



**KOLAGAFRIMERICAN INSTITUTE OF SCIENTIFIC RESEARCH  
EDUCATION AND ACADEMIC DEVELOPMENT INCORPORATED (CA).**

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## **Chartered Professional Courses**

# **Kisread Board Certifications & Designations**

[WWW.KISREAD-EDU.US](http://WWW.KISREAD-EDU.US)

- ChE Chartered Economist ®
  - AFA Accredited Financial Analyst ®
  - AMA Accredited Management Accountant ®
  - AMC Accredited Management Consultant ®
  - MMC Master Management Consultant ®
  - CIPM Certified International Project Manager
  - MFP Master Financial Planner ®
  - CRA Certified Risk Analyst ®
  - CTEP Chartered Trust and Estate Planner ®
  - CWM Chartered Wealth Manager ®
  - RBA Registered Business Analyst
  - MPM Master Project Manager ®
  - Chartered Certified Consultant-Ch.CC
  - Chartered Fraud Examiner-CFE
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- **Mission Statement**
  - “KISREAD’s Professional Economics & Management Science has two interlocking objectives. We conduct cutting edge research by developing new methodologies and applying them to understand society’s most critical issues. We also seek to train the next generation of economic leaders in the private sector, government and academia.”

# Economics (ECON)

- [www.kisread-edu.us/professional/undergraduatecourses](http://www.kisread-edu.us/professional/undergraduatecourses)
- [www.kisread-edu.us/professional/upperdivisioncourses](http://www.kisread-edu.us/professional/upperdivisioncourses)
- [www.kisread-edu.us/professional/graduatecourses](http://www.kisread-edu.us/professional/graduatecourses)

- **Professional Undergraduate Courses**
- **1. Principles of Economics**

Units: 4.0

Lecture, three hours; discussion, one hour. Not open to students with credit for former course 100. Introduction to principles of economic analysis, economic institutions, and issues of economic policy. Emphasis on allocation of resources and distribution of income through price system. P/NP or letter grading.

- **2. Principles of Economics**

Units: 4.0

Lecture, three hours; discussion, one hour. Enforced requisite: course 1. Not open to students with credit for former course 100. Introduction to principles of economic analysis, economic institutions, and issues of economic policy. Emphasis on aggregative economics, including national income, monetary and fiscal policy, and international trade. P/NP or letter grading.

- **3A. Introduction to Investments**

Units: 2.0

Lecture, two hours. Broad introduction to investments. No previous financial, economic, or math background needed. Students learn organizing framework with which to understand investing landscape with highlight on key concepts and functionality related to business and personal investments. Topics include why financial markets exist and how they work, efficient market hypothesis, risk versus reward, investment styles, valuation techniques, simple quantitative analysis, power of compound interest, financial crises, and role private equity, venture capital, innovation and start-ups, and personal financial advisers. Serves as excellent introduction to career paths in finance and for those who want to increase their financial literacy. P/NP grading.

- **3B. Introduction to Investments**

Units: 2.0

Lecture, two hours. Requisite: course 3A. Broad introduction to investments. No previous financial, economic, or math background needed. Students learn organizing framework with which to understand investing landscape with highlight on key concepts and functionality related to business and personal investments. Topics include exchange rates, central banks, financial statements, value creation, interpreting financial ratios, power of compound interest and understanding present value, diversification, Capital Asset Pricing Model, Sharpe ratio, and understanding asset's beta, hedge funds. Serves as excellent introduction to career paths in finance and for those who want to increase their financial literacy. P/NP grading.

- **4. Introduction to Investments**

Units: 4.0

Lecture, two hours. Broad introduction to investments. No previous financial, economic, or math background needed. Students learn organizing framework with which to understand investing landscape with highlight on key concepts and functionality related to business and personal investments. Topics include why financial markets exist and how they work, efficient market hypothesis, risk versus reward, investment styles, valuation techniques, simple quantitative analysis, power of compound interest, financial crises, and role private equity, venture capital, innovation and start-ups, personal financial advisers, exchange rates, central banks, financial statements, value creation, interpreting financial ratios, understanding present value, diversification, Capital Asset Pricing Model, Sharpe ratio, and understanding asset's beta, hedge funds. Serves as excellent introduction to career paths in finance and for those who want to increase their financial literacy. P/NP grading.

- **5. Economics for Everyone**

Units: 5.0

Lecture, three hours; discussion, one hour. Introduction to models and tools used by economists in practical real-world context. Study of important topical issues such as inequality, health care, and environmental policies. Students learn about available data sources and become better equipped to understand current events. May not be used to fulfill entrance requirements for any Economics Department major. P/NP or letter grading.

- **11. Microeconomic Theory**

Units: 4.0

Lecture, three hours; discussion, one hour. Enforced requisites: courses 1, 2, Mathematics 31A, 31B, with grades of C or better. Laws of demand, supply, returns, and costs; price and output determination in different market situations. P/NP or letter grading.

- **19. Fiat Lux Freshman Seminars**

Units: 1.0

Seminar, one hour. Discussion of and critical thinking about topics of current intellectual importance, taught by faculty members in their areas of expertise and illuminating many paths of discovery at KISREAD. P/NP grading.

- **41. Probability and Statistics for Economists (Effective Fall 2020 )**

Units: 4.0

- **41. Statistics for Economists**

Units: 4.0

Lecture, three hours; discussion, one hour. Enforced requisites: Mathematics 31A, 31B, with grades of C or better. Not open to students with credit for former Statistics 11. Introduction to probability and statistics for economists, with emphasis on rigorous arguments. Letter grading.

- **88S. Deviations from Rationality: Introduction to Behavioral Economics**

Units: 1.0

Seminar, one hour. Behavioral economics uses methodologies to analyze how psychology affects people's economic behavior and decision-making processes. Examination of how cognitive biases can influence--and often inhibit--people's reasoning abilities. Introduction to basic economic modelling as framework for thinking about rational and irrational thought. P/NP grading. Facilitated by Izzy Sumner, with Pierre-Olivier Weill as faculty mentor.

- **89. Honors Seminars**

Units: 1.0

Seminar, three hours. Limited to 20 students. Designed as adjunct to lower-division lecture course. Exploration of topics in greater depth through supplemental readings, papers, or other activities and led by lecture course instructor. May be applied toward honors credit for eligible students. Honors content noted on transcript. P/NP or letter grading.

- **89HC. Honors Contracts**

Units: 1.0

Tutorial, three hours. Limited to students in College Honors Program. Designed as adjunct to lower-division lecture course. Individual study with lecture course instructor to explore topics in greater depth through supplemental readings, papers, or other activities. May be repeated for maximum of 4 units. Individual honors contract required. Honors content noted on transcript. Letter grading.

- **97. Economic Toolkit**

Units: 4.0

Lecture, three hours. Coverage of essential mathematical and programming skills needed for study of Economics. Review of calculus (first derivatives, partial derivatives, elementary integral calculus), Excel (handling data, using simple arithmetical, mathematical, and financial functions, use of Solver), and extended introduction to statistical language R and/or Stata. Consult instructor for specific software. Offered in summer only. P/NP grading.

- **99. Student Research Program**

Units: 1.0 to 2.0

Tutorial (supervised research or other scholarly work), three hours per week per unit. Entry-level research for lower-division students under guidance of faculty mentor. Students must be in good academic standing and enrolled in minimum of 12 units (excluding this course). Individual contract required; consult Undergraduate Research Center. May be repeated. P/NP grading.

## **Professional Upper Division Courses**

- **101. Microeconomic Theory**

Units: 4.0

Lecture, three hours; discussion, one hour. Requisite: course 11. Theory of factor pricing and income distribution, general equilibrium, implications of pricing process for optimum allocation of resources, game theory, and interest and capital. P/NP or letter grading.

- **102. Macroeconomic Theory**

Units: 4.0

Lecture, three hours; discussion, one hour. Requisite: course 101. Theory of income, employment, and price level. Analysis of secular growth and business fluctuations; introduction to monetary and fiscal policy. P/NP or letter grading.

- **103. Introduction to Econometrics**

Units: 4.0

Lecture, three hours; discussion, one hour. Enforced requisites: courses 11, and 41 or Mathematics 170A, or 170E and 170S, or Statistics 100A. Enforced corequisite: course 103L. Introduction to theory and practice of econometrics, with goal to make students effective consumers and producers of empirical research in economics. Emphasis on intuitive understanding rather than on rigorous arguments; concepts illustrated with applications in economics. P/NP or letter grading.

- **103. Introduction to Econometrics (Effective Fall 2020 )**

Units: 4.0

- **103L. Econometrics Laboratory**

Units: 1.0

Lecture, one hour; laboratory, one hour. Requisites: courses 11, and 41 or Mathematics 170A or Statistics 100A. Enforced corequisite: course 103. Econometric analysis of case-

based studies. Hands-on data collection and problem solving. Use of econometric software. P/NP or letter grading.

- **104. Data Science for Economists**

Units: 4.0

- **104L. Data Science for Economists Laboratory**

Units: 1.0

- **106A. Economics in Practice**

Units: 4.0

Seminar, three hours. Enforced requisites: courses 11, 101, 102. Enforced corequisite: course 106AL. Students, in groups of four, address three small problems and one large and more complex problem. Discussion of student-proposed solutions to problems in their groups, with small-group discussions to student presentations of results in class. Detailed coaching and feedback by MBA students on student analysis and presentations. Final written and oral presentations required. P/NP or letter grading.

- **106AL. Economics in Practice Laboratory**

Units: 1.0

Lecture, one hour; laboratory, one hour. Requisites: courses 11, 101, 102. Enforced corequisite: course 106A. Case-based analysis requiring students to apply material from course 106A to real-world problems regarding issues such as economic theory and empirical methods. Hands-on data collection and problem solving and presentation of student analyses both orally and in writing. P/NP or letter grading.

- **106D. Designed Markets**

Units: 4.0

Lecture, three hours; discussion, one hour. Requisites: courses 11, 101. Enforced corequisite: course 106DL. Discussion of markets and other institutions that were purposefully designed, mostly by economists. Choices designers face when designing such markets. Markets and their context and corresponding economic models. Topics include matching between medical residents and hospitals, matching between high school students and New York and Boston high schools, kidney transplants, course allocation in business schools, eBay auctions, and prediction markets. Examination of how to optimize one's actions and outcomes in such markets. P/NP or letter grading.

- **106DL. Designed Markets Laboratory**

Units: 1.0

Lecture, one hour; laboratory, one hour. Requisites: courses 11, 101. Enforced corequisite: course 106D. Case-based analysis requiring students to apply material from course 106D to real-world problems regarding topics such as matching between medical residents and hospitals, matching between high school students and New York and Boston high schools, kidney transplants, course allocation in business schools, eBay auctions, and prediction markets. Hands-on data collection and problem solving and presentation of student analyses both orally and in writing. P/NP or letter grading.

- **106E. Economics of Entrepreneurship**

Units: 4.0

Lecture, three hours. Requisite: course 101. Enforced corequisite: course 106EL. Enrollment priority to Business Economics majors. Application of economic theory to practice of managing new businesses--combining elements of strategy, marketing, and entrepreneurial finance courses. Examination of both strategic decisions of entrepreneurs (pricing, advertising, deterring entry) and more practical issues (funding, business plans, patents). Letter grading.

- **106EL. Economics of Entrepreneurship Laboratory**

Units: 1.0

Lecture, one hour; laboratory, one hour. Requisite: course 101. Enforced corequisite: course 106E. Case-based analysis requiring students to apply material from course 106E to real-world problems regarding topics involving combining elements of strategy, marketing, and entrepreneurial finance courses. Examination of both strategic decisions of entrepreneurs (pricing, advertising, deterring entry) and more practical issues (funding, business plans, patents). Hands-on data collection and problem solving and presentation of student analyses both orally and in writing. P/NP or letter grading.

- **106F. Finance**

Units: 4.0

Lecture, three hours. Requisite: course 102. Enforced corequisite: course 106FB. Enrollment priority to Business Economics majors. Introduction to principles of asset valuation and role of financial markets in market economy. Basic topics include time value of money, discounted cash flow analysis, CAPM model, and applications to public policy. Letter grading.



- **106FB. Finance Laboratory**

Units: 1.0

Lecture, one hour; laboratory, one hour. Requisite: course 102. Enforced corequisite: course 106F. Case-based analysis requiring students to apply theory from course 106F to real-world problems regarding topics such as discounted cash flow analysis, CAPM model, applications to public policy, and more. Hands-on data collection and problem solving and presentation of student analyses both orally and in writing. P/NP or letter grading.

- **106G. Introduction to Game Theory**

Units: 4.0

Lecture, three hours; discussion, one to two hours (when scheduled). Requisite: course 101. Enforced corequisite: course 106GL. Enrollment priority to Business Economics majors. Introduction to basic ideas of game theory and strategic thinking. Discussion of ideas such as dominance, backward induction, Nash equilibrium, commitment, credibility, asymmetric information, and signaling, with application to examples from economics, politics, business, and other real-life situations. Letter grading.

- **106GL. Introduction to Game Theory Laboratory**

Units: 1.0

Lecture, one hour; laboratory, one hour. Requisite: course 101. Enforced corequisite: course 106G. Case-based analysis requiring students to apply material from course 106G to real-world problems involving game theory and strategic thinking in economics, politics, business, and other real-life situations. Hands-on data collection and problem solving and presentation of student analyses in writing with possible oral presentations. P/NP or letter grading.

