-0)
P: EC 201 or EC 251H.

499. Senior Seminar (W)
Fall, Spring. 3(3-0)
P: EC 252H or EC 301; EC 252H or EC 302; EC 420 or concurrently. R: open to seniors in Economics. Completion of Tier I writing requirement. Capstone course for economics majors. Reading and discussion concerning selected economics topics. Preparation and presentation of student research project.