- **106I. Organization of Firms**

Units: 4.0

Lecture, three hours. Enforced requisites: courses 11, 101. Enforced corequisite: course 106IL. Enrollment priority to Business Economics majors. Role of firms in traditional economic theory and modern developments in theory of firms. Topics include relationship between employer and employee, principal-agent models and moral hazard, formal versus relational contracts, successful firms as coherent systems of mutually supporting parts, property rights and asset ownership, boundaries of firms, employment versus independent contracting, internal organization of firms, role and levels of firm hierarchy. P/NP or letter grading.

- **106IL. Organization of Firms Laboratory**

Units: 1.0

Lecture, one hour; laboratory, one hour. Enforced requisites: courses 11, 101. Enforced corequisite: course 106I. Case-based analysis requiring students to apply material from course 106I to real-world problems. Hands-on data collection and problem solving and presentation of student analyses in writing and with oral presentations. P/NP or letter grading.

- **106M. Financial Markets and Financial Institutions**

Units: 4.0

Lecture, three hours; discussion, one hour. Requisites: courses 11, 101, 102. Enforced corequisite: course 106ML. Application of analytical tools of economics and finance to real-world problems in financial markets to link models students have learned in prior courses to patterns observed in financial markets and to understand when it is that further theoretical refinements are required to better account for certain observed patterns. Development of understanding of potential effects of monetary and regulatory policies on financial markets. Topics include bond market, stock market, foreign exchange market, financial crises, and financial regulation. Analysis and discussion of lessons of subprime crisis and European sovereign debt crisis. P/NP or letter grading.

- **106ML. Financial Markets and Financial Institutions Laboratory**

Units: 1.0

Lecture, one hour; laboratory, one hour. Requisites: courses 11, 101, 102. Enforced corequisite: course 106M. Case-based analysis requiring students to apply material from course 106M to real-world problems involving financial markets and financial institutions. Issues include potential effects of monetary and regulatory policies on financial markets. Topics include bond market, stock market, foreign exchange market, financial crises, and financial regulation. Hands-on data collection and problem solving and presentation of student analyses both orally and in writing. P/NP or letter grading.

- **106P. Pricing and Strategy**

Units: 4.0

Lecture, three hours. Requisite: course 101. Enforced corequisite: course 106PL. Enrollment priority to Business Economics majors. Advanced pricing topics typically include linear programming and shadow pricing, peak load pricing, two-part pricing, strategic pricing, and auctions and bidding. Letter grading.

- **106PL. Pricing and Strategy Laboratory**

Units: 1.0

Lecture, one hour; laboratory, one hour. Requisite: course 101. Enforced corequisite: course 106P. Case-based analysis requiring students to apply material from course 106P to real-world problems involving linear programming and shadow pricing, peak load pricing, two-part pricing, strategic pricing, and auctions and bidding. Hands-on data collection and problem solving and presentation of student analyses in writing. P/NP or letter grading.

- **106T. Economics of Technology and E-Commerce**

Units: 4.0

Lecture, three hours. Requisites: courses 11, 101. Enforced corequisite: course 106TL. Use of rigorous economic tools to analyze world of technology and e-commerce. Examination of economic theory, empirical analysis, and case studies to study variety of new markets. Topics include bidding in online auctions, two-sided markets, matching markets, and reputation mechanisms. Written case on one particular firm and presentation required. P/NP or letter grading.

- **106TL. Economics of Technology and E-Commerce Laboratory**

Units: 1.0

Lecture, one hour; laboratory, one hour. Requisites: courses 11, 101. Enforced corequisite: course 106T. Case-based analysis requiring students to apply theory from course 106T to real-world problems regarding issues such as bidding in online auctions, two-sided markets, matching markets, reputation mechanisms, and more. Hands-on data collection and problem solving and presentation of student analyses both orally and in writing. P/NP or letter grading.

- **106V. Investments**

Units: 4.0

Lecture, three hours. Requisite: course 102. Recommended: course 106F. Enforced corequisite: course 106VL. Enrollment priority to Business Economics majors. Introduction to principles investment and portfolio theory. Topics include optimal portfolio construction, fixed income analysis, option pricing theory, and active portfolio management. P/NP or letter grading.

- **106VL. Investments Laboratory**

Units: 1.0

Lecture, one hour; laboratory, one hour. Requisite: course 102. Recommended: course 106F. Enforced corequisite: course 106V. Case-based analysis requiring students to apply theory from course 106V to real-world problems regarding issues such as portfolio management, option pricing, and other investment topics. Hands-on data collection and problem solving and presentation of student analyses both orally and in writing. P/NP or letter grading.

- **107. History of Economic Theory**

Units: 4.0

Lecture, three hours. Enforced requisites: courses 11, 101, 102. Survey of economic analysis from Grecian antiquity to early 20th century, concentrating on 18th and 19th centuries; special attention to selected writers, including Aristotle, mercantilists, Physiocrats, Hume, Smith, Malthus, Ricardo, Marx, marginalists, and Marshall. P/NP or letter grading.

- **111. Theories of Development**

Units: 4.0

Lecture, three hours. Requisites: courses 11, 101, 103. Application of theoretical and empirical tools from microeconomics to provide insights into problems confronting low-income countries today and to evaluate policies that are likely to be effective in improving well-being of poorest on globe. P/NP or letter grading.

- **111. Theories of Development (Effective Fall 2020 )**

Units: 4.0

- **111L. Theories of Development Laboratory**

Units: 1.0

- **112. Policies for Economic Development**

Units: 4.0

Lecture, three hours. Requisite: course 102 or 111. Suggested strategies for economic development: inflation, balanced growth, industry versus agriculture, import substitution, export-oriented expansion, foreign aid, and others. Selected case studies. P/NP or letter grading.

- **113. Globalization and Gender**

Units: 4.0

Lecture, three hours. Requisite: course 11. Examination of gender dimensions of economic development and globalization from perspective of feminist economics. This perspective implies foregrounding labor, broadly defined to include paid and unpaid work; examining gender differences in work; access to resources; and well-being outcomes; and how these are affected by macroeconomic policies and how gender inequalities are relevant for societal well-being. Since early 1980s economic globalization has been achieved on basis of common set of macroeconomic policies pursued in industrial and developing countries alike. These policies frame both gender-differentiated impacts of policy and initiatives that are implemented to reduce inequalities between men and women. Examination of impact of these policies on gender inequalities in developing countries. P/NP or letter grading.

- **121. International Trade Theory**

Units: 4.0

Lecture, three hours; discussion, one hour. Requisite: course 101. Corequisite: course 121L. Not open to students with credit for former course 120. Theory of international trade: bases, direction, terms, volume, and gains of trade. Effects of tariffs, quantitative restrictions, and international integration. Effects of free and restricted trade on economic welfare and political stability. P/NP or letter grading.

- **121L. International Trade Theory Laboratory**

Units: 1.0

Lecture, one hour; laboratory, one hour. Requisite: course 101. Corequisite: course 121. Case-based analysis requiring students to apply material from course 121 to real-world problems involving international trade. Topics and analysis include theory of

international trade: bases, direction, terms, volume, and gains of trade; effects of tariffs, quantitative restrictions, and international integration; effects of free and restricted trade on economic welfare and political stability. P/NP or letter grading.

- **122. International Finance**

Units: 4.0

Lecture, three hours; discussion, one hour. Requisite: course 102. Enforced corequisite: course 122L. Not open to students with credit for former course 120. Emphasis on interpretation of balance of payments and adjustment to national and international equilibria through changes in price levels, exchange rates, and national income. Other topics include making international payments, determination of exchange rates under various monetary standards, capital movements, exchange controls, and international monetary organization. P/NP or letter grading.

- **122L. International Finance Laboratory**

Units: 1.0

Lecture, one hour; laboratory, one hour. Requisite: course 102. Enforced corequisite: course 122. Case-based analysis requiring students to apply material from course 122 to real-world problems involving international finance. Topics and analysis include balance of payments, exchange rates under various monetary arrangements, capital flows, exchange controls, and international monetary organization. Hands-on data collection and problem solving and presentation of student analyses in writing. P/NP or letter grading.

- **M123. Foreign Exchange Market and Exchange Rate Forecasting**

Units: 5.0

(Formerly numbered 123.) (Same as Honors Collegium M109.) Seminar, four hours. Introduction to forecasting of exchange rates. Theory linked with real-world data through use of powerful computer platform called Trade station in computer laboratory. Analysis of how foreign exchange market works, what financial instruments are used in this market, and what main theoretical determinants of exchange rates are. Generation of exchange rate forecasts by combining theoretical concepts with real-world data using concepts and techniques from computer science, linguistics, and statistics. How to write simple codes to generate exchange rate forecasts and to evaluate accuracy of student forecasts. P/NP or letter grading.

- **C126A. Seminar: International Economics**

Units: 4.0

Seminar, three hours. Requisites: courses 11, 101, 102. Limited to seniors. Overview of most current developments in international economics for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, and advanced graduate students. Concurrently scheduled with course C285A. P/NP or letter grading.

- **C126B. Seminar: International Economics**

Units: 4.0

Seminar, three hours. Requisites: courses 11, 101, 102. Limited to seniors. Overview of most current developments in international economics for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, and advanced graduate students. Concurrently scheduled with course C285B. P/NP or letter grading.

- **C126C. Seminar: International Economics**

Units: 4.0

Seminar, three hours. Requisites: courses 11, 101, 102. Limited to seniors. Overview of most current developments in international economics for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, and advanced graduate students. Concurrently scheduled with course C285C. P/NP or letter grading.

- **130. Public Economics**

Units: 4.0

Lecture, three hours. Requisites: courses 11, 101, 103. Enforced corequisite: course 130L. Role of government in market economy. Alternative justifications for government intervention. Principles and effects of spending programs (especially social insurance and health), taxation, deficit financing, and federal credit programs. Taxation in open economy. Properties of public choice mechanisms. P/NP or letter grading.

- **130L. Public Economics Laboratory**

Units: 1.0

Lecture, one hour; laboratory, one hour. Requisites: courses 11, 101. Enforced corequisite: course 130. Case-based analysis requiring students to apply theory from course 130 to real-world problems regarding government spending programs, taxation, deficit financing, and federal credit programs. Hands-on data collection and problem solving and presentation of student analyses both orally and in writing. P/NP or letter grading.

- **131. Economics of Health and Healthcare**

Units: 4.0

Lecture, three hours. Requisites: courses 11, 101, 103. Enforced corequisite: course 131L. Economic analysis of health and healthcare. Presentation of several detailed economic models, including models of addiction, demand for healthcare, demand for insurance, nonprofit behavior, and other models. Evaluation of quantitative information from course readings and development of better understanding of econometric concepts and results. P/NP or letter grading.

- **131L. Economics of Health and Healthcare Laboratory**

Units: 1.0

Lecture, one hour; laboratory, one hour. Enforced requisites: courses 11, 101, 103. Enforced corequisite: course 131. Case-based analysis requiring students to apply theory from course 131 to real-world problems regarding economics of health and healthcare. Hands-on data collection and problem solving and presentation of student analyses both orally and in writing. P/NP or letter grading.

- **132. Topics in Taxation and Social Insurance**

Units: 4.0

Lecture, three hours; discussion, one hour. Requisites: courses 11, 101. In-depth examination of selected topics related to current policy debates. Topics vary from year to year but typically emphasize tax policy or social insurance. Topics may include optimal taxation; tax inefficiencies and their implications for labor supply, savings, and investment; income redistribution and personal income tax; corporate taxation and implications for firms' investment and financing decisions; Social Security and SSDI reform; and welfare programs. P/NP or letter grading.



- **134. Environmental Economics**

Units: 4.0

(Formerly numbered M134.) Lecture, three hours. Requisites: course 41 or Statistics 12 or 13, and course 101. Introduction to major ideas in natural resources and environmental economics, with emphasis on designing incentives to protect environment. Highlights important role of using empirical data to test hypotheses about pollution's causes and consequences. P/NP or letter grading.

- **M135. Economic Models of Public Choice**

Units: 4.0

(Same as Political Science M105.) Lecture, three or four hours; discussion, one hour (when scheduled). Preparation: any lower-division political science course. Enforced requisite: course 11. Designed for juniors/seniors. Analysis of methods and consequences of arriving at collective decisions through political mechanisms. Topics include free-rider problem, voting and majority choice, demand revelation, and political bargaining. P/NP or letter grading.

- **137. Introduction to Urban and Regional Economics**

Units: 4.0

Lecture, three hours. Requisite: course 11. Survey of broad range of policy and theoretical issues that are raised when economic analysis is applied in urban setting. Topics include urbanization and urban growth, housing markets, location decisions of households and firms, transportation, urban labor markets, and local public sector. P/NP or letter grading.

- **140. Inequality: Mathematical and Econometric Approach**

Units: 4.0

Lecture, three hours. Requisites: courses 101, 103, and Mathematics 33A or 115A. In past decade economists have learned remarkable amount about how society works. Increased understanding through application of distinctively economic methods of research--explicit mathematical models and eclectic statistical techniques--to topics like healthcare, crime, education, and immigration, leading to increased understanding of inequality, how to measure it, how inequality has increased in U.S., how America differs from other rich countries, and what causes inequality. Study of this work, with focus on two important influences on inequality--education and health. P/NP or letter grading.

- **141. Topics in Microeconomics: Mathematical Finance**

Units: 5.0

Lecture, three hours; computer laboratory, one hour. Requisites: course 11, Mathematics 32A, either Statistics 100A or Mathematics 170A. Economics of financial markets, competitive equilibrium with time and uncertainty, one period security market model, market completeness. P/NP or letter grading.

- **142. Topics in Microeconomics: Probabilistic Microeconomics**

Units: 4.0

Lecture, three hours. Requisite: course 101. Combination of basic probability introduced in Statistics 11 with microeconomic models presented in courses 11 and 101 in order to explain phenomena such as insurance, job search, and stock market behavior. Optimal production and consumption under uncertainty. Review of probability and introduction to alternative measures of risk and risk aversion. P/NP or letter grading.

- **143. Advanced Econometrics**

Units: 4.0

Lecture, three hours; discussion, one hour; laboratory, one hour. Requisite: course 103. Not open for credit to students with credit for former course 147A or 147B. Heteroskedasticity, limited dependent variable, panel data, time-series. P/NP or letter grading.

- **144. Economic Forecasting**

Units: 4.0

Lecture, three hours. Preparation: familiarity with data analysis software (e.g., R, Excel, MATLAB, Stata) and/or programming experience. Enforced requisites: courses 101, 103, 103L. Survey of theory and application of time-series methods to forecasting in economics, business, and government. Topics include modeling and forecasting trend, seasonality, and cycles. Discussion of stochastic trends, volatility measure, and evaluation of forecasting techniques. Hands-on approach to real-world data analysis methods widely used by economists and other professionals. P/NP or letter grading.

- **145. Topics in Microeconomics: Mathematical Economics**

Units: 4.0

Lecture, three hours. Requisite: course 101. Possible topics include game theory; competitive equilibrium analysis; examination of market failure and role for market intervention. P/NP or letter grading.

- **C146A. Seminar: Asset Pricing**

Units: 4.0

Seminar, three hours. Requisites: courses 11, 101, 102. Limited to seniors. Overview of most current developments in asset pricing theory for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, and advanced graduate students. Concurrently scheduled with course C296A. P/NP or letter grading.

- **C146B. Seminar: Asset Pricing**

Units: 4.0

Seminar, three hours. Requisites: courses 11, 101, 102. Limited to seniors. Overview of most current developments in asset pricing theory for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, and advanced graduate students. Concurrently scheduled with course C296B. P/NP or letter grading.

- **C146C. Seminar: Asset Pricing**

Units: 4.0

Seminar, three hours. Requisites: courses 11, 101, 102. Limited to seniors. Overview of most current developments in asset pricing theory for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, and advanced graduate students. Concurrently scheduled with course C296C. P/NP or letter grading.

- **147. Computational Finance and Data Analysis for Financial Engineering**

Units: 4.0

Lecture, three hours. Requisites: courses 41, 101, 103. Enforced corequisite: course 147L. Introduction to econometric modeling in empirical/computational finance. Focus

on study of econometric models and methods to understand financial market dynamics. Review of essential concepts in probability/statistics and time-series econometrics. Investigation of some popular financial econometric models and estimation methods. Review of selected topics in finance, and how to apply econometric methods to analyze and understand empirical properties of financial market data. Analytical problem sets and data exercises to enhance theoretical understandings and practical skills. P/NP or letter grading.

- **147L. Computational Finance and Data Analysis for Financial Engineering Laboratory**

Units: 1.0

Lecture, one hour; laboratory, one hour. Requisites: courses 41, 101, 103. Enforced corequisite: course 147. Project-based analysis requiring students to apply econometric modeling techniques from course 147 to real-world financial data. P/NP or letter grading.

- **148. Behavioral Economics**

Units: 4.0

Lecture, three hours. Enforced requisite: course 101. Behavioral economics is emerging subfield of economics that incorporates insights from psychology and other social sciences into economics to improve realism of economic models by incorporating realistic features such as aversion for losses, problems with self-control, or concerns for others and thereby improve economic analyses. Review of some standard assumptions made in economics and examination of evidence on how human behavior systematically departs from these assumptions. Investigation of attempts to explore alternative models of human decision making and assessment to what extent these alternative models help improve economic analyses. P/NP or letter grading.

- **150. Labor Economics**

Units: 4.0

Lecture, three hours. Requisites: courses 11, 101, 103. Enforced corequisite: course 150L. Supply and demand for labor. Analysis of government, union, and other constraints on competitive system of wage determination. Wage level and structure. Wages and human capital theory. P/NP or letter grading.

- **150L. Labor Economics Laboratory**

Units: 1.0

Lecture, one hour; laboratory, one hour. Requisites: courses 11, 101, 103. Enforced corequisite: course 150. Case-based analysis requiring students to apply theoretical tools

from course 150 to real-world problems involving labor economics. Topics include labor supply decisions, household production decisions, life-cycle aspects of labor supply, short-run and long-run labor demand, monopony in labor market, quasi-fixed labor costs and labor demand, human capital, and other extended topics. Hands-on data collection and problem solving and presentation of student analyses both orally and in writing. P/NP or letter grading.

- **151. Topics in Labor Economics**

Units: 4.0

Lecture, three hours. Requisites: courses 101, 150. Selected topics in labor theory; income distribution; business cycles and unemployment; investments in human capital and life cycles; migration; human fertility; marriage and divorce, etc. P/NP or letter grading.

- **C156A. Seminar: Labor Economics**

Units: 4.0

Seminar, three hours. Requisites: courses 11, 101, 102. Limited to seniors. Overview of most current developments in labor economics for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, and advanced graduate students. Concurrently scheduled with course C266A. P/NP or letter grading.

- **C156B. Seminar: Labor Economics**

Units: 4.0

Seminar, three hours. Requisites: courses 11, 101, 102. Limited to seniors. Overview of most current developments in labor economics for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, and advanced graduate students. Concurrently scheduled with course C266B. P/NP or letter grading.

- **C156C. Seminar: Labor Economics**

Units: 4.0

Seminar, three hours. Requisites: courses 11, 101, 102. Limited to seniors. Overview of most current developments in labor economics for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented,

discussed, and criticized by visiting experts, KISREAD faculty members, and advanced graduate students. Concurrently scheduled with course C266C. P/NP or letter grading.

- **160. Money and Banking**

Units: 4.0

Lecture, three hours. Requisite: course 102. Principles of money and banking in U.S.; legal and institutional framework; money supply process; instruments, effects, and practice of monetary policy. P/NP or letter grading.

- **161. Monetary Theory**

Units: 4.0

Lecture, three hours. Requisites: courses 101, 160. Nature of money and monetary exchange; level and term structure of interest rates; level and growth rate of money; transmission of monetary shocks; theory and practice of monetary policy. P/NP or letter grading.

- **164. Advanced Topics in Macroeconomics: Theory of Economic Growth**

Units: 4.0

Lecture, three hours. Requisite: course 102. Enforced corequisite: course 164L. Use of neoclassical growth model to address various issues, with emphasis on quantitative analysis. Development of economic theory and application to study of long-run growth, industrial revolution, and Great Depression. P/NP or letter grading.

- **164L. Advanced Topics in Macroeconomics: Theory of Economic Growth Laboratory**

Units: 1.0

Lecture, one hour; laboratory, one hour. Requisite: course 102. Enforced corequisite: course 164. Case-based analysis requiring students to apply theory from course 164 to real-world macroeconomic growth problems. Hands-on data collection and problem solving and presentation of student analyses in writing. P/NP or letter grading.

- **165. History of Capitalism in American Economy**

Units: 4.0

Lecture, three hours. Enforced requisite: course 102. Enforced corequisite: course 165L. How capitalism--what economists call market economy with well-defined and protected

civil rights and property rights--has contributed to America's economic growth. Quantitative course, with analysis of how different features of capitalist economies impact economic growth, investment, consumption, and technical change, using computer simulations based on prominent historical examples. P/NP or letter grading.

- **165L. History of Capitalism in American Economy Laboratory**

Units: 1.0

Lecture, one hour; laboratory, one hour. Enforced requisite: course 102. Enforced corequisite: course 165. Case-based analysis requiring students to apply theory and historical data from course 165 to simulate and analyze how variety of macroeconomic policies impact economic activity. Hands-on data collection and problem solving and presentation of student analyses in writing. P/NP or letter grading.

- **C166A. Seminar: Monetary Economics/Macroeconomics**

Units: 4.0

Seminar, three hours. Requisite: course 102. Limited to seniors. Overview of most current developments in monetary economics and macroeconomics for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, and advanced graduate students. Concurrently scheduled with course C226A. P/NP or letter grading.

- **C166B. Seminar: Monetary Economics/Macroeconomics**

Units: 4.0

Seminar, three hours. Requisite: course 102. Limited to seniors. Overview of most current developments in monetary economics and macroeconomics for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, and advanced graduate students. Concurrently scheduled with course C226B. P/NP or letter grading.

- **C166C. Seminar: Monetary Economics/Macroeconomics**

Units: 4.0

Seminar, three hours. Requisite: course 102. Limited to seniors. Overview of most current developments in monetary economics and macroeconomics for advanced undergraduate and graduate students. Introduction to graduate-level research in this field.

Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, and advanced graduate students. Concurrently scheduled with course C226C. P/NP or letter grading.

- **167. Victims and Villains; Panics and Bubbles**

Units: 4.0

Lecture, three hours. Requisites: course 101, Management 120A (may be taken concurrently). Focus on phenomena of panics, bubbles, and manias in financial history. In-depth analysis and discussion of underlying causes, private and public policy responses, similarities, and contemporary issues in today's financial landscape. Focus on study of financial meltdown of 2008 with comprehensive treatment of financial and banking panics, with discussion of underlying housing and stock market bubbles. Highlights report of Financial Crisis Inquiry Commission, and various components of crisis with case and discussion on each component. Also covers five other financial crises: panic of 1907, Great Depression, Japanese real estate and stock market bubbles of 1980s, American banking crises of 1980s, and Asian Contagion of late 1990s. Students read case studies relating to each, and more general related readings including speeches, papers, and articles. Letter grading.

- **168. Introduction to Principles of Value Investing**

Units: 4.0

Lecture, three hours. Requisites: course 101, Management 120A (may be taken concurrently). Introduction to fundamental principles of value investing. Discussion of fundamental themes relating to value investing, and demonstration of how these ideas compare favorably with other investment approaches. Topics include differences between investment and speculation, how to search for inefficiencies in marketplace, and importance of incorporating margin of safety in any analysis. Introduction of standard accounting and valuation tools, including liquidation value. Prepares students to analyze and interpret financial statements. Designed for students considering careers in security analysis, investment banking, consulting, and corporate finance. Letter grading.

- **169. Applied Value Investing**

Units: 4.0

Lecture, three hours. Requisites: courses 101, 168, Management 120A (may be taken concurrently). Extends principles of introductory value investing class to more advanced and wider variety of applications. Makes use of multiple case studies to enhance comprehension with real-world examples and to highlight necessary valuation skills that students are expected to master. Also covers market dynamics that can create opportunities to find structurally mispriced securities such as rights offerings, spin-offs,



restructurings, and liquidations. Designed for students considering careers in security analysis, investment banking, consulting, and corporate finance. Letter grading.

- **170. Industrial Organization: Theory and Tactics**

Units: 4.0

Lecture, three hours. Requisite: course 101. Enforced corequisite: course 170L. Not open for credit to students with credit for former course 170 or 171. Monopoly, collusion and competition, strategic firm behavior, nonprice competition with and without entry, pricing practices, antitrust. Comparison of economic and legal treatments of competitive process. Monopoly competition, and collusion as economic theory, as antitrust doctrine, and as fact. Source of monopoly. Predatory behavior. Misleading practices in theory and policy. General problem of relationship between private rights of action and competitive entry. P/NP or letter grading.

- **170L. Industrial Organization: Theory and Tactics Laboratory**

Units: 1.0

Lecture, one hour; laboratory, one hour. Requisite: course 101. Enforced corequisite: course 170. Case-based analysis requiring students to apply material from course 170 to real-world problems involving monopoly, collusion, strategic firm behavior, pricing practices, antitrust and other topics. Hands-on data collection and problem solving and presentation of student analyses both orally and in writing. P/NP or letter grading.

- **171. Industrial Organization: Policy and Regulation**

Units: 4.0

Lecture, three hours. Requisite: course 101. Recommended requisite: course 103. Preparation: calculus. Designed to give foundation in topics within field of industrial organization relating to regulation of monopoly power within economy and different way that that manifests across firm conduct and industrial settings. Particular attention to topics in antitrust policy, with some exploration of intersection between economics and law. Topics include in-depth analysis of cartels and mergers, including abstract theory and specifics of analytical approaches deployed in enforcement by Department of Justice and Federal Trade Commission. P/NP or letter grading.

- **173A. Introduction to Social Entrepreneurship**

Units: 4.0

Lecture, one hour; research group meeting, two hours. Course 173A is requisite to 173B. Full-scale immersion into world of social entrepreneurship. Introduction to basics of business planning for social enterprises. Students are assigned in teams to work with

participating social enterprises in Los Angeles area to implement new revenue-generating business plan for social enterprises to which they are assigned. Teams receive support from MBA student volunteers as advisers on how to work effectively together and how to resolve issues that arise with staff of assigned social enterprise. Courses 173A and 173B must be taken in consecutive terms. In Progress grading (credit to be given only on completion of course 173B).

- **173B. Introduction to Social Entrepreneurship**

Units: 4.0

Lecture, one hour; research group meeting, two hours. Requisite: course 173A. Full-scale immersion into world of social entrepreneurship. Introduction to basics of business planning for social enterprises. Students are assigned in teams to work with participating social enterprises in Los Angeles area to implement new revenue-generating business plan for social enterprises to which they are assigned. Teams receive support from MBA student volunteers as advisers on how to work effectively together and how to resolve issues that arise with staff of assigned social enterprise. Courses 173A and 173B must be taken in consecutive terms. P/NP or letter grading.

- **174. Economics of Sports**

Units: 4.0

Lecture, three hours. Enforced requisites: courses 11, 41, 101. Recommended: courses 103/103L. Course in applied microeconomics that employs both theoretical and empirical tools to analyze wide range of topics related to sports industry. Topics include history of labor relations in professional sports, history and analysis of player salaries in professional sports, market for professional sports franchises and sports broadcast rights, league expansion and relocation decisions, understanding of role of economic impact studies (cost-benefit analysis) and public/private partnerships in facility financing, relationship between academics and athletics in collegiate sports, racial discrimination in sports, exploration of behavioral issues such as strategic effort, measuring return on investment from sport sponsorships, and calculation of economic damages in legal cases involving athletes. P/NP or letter grading.

- **C176A. Seminar: Industrial Organization**

Units: 4.0

Seminar, three hours. Requisites: courses 11, 101, 102. Limited to seniors. Overview of most current developments in industrial organization for advanced undergraduate and

graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, and advanced graduate students. Concurrently scheduled with course C276A. P/NP or letter grading.

- **C176B. Seminar: Industrial Organization**

Units: 4.0

Seminar, three hours. Requisites: courses 11, 101, 102. Limited to seniors. Overview of most current developments in industrial organization for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, and advanced graduate students. Concurrently scheduled with course C276B. P/NP or letter grading.

- **C176C. Seminar: Industrial Organization**

Units: 4.0

Seminar, three hours. Requisites: courses 11, 101, 102. Limited to seniors. Overview of most current developments in industrial organization for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, and advanced graduate students. Concurrently scheduled with courses C276C. P/NP or letter grading.

- **181. Development of Economic Institutions in Western Europe**

Units: 4.0

Lecture, three hours. Requisite: courses 11, 103. Corequisite: course 181L. Application of economic theory and quantitative reasoning to study economic history of Western Europe from 18th to 20th century. Topics include Malthusian theory, Industrial Revolution, demographic transition, formation and persistence of institutions and organizations, World Wars, and development of Europe during 1950s and 1960s. P/NP or letter grading.

- **181L. Development of Economic Institutions in Western Europe Laboratory**

Units: 1.0

Lecture, three hours; laboratory, one hour. Requisite: courses 11, 103. Corequisite: course 181. Empirical analysis requiring application of material from corresponding lecture course to selected historical issues, such as Malthusian theory, Industrial Revolution, demographic transition, formation and persistence of institutions and organizations, World Wars, and development of Europe during 1950s and 1960s. Hands-on data collection and problem solving and presentation of student analyses in writing. P/NP or letter grading.

- **183. Development of Economic Institutions in U.S.**

Units: 4.0

Lecture, three hours. Requisites: courses 11, 103. Enforced corequisite: course 183L. Study of changing economic conditions in U.S. from Colonial times to early 20th century and effects of these changes on American society. P/NP or letter grading.

- **183L. Development of Economic Institutions in U.S. Laboratory**

Units: 1.0

Lecture, one hour; laboratory, one hour. Requisite: course 11. Enforced corequisite: course 183. Empirical analysis requiring students to apply material from course 183 to selected historical issues such as migration, slavery, industrialization, capital formation, Great Depression, human capital formation, and California development and relate them to current real-world issues. Hands-on data collection and problem solving and presentation of student analyses in writing. P/NP or letter grading.

- **185. Career Development**

Units: 1.0

(Formerly numbered 188.) Lecture, one hour. Enrollment priority to departmental majors. Designed to provide Business Economics majors with key knowledge and practical skills used in real world that compliment traditional academics to maximize interview, communication, and presentation skills and strengthen resumé building. Coverage of career paths in business profession in various aspects to broaden students' knowledge of career opportunities. Review of current business environment, financial markets, economy, unemployment, banking crises, market updates, and all related business topics. P/NP grading.

- **C186A. Seminar: Economic History**

Units: 4.0

Seminar, three hours. Limited to seniors. Overview of most current developments in economic history for advanced undergraduate and graduate students. Introduction to

graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, and advanced graduate students. Concurrently scheduled with course C246A. P/NP or letter grading.

- **C186B. Seminar: Economic History**

Units: 4.0

Seminar, three hours. Limited to seniors. Overview of most current developments in economic history for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, and advanced graduate students. Concurrently scheduled with course C246B. P/NP or letter grading.

- **C186C. Seminar: Economic History**

Units: 4.0

Seminar, three hours. Limited to seniors. Overview of most current developments in economic history for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, and advanced graduate students. Concurrently scheduled with course C246C. P/NP or letter grading.

- **187. Upper-Division Research Seminar: Applications of Economic Theory**

Units: 4.0

Seminar, three hours. Requisites: courses 11, 101. Limited enrollment seminars in which students usually write research paper on topic selected in consultation with instructor. May be repeated for credit with topic change. P/NP or letter grading.

- **M188. Practicum in Social Entrepreneurship**

Units: 4.0

(Same as Community Engagement and Social Change M188.) Seminar, three hours. Enrollment by consent of instructor. Offers students full-scale immersion into challenges of launching social enterprise. Students work in teams alongside staff of local nonprofit organizations in 10-week social enterprise accelerator program aimed at helping participating organizations secure financial and operational resources they need to implement social enterprise for which viable business plan has already been constructed. Students meet assigned organization, study its business plan, and work with instructors of

course and staff of nonprofit organization to develop tailored plan of work for 10-week accelerator program. Students carry out work in conjunction with staff of organization under supervision of instructors and with assistance of experienced entrepreneur volunteer mentors. P/NP or letter grading.

- **166SA. Individual Studies for ODL Facilitators**

Units: 1.0

Tutorial, to be arranged. Enforced corequisite: Honors Collegium 101E. Limited to junior/senior ODL facilitators. Individual study in regularly scheduled meetings with faculty mentor to discuss selected ODL seminar topic, conduct preparatory research, and begin preparation of syllabus. Individual contract with faculty mentor required. May not be repeated. Letter grading.

- **166SB. Individual Studies for ODL Facilitators**

Units: 1.0

Tutorial, to be arranged. Enforced requisite: course 166SA. Enforced corequisite: Honors Collegium 101E. Limited to junior/senior ODL facilitators. Individual study in regularly scheduled meetings with faculty mentor to finalize course syllabus. Individual contract with faculty mentor required. May not be repeated. Letter grading.

- **166SC. Individual Studies for ODL Facilitators**

Units: 2.0

Tutorial, to be arranged. Enforced requisite: course 188SB. Limited to junior/senior ODL facilitators. Individual study in regularly scheduled meetings with faculty mentor while facilitating ODL 88S course. Individual contract with faculty mentor required. May not be repeated. Letter grading.

- **189. Advanced Honors Seminars**

Units: 1.0

Seminar, three hours. Limited to 20 students. Designed as adjunct to undergraduate lecture course. Exploration of topics in greater depth through supplemental readings, papers, or other activities and led by lecture course instructor. May be applied toward honors credit for eligible students. Honors content noted on transcript. P/NP or letter grading.

- **189HC. Honors Contracts**

Units: 1.0

Tutorial, three hours. Limited to students in College Honors Program. Designed as adjunct to upper-division lecture course. Individual study with lecture course instructor to explore topics in greater depth through supplemental readings, papers, or other activities. May be repeated for maximum of 4 units. Individual honors contract required. Honors content noted on transcript. Letter grading.

- **191. Variable Topics Research Seminars: Economics**

Units: 4.0

Seminar, three hours. Enforced requisites: courses 101, 102, 103. Research seminars on selected topics in economics. Reading, discussion, and development of culminating project. Consult Schedule of Classes for topics and instructors. May be repeated for credit with topic change. P/NP or letter grading.

- **192. Undergraduate Practicum in Economics**

Units: 3.0

Seminar, two hours. Limited to juniors/seniors. Training and supervised practicum for advanced undergraduate students. Students assist in preparation of course materials and development of innovative programs with guidance of faculty members. P/NP or letter grading.

- **195A. Community or Corporate Internships in Economics I**

Units: 2.0

Tutorial, to be arranged. Requisites: courses 11, 101. Limited to junior/senior Economics, Business Economics, Economics/International Area Studies, and Mathematics/Economics majors. Internship to be supervised by Economics Department. Further supervision to be provided by business or entity for which student is doing internship. Students meet on regular basis with instructor and provide periodic reports of their experience. May not be applied toward major requirements. Only 8 units from courses 195A and 195B may be applied toward undergraduate degree. Individual contract with supervising faculty member required. P/NP grading.

- **195B. Community or Corporate Internships in Economics II**

Units: 4.0

Tutorial, to be arranged. Requisites: courses 11, 101. Limited to junior/senior Economics, Business Economics, Economics/International Area Studies, and Mathematics/Economics majors. Internship to be supervised by Economics Department. Further supervision to be provided by business or entity for which student is doing internship. Students meet on regular basis with instructor and provide periodic reports of

their experience. May not be applied toward major requirements. Only 8 units from courses 195A and 195B may be applied toward undergraduate degree. Individual contract with supervising faculty member required. P/NP grading.

- **195C. Community and Corporate Internships in Economics**

Units: 4.0

Tutorial, to be arranged; fieldwork, eight to 10 hours. Requisites: courses 11, 101. Limited to juniors/seniors. Internship in corporate, governmental, or nonprofit setting coordinated by Economics Department. Students complete weekly written assignments, attend biweekly meetings with graduate student coordinator, and write final research paper. Faculty sponsor and graduate student coordinator construct series of reading assignments that examine issues related to internship site. May not be applied toward major requirements. May be repeated for credit with consent of department. Individual contract with supervising faculty member required. P/NP or letter grading.

- **198A. Honors Research in Economics I**

Units: 4.0

Tutorial, three hours. Requisites: courses 11, 101, 102. Limited to senior departmental honors program students. First term of two-term sequence in which students develop honors thesis or comprehensive research project under direct supervision of faculty member. Individual contract required. In Progress grading (credit to be given only on completion of course 198B).

- **198B. Honors Research in Economics II**

Units: 4.0

Tutorial, three hours. Requisite: course 198A. Limited to senior departmental honors program students. Second term of two-term sequence in which students complete honors thesis or comprehensive research project under direct supervision of faculty member. Individual contract required. Letter grading.

- **199A. Directed Research in Economics**

Units: 4.0

Tutorial, three hours. Requisites: courses 11, 101, 102. Limited to juniors/seniors. Supervised individual research or investigation under guidance of faculty mentor. Culminating paper or project required. May be repeated twice but may be applied only once toward major requirements. Individual contract required. P/NP or letter grading.

- **199B. Directed Research in Economics/International Area Studies**



Units: 4.0

Tutorial, four hours. Requisites: courses 103, and 121 or 122. Limited to senior Economics/International Area Studies majors. Students prepare research papers under guidance of faculty mentor on economy of country or region of specialization. May be repeated for credit. Individual contract required. Letter grading.

## **Professional Graduate Courses**

- **200. Mathematical Methods in Economics**

Units: 4.0

Lecture, three hours. Should be taken prior to enrollment in course 201A. Examination of mathematical methods used in graduate-level courses in microeconomics, macroeconomics, and quantitative methods. Topics include real analysis, linear algebra and matrices, calculus of many variables, static optimization, convex analysis, and dynamics and dynamic optimization. S/U grading.

- **200B. Mathematical Methods in Economics II**

Units: 4.0

Lecture, three hours; laboratory, two hours. Should be taken prior to or concurrent with course 201B. Linear algebra and its application to linear difference equations. Basic real analysis, normed vector space/Banach space, Hahn/Banach theorem, Schauder fixed point theorem, and theory of correspondences. S/U grading.

- **201A. Microeconomics: Theory of Firm and Consumer**

Units: 4.0

Lecture, three hours. Two input/two output model. Walrasian equilibrium and Pareto efficiency. Choice over time--consumer savings and firm investment decisions. Choice under uncertainty--state claims model, asset pricing. S/U or letter grading.

- **201B. Microeconomics: Basic Concepts and Techniques of Noncooperative Game Theory and Information Economics**

Units: 4.0

Lecture, three hours. Nash equilibrium and subgame perfection. Games with incomplete information. Models of strategic market behavior. Screening and signaling. Bargaining models. Theory of firm. S/U or letter grading.

- **201C. Microeconomics: Game Theory with Asymmetric Information and Applications**

Units: 4.0

Lecture, three hours. Perfect Bayesian equilibrium and refinements, mechanism design. Applied topics such as adverse selection, signaling, moral hazard, bidding, price discrimination, and public good provision. S/U or letter grading.

- **202A. Macroeconomics: Dynamics and Growth Theory**

Units: 4.0

Lecture, three hours. Essential techniques and concepts from dynamical mathematics and neoclassical growth theory. Linear and nonlinear dynamical systems. Dynamic programming and control theory. Stochastic dynamics. Determinacy of equilibrium. Descriptive, optimal, and overlapping generations models of accumulation. Stochastic growth theory. Increasing returns and applications to economic development. S/U or letter grading.

- **202B. Macroeconomics: Business Cycles**

Units: 4.0

Lecture, three hours. Survey of representative agent and complete market models of short-run fluctuations. Facts about fluctuations and long-term growth. Real business cycle theory. Calibrating and simulating dynamic models. Asset prices, money, and inflation. Taxation of factor incomes. Cyclical aspects of employment. S/U or letter grading.

- **202C. Macroeconomics: Topics in Macroeconomics**

Units: 4.0

Lecture, three hours. Heterogeneous-agent models of endogenous fluctuations and growth. General equilibrium techniques in macroeconomics. Overlapping fluctuations model with national debt. Fiscal policy. Externalities, indeterminacy, and growth. Expectations and business cycles. Money and monetary policy. Historical overview of mainstream macroeconomics. Wicksell and Keynes. Monetarist controversy. New classical and new Keynesian macroeconomics. S/U or letter grading.

- **203A. Introduction to Econometrics I**

Units: 4.0

Lecture, three hours; discussion, one hour. Probability and statistical tools for econometric models. Topics include random variables, distribution and density functions, transformations, identification, sampling, estimators, asymptotic properties. S/U or letter grading.

- **203B. Introduction to Econometrics II**

Units: 4.0

Lecture, three hours; discussion, one hour. Estimation and testing. Basic linear regression model, tests of hypotheses, generalized least squares, heteroskedasticity, multicollinearity, error-in-variables, and qualitative dependent variables. S/U or letter grading.

- **203C. Introduction to Econometrics III**

Units: 4.0

Lecture, three hours; discussion, one hour. Econometrics methods for time-series econometrics, including theory and applications. Topics include detrending techniques, unit root theory, cointegrated system approaches, autocorrelation robust inference, Wold and Beveridge and Nelson (BN) decompositions, model selection, nonlinear nonstationary models, spatial density asymptotics and semi-nonparametric time-series models. S/U or letter grading.

- **M204A. Applications of Economic Theory: California Population Research Topical Seminar Series**

Units: 4.0

(Same as Sociology M225A.) Seminar, three hours. Examination of issues such as demography, health, aging, labor, and broad array of topics concerned with effects of economic, social, and political transformations on human behavior both in U.S. and abroad. May be taken independently for credit. S/U grading.

- **204B. Applications of Economic Theory: California Population Research Topical Seminar Series**

Units: 4.0

Seminar, three hours. Examination of issues such as demography, health, aging, labor, and broad array of topics concerned with effects of economic, social, and political transformations on human behavior both in U.S. and abroad. May be taken independently for credit. S/U grading.

- **204C. Applications of Economic Theory: California Population Research Topical Seminar Series**

Units: 4.0

Seminar, three hours. Examination of issues such as demography, health, aging, labor, and broad array of topics concerned with effects of economic, social, and political transformations on human behavior both in U.S. and abroad. May be taken independently for credit. S/U grading.

- **204D. Applications of Economic Theory**

Units: 4.0

Lecture, three hours. S/U or letter grading.

- **204E. Applications of Economic Theory**

Units: 4.0

Lecture, three hours. S/U or letter grading.

- **204F. Applications of Economic Theory**

Units: 4.0

Lecture, three hours. S/U or letter grading.

- **204G. Applications of Economic Theory**

Units: 4.0

Lecture, three hours. S/U or letter grading.

- **204H. Applications of Economic Theory**

Units: 4.0

Lecture, three hours. S/U or letter grading.

- **204I. Applications of Economic Theory**

Units: 4.0

Lecture, three hours. S/U or letter grading.

- **204J. Applications of Economic Theory**

Units: 4.0

Lecture, three hours. S/U or letter grading.

- **204K. Applications of Economic Theory**

Units: 4.0

Lecture, three hours. S/U or letter grading.

- **M204L. Seminar: Pharmaceutical Economics and Policy**

Units: 1.0

(Same as Health Policy M204A.) Seminar, three hours every other week. Requisite: Health Policy M236. Limited to graduate public health and economics students. Various topics in economics of pharmaceutical industry, including rates of innovation, drug regulation, and economic impact of pharmaceuticals. In Progress grading (credit to be given only on completion of courses M204M and M204N).

- **M204M. Seminar: Pharmaceutical Economics and Policy**

Units: 1.0

(Same as Health Policy M204B.) Seminar, three hours every other week. Requisite: Health Policy M236. Limited to graduate public health and economics students. Various topics in economics of pharmaceutical industry, including rates of innovation, drug regulation, and economic impact of pharmaceuticals. In Progress grading (credit to be given only on completion of course M204N).

- **M204N. Seminar: Pharmaceutical Economics and Policy**

Units: 2.0

(Same as Health Policy M204C.) Seminar, three hours every other week. Requisite: Health Policy M236. Limited to graduate public health and economics students. Various topics in economics of pharmaceutical industry, including rates of innovation, drug regulation, and economic impact of pharmaceuticals. Letter grading.

- **204R. Applications of Economic Theory**

Units: 4.0

Lecture, three hours. Preparation: completion of first-year microeconomics and graduate econometrics courses. In past decade economists have learned remarkable amount about how society works. Increased understanding has come about through application of distinctively economic methods of research--explicit mathematical models and eclectic statistical techniques--to topics such as healthcare, crime, education, and immigration. Taken together this work has led to increased understanding of inequality, how to measure it, how inequality has increased in U.S., how America differs from other rich countries and, most important, what causes inequality. Study of this work, with focus on two important influences on inequality--education and health--which are two areas in which knowledge is accumulating most rapidly. S/U grading.

- **205. Economic Modeling**

Units: 4.0

Lecture, three hours. Development of modeling skills by considering sequence of economic issues (e.g., peak load pricing, regulation, monopoly, capital asset pricing, Pareto efficiency). Emphasis on multivariate constrained optimization. S/U or letter grading.

- **206. Law and Economics Workshop**

Units: 2.0 or 3.0

Seminar, two hours. Requisite: course 201A or Management 405. Knowledge of empirical methods and basic calculus required. Interdisciplinary speakers series bringing together outside speakers with scholars and students from UCLA/USC Law Schools and academic departments. Topics include contracts, torts, intellectual property, and business law. Students write graded reaction papers. May be repeated for credit. Concurrently scheduled with Law 648 and Management 294. S/U or letter grading.

- **207. History of Economic Thought**

Units: 4.0

Lecture, three hours. Topics from classical economics, including work of Smith, Ricardo, and Mill, and developments from 1870s, including contributions of major figures of marginalistic revolution, socialist controversy, and history of welfare economics. S/U or letter grading.

- **M208. Introduction to Demographic Methods**

Units: 4.0

(Same as Biostatistics M208, Community Health Sciences M208, and Sociology M213A.) Lecture, four hours. Preparation: one introductory statistics course. Introduction

to methods of demographic analysis. Topics include demographic rates, standardization, decomposition of differences, life tables, survival analysis, cohort analysis, birth interval analysis, models of population growth, stable populations, population projection, and demographic data sources. Letter grading.

- **211A. Contract Theory**

Units: 4.0

Lecture, three hours. Preparation: introductory probability. Enforced requisite: course 201C. Study of trading relationships between small number of agents. Coverage of many tools and techniques used in models of moral hazard, adverse selection, and incomplete contracting, starting with static models of moral hazard and mechanism design and development of their dynamic counterparts. Consideration of environments where agents cannot use formal contracts, studying relational contracts and trading relationships with no contracts, Analysis of wide variety of applications from industrial organization, corporate finance, personnel economics, and public economics. S/U or letter grading.

- **211B. Economics of Uncertainty, Information, and Games**

Units: 4.0

Lecture, three hours. Preparation: introductory probability. Requisite: course 201C. Theory of individual decision making under uncertainty, applied to topics such as asset pricing models, adverse selection, moral hazard, bargaining, signaling, auctions, and search. S/U or letter grading.

- **211C. Game Theory and Economic Applications**

Units: 4.0

Lecture, three hours. Preparation: introductory probability. Enforced requisite: course 201C. Intended for students who are interested in doing research in microeconomic theory and for students who want to acquire good theory background to do applied work. Coverage of combination of standard results in field and topics of current research, including notions of equilibrium in static and dynamic games, reasoning in games, repeated games, games of incomplete information, and experiments. S/U or letter grading.

- **212A. Topics in Advanced Theory: Search Theory**

Units: 4.0

Lecture, three hours. Preparation: calculus, introductory probability. Price searching, queueing, Brownian motion, martingales, and applications to theory of firm. May be repeated for credit. S/U or letter grading.

- **212B. Topics in Advanced Theory: Applied Game Theory**

Units: 4.0

Lecture, three hours. Preparation: calculus, introductory probability. Use of theory of Bayesian games to study bargaining, monetary theory, and oligopoly. Use of theory of mechanisms to study auction design and imperfectly competitive markets. May be repeated for credit. S/U or letter grading.

- **213A. General Equilibrium and Game Theory**

Units: 4.0

Lecture, three hours. Requisite: course 201C. Selected advanced theoretical topics of current interest and introduction to modern mathematical economics, including general equilibrium theory and game theory. S/U or letter grading.

- **213B. General Equilibrium and Game Theory**

Units: 4.0

Lecture, three hours. Requisite: course 201C. Selected advanced theoretical topics of current interest and introduction to modern mathematical economics, including general equilibrium theory and game theory. S/U or letter grading.

- **214A. Topics in Mathematical Economics: General Equilibrium Theory**

Units: 4.0

Lecture, three hours. Requisite: course 201C. Core convergence theorem, cooperative and noncooperative approach to competitive equilibrium theory, perfectly competitive equilibria, no-surplus condition, and applications to mechanism theory and incomplete market models. May be repeated for credit. S/U or letter grading.

- **M215. Topics in Applied Game Theory**

Units: 4.0

(Same as Political Science M208B.) Lecture, three hours. Preparation: calculus or introductory probability. Designed for graduate economics and political science students. Survey and applications of major solution concepts to models of bargaining, oligopoly, cost allocation, and voting power. S/U or letter grading.

- **218A. Proseminar: Economic Theory**



Units: 4.0

Seminar, three hours. Quarterly seminars for predissertation and dissertation writers. Discussion of advanced topics and recent developments in game theory, information and uncertainty, and general equilibrium theory. Presentation of recent papers published and unpublished in economic theory as well as research of instructor and students. In-class presentation expected. S/U grading.

- **218B. Proseminar: Economic Theory**

Units: 4.0

Seminar, three hours. Quarterly seminars for predissertation and dissertation writers. Discussion of advanced topics and recent developments in game theory, information and uncertainty, and general equilibrium theory. Presentation of recent papers published and unpublished in economic theory as well as research of instructor and students. In-class presentation expected. S/U grading.

- **218C. Proseminar: Economic Theory**

Units: 4.0

Seminar, three hours. Quarterly seminars for predissertation and dissertation writers. Discussion of advanced topics and recent developments in game theory, information and uncertainty, and general equilibrium theory. Presentation of recent papers published and unpublished in economic theory as well as research of instructor and students. In-class presentation expected. S/U grading.

- **219A. Workshop: Economic Theory and Mathematical Economics**

Units: 4.0

Lecture, three hours. Workshops for predissertation and dissertation writers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, advanced graduate students. Research paper required. S/U grading.

- **219B. Workshop: Economic Theory and Mathematical Economics**

Units: 4.0

Lecture, three hours. Workshops for predissertation and dissertation writers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, advanced graduate students. Research paper required. S/U grading.

- **219C. Workshop: Economic Theory and Mathematical Economics**

Units: 4.0

Lecture, three hours. Workshops for predissertation and dissertation writers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, advanced graduate students. Research paper required. S/U grading.

- **221A. Monetary Economics I**

Units: 4.0

Lecture, three hours. Requisites: courses 202A, 202B, 202C. Dynamic methods in business cycles and economic growth. Multiperiod life-cycle models. Sustainable public deficits. Money and inflationary finance. Human capital. Endogenous fluctuations and regime switching. Econometrics of multiple equilibrium models. Political economy of government deficits and inflation. S/U or letter grading.

- **221B. Monetary Economics II**

Units: 4.0

Lecture, three hours. Emphasis on theoretical, historical, and policy aspects of monetary economics. Financial intermediation, bank panics, asset price volatility, game theoretic models of policy, inflation, implication of monopolistic competition, search and coordination failures, central bank operations, and evolution of monetary institutions. S/U or letter grading.

- **221C. Monetary Economics III**

Units: 4.0

Lecture, three hours. Requisites: courses 202A, 202B, 202C. Emphasis on quantitative dynamic models useful in study of equilibrium business cycles and public finance. Recursive competitive equilibria in representative agent overlapping-generation models, including models with money, taxes, liquidity constraints, and other distortions. S/U or letter grading.

- **221D. Monetary Economics IV**

Units: 4.0

Lecture, three hours. Requisites: courses 202A, 202B, 202C. Emphasis on applied macroeconomics, with topic change each year. Students select one particular data set to study. Each week class studies article from recent work in applied macroeconomics or applied econometrics that teaches one technique or suggests one theoretical restriction on

data. Subgroups of students report back to class using technique on their selected data set. S/U or letter grading.

- **222B. Topics in Monetary Economics**

Units: 4.0

Lecture, three hours. Current research in monetary economics. Content varies. May be repeated for credit. S/U or letter grading.

- **222C. Topics in Monetary Economics**

Units: 4.0

Lecture, three hours. Current research in monetary economics. Content varies. May be repeated for credit. S/U or letter grading.

- **222D. Topics in Monetary Economics**

Units: 4.0

Lecture, three hours. Current research in monetary economics. Content varies. May be repeated for credit. S/U or letter grading.

- **C226A. Seminar: Monetary Economics/Macroeconomics**

Units: 4.0

Seminar, three hours. Designed for predissertation and dissertation writers. Overview of most current developments in monetary economics and macroeconomics for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts, KISREA faculty members, and advanced graduate students. Concurrently scheduled with course C166A. S/U or letter grading.

- **C226B. Seminar: Monetary Economics/Macroeconomics**

Units: 4.0

Seminar, three hours. Designed for predissertation and dissertation writers. Overview of most current developments in monetary economics and macroeconomics for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty

members, and advanced graduate students. Concurrently scheduled with course C166B. S/U grading.

- **C226C. Seminar: Monetary Economics/Macroeconomics**

Units: 4.0

Seminar, three hours. Designed for predissertation and dissertation writers. Overview of most current developments in monetary economics and macroeconomics for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, and advanced graduate students. Concurrently scheduled with course C166C. S/U or letter grading.

- **228A. Proseminar: Monetary Economics**

Units: 4.0

Seminar, three hours. Workshops for predissertation and dissertation writers. Literature surveys or research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, advanced graduate students. Research paper or presentation required. S/U grading.

- **228B. Proseminar: Monetary Economics**

Units: 4.0

Seminar, three hours. Workshops for predissertation and dissertation writers. Literature surveys or research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, advanced graduate students. Research paper or presentation required. S/U grading.

- **228C. Proseminar: Monetary Economics**

Units: 4.0

Seminar, three hours. Workshops for predissertation and dissertation writers. Literature surveys or research in progress presented, discussed, and criticized by visiting experts,

KISREAD faculty members, advanced graduate students. Research paper or presentation required. S/U grading.

- **229A. Workshop: Monetary Economics**

Units: 4.0

Lecture, three hours. Workshops for predissertation and dissertation writers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, advanced graduate students. Research paper required. S/U grading.

- **229B. Workshop: Monetary Economics**

Units: 4.0

Lecture, three hours. Workshops for predissertation and dissertation writers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, advanced graduate students. Research paper required. S/U grading.

- **229C. Workshop: Monetary Economics**

Units: 4.0

Lecture, three hours. Workshops for predissertation and dissertation writers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, advanced graduate students. Research paper required. S/U grading.

- **231A. Advanced Econometrics I**

Units: 4.0

Lecture, three hours. Econometric methods for microeconomic models. Topics include identification, nonparametric estimation, limited dependent variable models, duration, panel data, tests of hypotheses. S/U or letter grading.

- **231B. Advanced Econometrics II**

Units: 4.0

Lecture, three hours. Econometric methods for empirical research in economics. Topics include simultaneous equations, instrumental variables, panel data, treatment effects, and point and partial identification, with applications in static and dynamic games, social interactions, matching, and network formation. S/U or letter grading.

- **231C. Advanced Econometrics III**

Units: 4.0

Lecture, three hours. Advanced topics in econometrics that may vary year to year. Current topics include empirical process methods with applications to quantile regression and general M-estimation, estimation and inference methods in high-dimensional models, including LASSO and Dantzig Selector techniques, and bootstrap. May be repeated for credit. S/U or letter grading.

- **M232A. Topics in Econometrics: Bayesian Econometrics**

Units: 4.0

(Same as Political Science M208E.) Lecture, three hours. Requisites: courses 231A, 231B. Subjective probability, introduction to decision theory, Bayesian analysis of regression, sensitivity analysis, simplification of models, criticism. May be repeated for credit. S/U or letter grading.

- **232B. Topics in Econometrics: Time Series**

Units: 4.0

Lecture, three hours. Requisites: courses 231A, 231B. Stationary stochastic processes, Box/Jenkins methods, spectral analysis, forecasting, rational expectation models, analysis of macroeconomic data. May be repeated for credit. S/U or letter grading.

- **232D. Topics in Econometrics**

Units: 4.0

Lecture, three hours. Requisites: courses 231A, 231B. Current research in econometrics. Content varies. Courses in this sequence not ordinarily given every year. May be repeated for credit. S/U or letter grading.

- **232E. Topics in Econometrics**

Units: 4.0

Lecture, three hours. Requisites: courses 231A, 231B. Current research in econometrics. Content varies. Courses in this sequence not ordinarily given every year. May be repeated for credit. S/U or letter grading.

- **232F. Topics in Econometrics**

Units: 4.0

Lecture, three hours. Requisites: courses 231A, 231B. Current research in econometrics. Content varies. Courses in this sequence not ordinarily given every year. May be repeated for credit. S/U or letter grading.

- **232M. Topics in Econometrics**

Units: 4.0

Lecture, three hours. Requisites: courses 231A, 231B. Current research in econometrics. Content varies. Courses in this sequence not ordinarily given every year. May be repeated for credit. S/U or letter grading.

- **238A. Proseminar: Econometrics**

Units: 4.0

Seminar, three hours. Quarterly seminar for predissertation and dissertation writers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, and advanced graduate students. Research paper or presentation required. S/U grading.

- **238B. Proseminar: Econometrics**

Units: 4.0

Seminar, three hours. Quarterly seminar for predissertation and dissertation writers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, and advanced graduate students. Research paper or presentation required. S/U grading.

- **238C. Proseminar: Econometrics**

Units: 4.0

Seminar, three hours. Quarterly seminar for predissertation and dissertation writers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, and advanced graduate students. Research paper or presentation required. S/U grading.

- **239A. Workshop: Econometrics**

Units: 4.0

Lecture, three hours. Workshops for predissertation and dissertation writers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, advanced graduate students. Research paper required. S/U grading.

- **239B. Workshop: Econometrics**

Units: 4.0

Lecture, three hours. Workshops for predissertation and dissertation writers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, advanced graduate students. Research paper required. S/U grading.

- **239C. Workshop: Econometrics**

Units: 4.0

Lecture, three hours. Workshops for predissertation and dissertation writers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, advanced graduate students. Research paper required. S/U grading.

- **241. Economic History of Western Europe**

Units: 4.0

Lecture, three hours. Designed for graduate students. Seminar on European economic history, with emphasis on evolution of institutions and growth. Serfdom, medieval agriculture and agricultural revolution, demographics, industrial revolution, imperial expansion, and decline of Britain. S/U or letter grading.

- **242. Economic History of U.S.**

Units: 4.0

Lecture, three hours. Seminar on American economic history. Onset of industrialization, relative economic backwardness of South, slavery, technological change, rise in



industrial concentration, women in labor force, development of financial markets. S/U or letter grading.

- **243A. Topics in Economic History**

Units: 4.0

Lecture, three hours. Current research in economic history. Content varies. May be repeated for credit. S/U or letter grading.

- **C246A. Seminar: Economic History**

Units: 4.0

Seminar, three hours. Designed for predissertation and dissertation writers. Overview of most current developments in economic history for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, and advanced graduate students. Concurrently scheduled with course C186A. S/U grading.

- **C246B. Seminar: Economic History**

Units: 4.0

Seminar, three hours. Designed for predissertation and dissertation writers. Overview of most current developments in economic history for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, and advanced graduate students. Concurrently scheduled with course C186B. S/U grading.

- **C246C. Seminar: Economic History**

Units: 4.0

Seminar, three hours. Designed for predissertation and dissertation writers. Overview of most current developments in economic history for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, and advanced graduate students. Concurrently scheduled with course C186C. S/U grading.

- **248A. Proseminar: Economic History**

Units: 4.0

Seminar, three hours. Quarterly seminar for predissertation and dissertation writers. Discussion of advanced topics and recent developments in economic history. Presentation of work-in-progress. Research paper required. S/U grading.

- **248B. Proseminar: Economic History**

Units: 4.0

Seminar, three hours. Quarterly seminar for predissertation and dissertation writers. Discussion of advanced topics and recent developments in economic history. Presentation of work-in-progress. Research paper required. S/U grading.

- **248C. Proseminar: Economic History**

Units: 4.0

Seminar, three hours. Quarterly seminar for predissertation and dissertation writers. Discussion of advanced topics and recent developments in economic history. Presentation of work-in-progress. Research paper required. S/U grading.

- **249A. Von Grep Workshop: History of Entrepreneurship in U.S. Economy**

Units: 4.0

Lecture, three hours. Designed for graduate students. Workshops for advanced graduate students. Research in progress discussed by visiting experts, KISREAD faculty members, graduate students. S/U grading.

- **249B. Von Grep Workshop: History of Entrepreneurship in U.S. Economy**

Units: 4.0

Lecture, three hours. Designed for graduate students. Workshops for advanced graduate students. Research in progress discussed by visiting experts, KISREAD faculty members, graduate students. S/U grading.

- **249C. Von Grep Workshop: History of Entrepreneurship in U.S. Economy**

Units: 4.0

Lecture, three hours. Designed for graduate students. Workshops for advanced graduate students. Research in progress discussed by visiting experts, KISREAD faculty members, graduate students. S/U grading.

- **251A. Theory and Policy of Taxation**

Units: 4.0

Lecture, three hours. Examination of influence of taxation on economic efficiency and incidence of taxation in first part of course. Topics include tax equivalences, Ramsey rules, and alternative forms of taxation. Special tax provisions, tax incentives, and progressivity in taxation in second part of course. S/U or letter grading.

- **251B. Cost-Benefit Analysis of Public Projects and Programs**

Units: 4.0

Lecture, three hours. Requisite: course 251A. Presentation of those aspects of applied capital theory that are relevant in decisions concerning investment projects in first part of course. Differences between social and private benefits and costs (shadow prices) for foreign exchange, capital, and labor, with applications to public investment decisions, in second part of course. S/U or letter grading.

- **252. Economics of Federalism**

Units: 4.0

Lecture, three hours. Theories of perfect games and social organization. Role of government, collective goods, collective defense, local public goods, spillovers, and intergovernmental relations. S/U or letter grading.

- **253A. Topics in Public Finance**

Units: 4.0

Lecture, three hours. Current research in public finance. Content varies. Topics include Social Security taxes and programs, unemployment insurance, public provision of medical care, theory of public goods, and theory of public choice. May be repeated for credit. S/U or letter grading.

- **253B. Topics in Public Finance**

Units: 4.0

Lecture, three hours. Current research in public finance. Content varies. Topics include Social Security taxes and programs, unemployment insurance, public provision of

medical care, theory of public goods, and theory of public choice. May be repeated for credit. S/U or letter grading.

- **254A. Workshop: Public Economics**

Units: 4.0

Lecture, three hours. Designed for graduate students. Workshops for advanced graduate students. Research in progress discussed by graduate students, KISREAD faculty members, visiting experts. S/U grading.

- **254B. Workshop: Public Economics**

Units: 4.0

Lecture, three hours. Designed for graduate students. Workshops for advanced graduate students. Research in progress discussed by graduate students, KISREAD faculty members, visiting experts. S/U grading.

- **254C. Workshop: Public Economics**

Units: 4.0

Lecture, three hours. Designed for graduate students. Workshops for advanced graduate students. Research in progress discussed by graduate students, KISREAD faculty members, visiting experts. S/U grading.

- **261A. Labor Economics I**

Units: 4.0

Lecture, three hours. Wage determination in competitive labor markets. Extension of wage determination to schooling and occupational choice, life-cycle earnings profiles, discrimination, minimum wage legislation, and unionism. Emphasis on empirical literature. S/U or letter grading.

- **261B. Labor Economics II**

Units: 4.0

Lecture, three hours. Requisite: course 261A. Models of life-cycle learning and work behavior, with particular emphasis on recent literature examining labor force behavior and experience of women. S/U or letter grading.

- **262A. Topics in Labor Economics**

Units: 4.0

Lecture, three hours. Current research in labor economics. Content varies. May be repeated for credit. S/U or letter grading.

- **262D. Topics in Labor Economics: Development Economics**

Units: 4.0

Lecture, three hours. Preparation: completion of first-year graduate microeconomics and econometrics courses. Coverage of important key topics in microeconomics of development, such as health, education, risk coping, savings, credit, and household economics. Discussion of empirical methods. S/U or letter grading.

- **262F. Topics in Labor Economics: Public Sector Microeconomics**

Units: 4.0

Lecture, three hours. Preparation: completion of first-year graduate microeconomics and econometrics courses. Coverage of topics related to tax incidence, deadweight loss, public expenditure, income taxation and transfer programs, with emphasis on impacts of such programs on labor supply and savings, social security, unemployment insurance, and other insurance programs. S/U or letter grading.

- **262P. Topics in Labor Economics**

Units: 4.0

Lecture, three hours. Current research in labor economics. Content varies. May be repeated for credit. S/U or letter grading.

- **263. Topics in Urban Economics**

Units: 4.0

Lecture, three hours. Current research in urban and regional economics. Content varies. Serves as forum for presentation of papers on urban economics by students, KISREAD faculty members, and visitors. May be repeated for credit. S/U or letter grading.

- **264A. General Equilibrium and Finance**

Units: 4.0

Lecture, three hours. Designed for graduate students. Introduction to mathematical finance from general equilibrium viewpoint. CAPM and static equilibrium models. Intertemporal models in discrete and continuous time. Spanning, option prices, and derivatives. Martingales, random walks, and market efficiency. S/U or letter grading.

- **264B. Fundamentals and Bubbles in Asset Prices**

Units: 4.0

Lecture, three hours. Requisite: course 264A. Designed for graduate students. Applications of dynamic general equilibrium to asset pricing in economies with exchange and production. Basic empirical puzzles in U.S. and international asset prices, 1880 to 2000: excess volatility, equity premium and risk-free rate puzzle, predictability. Models of habit formation, asset price bubbles, and limited arbitrage asset pricing theories. Market imperfections and bounded rationality. S/U or letter grading.

- **264C. Asset Prices, Forecasting, and Learning**

Units: 4.0

Lecture, three hours. Requisite: course 264A. Designed for graduate students. Introduction to forecasting methods and applications to asset pricing. Signal-extraction under different uncertainty specifications. Kalman filtering and forecasting. Robust filtering and forecasting. Models of behavioral finance. Stylized facts on forecasts and asset pricing anomalies: short-term momentum and long-term reversals of returns. Option pricing anomalies. S/U or letter grading.

- **264D. Econometrics of Asset Prices**

Units: 4.0

Lecture, three hours. Requisite: course 264A. Designed for graduate students. Applications of time-series methods to analysis of asset prices: general method of moments, vector autoregressions, and maximum likelihood estimation. Restrictions imposed by no-arbitrage on time series of returns. Empirical implications of macroeconomic models for asset prices. Response of asset prices to shocks. Incomplete markets. S/U or letter grading.

- **C266A. Seminar: Labor Economics**

Units: 4.0

Seminar, three hours. Designed for predissertation and dissertation writers. Overview of most current developments in labor economics for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, and advanced graduate students. Concurrently scheduled with course C156A. S/U or letter grading.

- **C266B. Seminar: Labor Economics**

Units: 4.0

Seminar, three hours. Designed for predissertation and dissertation writers. Overview of most current developments in labor economics for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, and advanced graduate students. Concurrently scheduled with course C156B. S/U grading.

- **C266C. Seminar: Labor Economics**

Units: 4.0

Seminar, three hours. Designed for predissertation and dissertation writers. Overview of most current developments in labor economics for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, and advanced graduate students. Concurrently scheduled with course C156C. S/U or letter grading.

- **268A. Proseminar: Labor and Population**

Units: 4.0

Seminar, three hours. Quarterly seminars for predissertation and dissertation writers working on empirical issues in areas of labor and population, broadly defined. Presentation of work-in-progress or background material for proposed thesis topics, to be discussed and criticized by faculty and fellow students. Presentation or research paper required. S/U grading.

- **268B. Proseminar: Labor and Population**

Units: 4.0

Seminar, three hours. Quarterly seminars for predissertation and dissertation writers working on empirical issues in areas of labor and population, broadly defined. Presentation of work-in-progress or background material for proposed thesis topics, to be

discussed and criticized by faculty and fellow students. Presentation or research paper required. S/U grading.

- **268C. Proseminar: Labor and Population**

Units: 4.0

Seminar, three hours. Quarterly seminars for predissertation and dissertation writers working on empirical issues in areas of labor and population, broadly defined. Presentation of work-in-progress or background material for proposed thesis topics, to be discussed and criticized by faculty and fellow students. Presentation or research paper required. S/U grading.

- **269A. Workshop: Labor Economics**

Units: 4.0

Lecture, three hours. Workshops for predissertation and dissertation writers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, advanced graduate students. Research paper required. S/U grading.

- **269B. Workshop: Labor Economics**

Units: 4.0

Lecture, three hours. Workshops for predissertation and dissertation writers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, advanced graduate students. Research paper required. S/U grading.

- **269C. Workshop: Labor Economics**

Units: 4.0

Lecture, three hours. Workshops for predissertation and dissertation writers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, advanced graduate students. Research paper required. S/U grading.

- **271A. Industrial Organization, Price Policies, and Regulation I**

Units: 4.0

Lecture, three hours. Major economic aspects of property rights system. Firm and market compared from perspective of alternative arrangements for allocating resources. Traditional problems of competition, monopoly, and industrial concentration. Brief analysis of those portions of antitrust policy bearing on industrial structure. S/U or letter grading.



- **271B. Industrial Organization, Price Policies, and Regulation II**

Units: 4.0

Lecture, three hours. Requisite: course 271A. Study of firm organization and pricing under conditions of less than perfect competition; information costs and advertising; economic and legal analysis of marketing practices such as discrimination, tie-in selling, resale price maintenance, exclusive dealing, and territorial arrangements. S/U or letter grading.

- **271C. Mathematical Theory in Industrial Organization**

Units: 4.0

Lecture, three hours. Requisites: courses 201A, 201B, 201C. Formal modeling of theory of industrial organization: principal-agent problem, entry deterrence, endogenous price discrimination, monopolistic competition, new approaches to rationality. S/U or letter grading.

- **272A. Topics in Industrial Organization**

Units: 4.0

Lecture, three hours. Current research in industrial organization. Content varies. May be repeated for credit. S/U or letter grading.

- **273A. Public Utility Regulation**

Units: 4.0

Lecture, three hours. Theory, practice, and consequences of regulation in electric power, gas, water, telecommunications, broadcasting, and other regulated experiences of unregulated monopoly and public enterprises by way of contrast. S/U or letter grading.

- **C276A. Seminar: Industrial Organization**

Units: 4.0

Seminar, three hours. Designed for predissertation and dissertation writers. Overview of most current developments in industrial organization for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, and advanced graduate students. Concurrently scheduled with course C176A. S/U or letter grading.

- **C276B. Seminar: Industrial Organization**

Units: 4.0

Seminar, three hours. Designed for predissertation and dissertation writers. Overview of most current developments in industrial organization for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, and advanced graduate students. Concurrently scheduled with course C176B. S/U grading.

- **C276C. Seminar: Industrial Organization**

Units: 4.0

Seminar, three hours. Designed for predissertation and dissertation writers. Overview of most current developments in industrial organization for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, and advanced graduate students. Concurrently scheduled with course C176C. S/U or letter grading.

- **278A. Proseminar: Industrial Organization and Regulation**

Units: 4.0

Seminar, three hours. Quarterly seminars for predissertation and dissertation writers to discuss advanced topics and recent developments in industrial organization and regulation. Presentation of work-in-progress for feedback from faculty and fellow students. Presentation or research paper required. S/U grading.

- **278B. Proseminar: Industrial Organization and Regulation**

Units: 4.0

Seminar, three hours. Quarterly seminars for predissertation and dissertation writers to discuss advanced topics and recent developments in industrial organization and regulation. Presentation of work-in-progress for feedback from faculty and fellow students. Presentation or research paper required. S/U grading.

- **278C. Proseminar: Industrial Organization and Regulation**

Units: 4.0

Seminar, three hours. Quarterly seminars for predissertation and dissertation writers to discuss advanced topics and recent developments in industrial organization and regulation. Presentation of work-in-progress for feedback from faculty and fellow students. Presentation or research paper required. S/U grading.

- **279A. Workshop: Business Organization**

Units: 4.0

Lecture, three hours. Workshops for predissertation and dissertation writers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, advanced graduate students. Research paper required. S/U grading.

- **279B. Workshop: Business Organization**

Units: 4.0

Lecture, three hours. Workshops for predissertation and dissertation writers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, advanced graduate students. Research paper required. S/U grading.

- **279C. Workshop: Business Organization**

Units: 4.0

Lecture, three hours. Workshops for predissertation and dissertation writers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, advanced graduate students. Research paper required. S/U grading.

- **281A. International Trade Theory**

Units: 4.0

Lecture, three hours. Theoretical and empirical analysis of microeconomic relationships among countries. Determinants of commodity and factor flows, prices, and factor rewards. Effects of trade barriers. S/U or letter grading.

- **281B. International Finance**

Units: 4.0

Lecture, three hours. Theory and evidence on balance of payments, exchange rate determination, international transmission of inflation and business cycles, macroeconomic policy in open economies, alternative monetary systems. S/U or letter grading.

- **281C. International Economics**

Units: 4.0

Lecture, three hours. Theoretical and empirical analysis of interrelation between flows of capital, people, and goods. Applications to current policy. S/U or letter grading.

- **282A. Topics in International Economics**

Units: 4.0

Lecture, three hours. Current research in international economics. Content varies. May be repeated for credit. S/U or letter grading.

- **282B. Topics in International Economics**

Units: 4.0

Lecture, three hours. Current research in international economics. Content varies. May be repeated for credit. S/U or letter grading.

- **282C. Topics in International Economics**

Units: 4.0

Lecture, three hours. Current research in international economics. Content varies. May be repeated for credit. S/U or letter grading.

- **282D. Topics in International Economics**

Units: 4.0

Lecture, three hours. Current research in international economics. Content varies. May be repeated for credit. S/U or letter grading.

- **284. Soviet Economic Theory and Organization**

Units: 4.0

Lecture, three hours. Overall strategy of planning used by U.S.S.R. planners and specific planning methods, interpreted broadly to cover not only instructions and objectives but also institutional arrangements. Intended and unintended outcomes of methods. S/U or letter grading.

- **C285A. Seminar: International Economics**

Units: 4.0

Seminar, three hours. Designed for predissertation and dissertation writers. Overview of most current developments in international economics for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, and advanced graduate students. Concurrently scheduled with course C126A. S/U grading.

- **C285B. Seminar: International Economics**

Units: 4.0

Seminar, three hours. Designed for predissertation and dissertation writers. Overview of most current developments in international economics for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, and advanced graduate students. Concurrently scheduled with course C126B. S/U grading.

- **C285C. Seminar: International Economics**

Units: 4.0

Seminar, three hours. Designed for predissertation and dissertation writers. Overview of most current developments in international economics for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, and advanced graduate students. Concurrently scheduled with course C126C. S/U grading.

- **286A. Economic Development**

Units: 4.0

Lecture, three hours. Requisites: courses 201C, 202C. Study of theoretical and empirical problems related to developing countries. Emphasis on relation between international trade and economic development, dynamic aspects of commercial policies, inflation, stabilization, structural adjustment, growth and migration. S/U or letter grading.

- **286B. Cost-Benefit Analysis of Development Projects**

Units: 4.0

Lecture, three hours. Requisite: course 286A. Methodology for evaluating investment projects, with special attention to types of issues that arise in developing countries. Discussion of social versus private evaluation criteria; applications to highway, electricity, and irrigation projects. S/U or letter grading.

- **287A. Topics in Development Economics: Economic Problems of Latin America**

Units: 4.0

Lecture, three hours. Economic history of Latin America. Great depression, import substitution and industrialization, inflation and growth, free market experiments, and economic integration. May be repeated for credit. S/U or letter grading.

- **287B. Topics in Development Economics: Economic Development in East Asia**

Units: 4.0

Lecture, three hours. Recent economic history of East Asia, focusing on postwar development of Japan, Korea, and China. Emphasis on role of international investment and trade, especially with U.S., in area's economic development. May be repeated for credit. S/U or letter grading.

- **287C. Topics in Development Economics: Economic Development**

Units: 4.0

Lecture, three hours. Designed for graduate students. Topics in monetary and exchange rate policy in developing countries. Students expected to develop analytical tools and underlying policy issues. May be repeated for credit. S/U or letter grading.

- **287D. Topics in Development Economics**

Units: 4.0

Lecture, three hours. Current research in development economics. Content varies. Courses in this sequence not ordinarily given every year. May be repeated for credit. S/U or letter grading.

- **288A. Proseminar: International and Development Economics**

Units: 4.0

Seminar, three hours. Quarterly seminars for predissertation and dissertation writers on current issues in international trade and finance and development economics. Presentation of work-in-progress for feedback from faculty and other graduate students. Presentation or research paper required. S/U grading.

- **288B. Proseminar: International and Development Economics**

Units: 4.0

Seminar, three hours. Quarterly seminars for predissertation and dissertation writers on current issues in international trade and finance and development economics. Presentation of work-in-progress for feedback from faculty and other graduate students. Presentation or research paper required. S/U grading.

- **288C. Proseminar: International and Development Economics**

Units: 4.0

Seminar, three hours. Quarterly seminars for predissertation and dissertation writers on current issues in international trade and finance and development economics. Presentation of work-in-progress for feedback from faculty and other graduate students. Presentation or research paper required. S/U grading.

- **291A. Asset Pricing**

Units: 4.0

Lecture, three hours. Introduction to models of firm dynamics, their use in modeling valuation of firms, and embedding of these models in general equilibrium for purposes of understanding market valuation of corporate sector as whole. Introduction also to continuous-time search-and-matching models and their applications to financial economics. S/U or letter grading.

- **291B. Asset Pricing**

Units: 4.0

Lecture, three hours. Recent theoretical and empirical research on monetary policy. Includes issues such as how monetary policy is implemented in practice. What are effects of different monetary policy tools, what restrictions on government does monetary policy impose, transmission mechanisms of monetary policy, welfare costs of inflation, how does monetary policy interact with credit markets and how does it affect asset prices. S/U or letter grading.

- **C296A. Seminar: Asset Pricing**

Units: 4.0

Seminar, three hours. Designed for predissertation and dissertation writers. Overview of most current developments in asset pricing theory for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, and advanced graduate students. Concurrently scheduled with course C146A. S/U or letter grading.

- **C296B. Seminar: Asset Pricing**

Units: 4.0

Seminar, three hours. Designed for predissertation and dissertation writers. Overview of most current developments in asset pricing theory for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, and advanced graduate students. Concurrently scheduled with course C146B. S/U grading.

- **C296C. Seminar: Asset Pricing**

Units: 4.0

Seminar, three hours. Designed for predissertation and dissertation writers. Overview of most current developments in asset pricing theory for advanced undergraduate and graduate students. Introduction to graduate-level research in this field. Different topic each week, with presentation and discussion of new papers. Research in progress presented, discussed, and criticized by visiting experts, KISREAD faculty members, and advanced graduate students. Concurrently scheduled with course C146C. S/U or letter grading.

- **298A. Proseminar: Asset Pricing**

Units: 4.0

Seminar, three hours. Quarterly seminars for predissertation and dissertation writers on empirical issues in area of asset pricing, broadly defined. Presentation of work-in-progress or background material for proposed dissertation topics that are discussed and criticized by faculty members and fellow students. Presentation or research paper required. S/U grading.

- **298B. Proseminar: Asset Pricing**



Units: 4.0

Seminar, three hours. Quarterly seminars for predissertation and dissertation writers on empirical issues in area of asset pricing, broadly defined. Presentation of work-in-progress or background material for proposed dissertation topics that are discussed and criticized by faculty members and fellow students. Presentation or research paper required. S/U grading.

- **298C. Proseminar: Asset Pricing**

Units: 4.0

Seminar, three hours. Quarterly seminars for predissertation and dissertation writers on empirical issues in area of asset pricing, broadly defined. Presentation of work-in-progress or background material for proposed dissertation topics that are discussed and criticized by faculty members and fellow students. Presentation or research paper required. S/U grading.

- **375. Teaching Apprentice Practicum**

Units: 1.0 to 4.0

Seminar, to be arranged. Preparation: apprentice personnel employment as teaching assistant, associate, or fellow. Teaching apprenticeship under active guidance and supervision of regular faculty member responsible for curriculum and instruction at KISREAD. May be repeated for credit. S/U grading.

- **401A. Microeconomic Theory**

Units: 4.0

Lecture, three hours. Limited to Master of Applied Economics students. Coverage of fundamentals of optimization, choices by price-taking agents, consumer and producer surplus, monopoly and competition, Walrasian equilibrium and two welfare theorems, constant returns to scale economy, choice over time, uncertainty, and information and market design. Letter grading.

- **401B. Applied Economics**

Units: 4.0

Lecture, three hours. Limited to Master of Applied Economics students. How to be sophisticated users and producers of research on issues and policies in several core areas of labor, public, and health economics. Rigorous analyses of core policy questions with cutting-edge empirical analysis. Letter grading.

- **402A. Macroeconomic Theory**

Units: 4.0

Lecture, three hours. Limited to Master of Applied Economics students. Introduction to main topics of graduate macroeconomics, including macroeconomic data, models of economic growth, supply and demand of factors of production, business cycle models, unemployment, monetary policy and inflation, and fiscal policy and deficits. Letter grading.

- **402B. Applied Macroeconomics**

Units: 4.0

Lecture, three hours. Limited to Master of Applied Economics students. Study of alternative theories of causes of unemployment and inflation, with focus on Keynesian approach to monetary and fiscal policy and modifications and extensions of Keynesian ideas designed to explain financial crises. Letter grading.

- **403A. Introduction to Statistical Methods and Econometrics**

Units: 4.0

Lecture, three hours. Limited to Master of Applied Economics students. Introduction to probability, statistics, econometrics, and time-series methods used in economics, business, and government. Topics include random variables, hypothesis testing, estimation, distribution functions, simple and multiple regression, and estimation with stationary/nonstationary processes. Letter grading.

- **403B. Applied Econometrics**

Units: 4.0

Lecture, three hours. Limited to Master of Applied Economics students. Basic tools necessary for high-level cutting-edge empirical research. Coverage of variety of methods suited for empirical studies that apply to experimental data, quasi-experimental data, panel data, and cross-sectional data. Letter grading.

- **404A. Writing and Presentation Skills for Economists I**

Units: 4.0

Seminar, three hours. Limited to Master of Applied Economics students. Designed to help students develop communication and presentation skills essential for success in any aspect of business. Practice in writing economics documents for variety of professional audiences. Writing taught as process--brainstorming, collaborating, continually revising,

and challenging ideas. Presentation skills to focus on presenting information clearly and organizing ideas, with emphasis on role of audience when presenting, because audience determines diction, style, tone, organization, research, and ideas. Grammar incorporated as needed, especially in regard to writing. Letter grading.

- **404B. Writing and Presentation Skills for Economists II**

Units: 4.0

Seminar, three hours. Limited to Master of Applied Economics students. Builds on skills learned in course 404A. Writing component to focus on summarizing, critiquing, and report writing. Process writing used and self-editing skills stressed. Presentations include summary/critique, opinion piece, and final group presentation that includes proposals. Grammar incorporated as needed, especially in regard to writing. Letter grading.

- **405. Macroeconomic Implications of Globalization**

Units: 4.0

Lecture, three hours. Limited to Master of Applied Economics students. Development of understanding of some main macroeconomic implications of increasing integration of world economy through trade linkages, multinational production, and financial markets. Letter grading.

- **406. Money and Banking**

Units: 4.0

Lecture, three hours. Limited to Master of Applied Economics students. Introduction to models and data used to understand connection between asset prices, health of financial sector, and macroeconomy, including review of recent papers to gain introduction to questions being addressed on research frontier. Letter grading.

- **407. Economics of Entrepreneurship**

Units: 4.0

Lecture, three hours. Limited to Master of Applied Economics students. Examination of role of entrepreneurship and entrepreneurial strategies--source of ideas, value creation, market development, scaling, exit strategies. Group practice of entrepreneurship. Development of original ideas into business plans. Letter grading.

- **408. Environmental Economics**

Units: 4.0

Lecture, three hours. Limited to Master of Applied Economics students. Introduction to major ideas in environmental economics by studying causes and consequences of pollution, with special emphasis on understanding China's environmental challenges and policy options. Letter grading.

- **409. Exchange Rate Forecasting, Big Data, and Portfolio Design**

Units: 4.0

Lecture, three hours. Limited to Master of Applied Economics students. Introduction to recent developments in international finance. Coverage of lending booms and financial crises both theoretically and empirically, as well as foreign exchange market anomalies and different approaches to forecasting exchange rates. Letter grading.

- **410. Economists in Action**

Units: 1.0 to 2.0

Seminar, three hours. Limited to Master of Applied Economics students. How theory maps into policymaking. Renowned policymakers from Central Banks, Economics Ministries, and International Organizations to lecture on policy-relevant topics. Completion of assignments linking lectures with economic theory and real-world events. Letter grading.

- **411. Inequality and Macroeconomy**

Units: 4.0

Lecture, three hours. Limited to Master of Applied Economics students. Introduction to analysis of economic inequalities and interplay between inequality and macroeconomy. What are relative roles of market forces and institutions in shaping dynamics of economic inequality? What are consequences of globalization on distribution of income within and between countries? Does inequality hamper economic growth and macroeconomic stability? How do macroeconomic policies and structural reforms affect distribution of income and wealth? Use of simple models and empirical analysis by taking global and historical perspective. Discussions about inequality in U.S. and Europe over last two centuries, as well as challenges raised by recent inequality trends in China, India, and Latin America. Letter grading.

- **412. Fundamentals of Big Data**

Units: 4.0

Lecture, three hours. Limited to Master of Applied Economics students. Introduction to basic concepts, uses, and challenges of big data, with emphasis on pragmatic hands-on

applications using real-world data for current and future big data practitioners--consumers of big data insights for economic applications. Letter grading.

- **413. Data Analytics and Big Data**

Units: 4.0

Lecture, three hours. Recommended corequisite: course 412. Limited to Master of Applied Economics students. Designed for end users of big data, those who translate analytic results into business applications, with guest lecturers from wide spectrum of industrial and corporate big data users. Presentations of their business models for leveraging big data, sharing of data sets, and guiding students to extract actionable business insights for those industries. Letter grading.

- **414. Asset Pricing and Portfolio Theory in Practice**

Units: 4.0

Lecture, three hours. Limited to Master of Applied Economics students. Study covers asset pricing and portfolio theory, critical areas for deeper understanding of financial markets and investments. Building from theory, incorporation of empirical analysis and real-world issues to bridge theory with practice through case studies. Letter grading.

- **415. Evidence-Based Policy Analysis in Labor, Public, and Health Economics**

Units: 4.0

Lecture, three hours. Limited to Master of Applied Economics students. Introduction to key policy questions in labor, public, and health economics, including health care, education, unemployment, training programs, and welfare. Economic principles at heart of these topics and main approaches to scientifically evaluate policies that affect them, including data, current case evidence, cutting-edge empirical methods, and their relation to microeconomic theory. Letter grading.

- **421. Incentives, Information, and Markets**

Units: 4.0

Lecture, three hours; discussion, one hour. Limited to Master of Applied Economics students. Introduction to concepts of information economics that lie at heart of modern economics and application of them to understand incentives within firms, as well as competition between them. Study of theoretical models and functioning of real-life markets, such as insurance, labor, and consumer markets. Consideration of whether we can design policies that improve market outcomes. Role of models in economics, and how to tie data and theory together. Letter grading.

- **422. International Economics**

Units: 4.0

Lecture, three hours; discussion, one hour. Limited to Master of Applied Economics students. Investigation of several theoretical frameworks in international economics followed by applications to empirical questions. Neoclassical trade models, analysis of firms and heterogeneous producers, and economic geography topics. Case studies and empirical papers focus on understanding determinants of trade patterns and on measurement of aggregate and distributional effects of international trade. Discussion of recent research on effects of NAFTA and Brexit, effect of trade on inequality in developed and developing countries, and impact of infrastructure investments on trade and development. Letter grading.

- **423. Introduction to Applied Data Science**

Units: 4.0

Lecture, three hours; discussion, one hour. Limited to Master of Applied Economics students. Designed to build strong bases in tools and methods of data science and analytics. Introduction of tools for capture, transformation, imputation, visualization, and mapping of data for downstream processing in analytics pipeline. Introduction of analytics subsystems and scalable storage and processing of very large and complex datasets. Information theory, computational analysis, and behavioral economics with specific emphasis on data science in economics. Letter grading.

- **424. Income Inequality**

Units: 4.0

Lecture, three hours; discussion, one hour. Limited to Master of Applied Economics students. Investigation of rise of earning inequality (with emphasis on U.S.), focusing on learning how to use models and data to quantify impact of range of forces on inequality. Overview of broad empirical trends, with emphasis on understanding how to document these facts ourselves. Consideration of three classes of potential explanations for these patterns: international connections (e.g., trade and immigration), institutional change (e.g., minimum wage and unionization), and technical change (e.g., computerization and spread of robots). Focus on quantifying these forces ourselves. Study of top income inequality: why have extremely rich become much richer than very rich? Focus on CEO compensation. Letter grading.

- **425. Machine Learning I**

Units: 4.0

Lecture, three hours; discussion, one hour. Limited to Master of Applied Economics students. Covers set of fundamental machine learning algorithms, models, and theories, and introduces advanced engineering practices for implementing data-intensive intelligent systems. Topics involve both supervised methods (e.g., support vector machine, neural network, etc.) and unsupervised methods (e.g., clustering, dimensionality reduction, etc.), and their applications in classification, regression, data analysis, and visualization. Letter grading.

- **426. Knowledge Discovery and Data Mining**

Units: 4.0

Lecture, three hours; discussion, one hour. Limited to Master of Applied Economics students. Study of theoretical and practical techniques in field of data mining and knowledge discovery. Topics include data processing, association rules, supervised learning, clustering, etc., and their applications in visualization, social network analysis, sentiment mining, and opinion analysis. Focus on making sense of large-scale or web-scale dataset, and providing students with first-hand project experiences. Letter grading.

- **427. Applied Machine Learning**

Units: 4.0

Lecture, three hours; discussion, one hour. Limited to Master of Applied Economics students. Preparation: basic understanding of technology principles, basic programming skills, sufficient mathematical background in probability, statistics, and matrix analysis. Foundational course with primary application to data analytics. Intended to be accessible to students from backgrounds such as economics or mathematics, and to students from less technical backgrounds. Covers some fundamental topics in machine learning such as Bayesian learning, optimization for learning, metric learning, and various classification, regression, clustering techniques, and other advanced topics. Real-world data-intensive problems. Letter grading.

- **428. Health Care Analytics: Methods and Applications**

Units: 4.0

Lecture, three hours; discussion, one hour. Limited to Master of Applied Economics students. Introduction to basic concepts of health economics. Development of skills in economic modeling and real-world data analysis. Written policy briefs and business cases evaluating pros and cons of different approaches to improving health care markets. Letter grading.

- **429A. Professional Development for Emerging Economists I**

Units: 2.0

Seminar, two hours. Limited to Master of Applied Economics students. Designed to help students develop professional skills essential for success in professional business settings. Aids students in translating topics covered in other courses into language and format that is accessible to industry/non-academic settings. Students conduct labor market research, identify and analyze industry trends, and develop targeted plan to achieve professional success. Exploration of skills identification, goal setting, researching employment market, and résumé writing. Letter grading.

- **429B. Professional Development for Emerging Economists II**

Units: 2.0

Seminar, two hours. Enforced prerequisite: course 429A. Limited to Master of Applied Economics students. Designed to help students develop professional, communication, and presentation skills essential for success in professional business settings. Aids students in translating topics covered in other courses into language and format that is accessible to industry/non-academic settings. Students practice presenting for variety of professional audiences. Exploration of presentation skills, personal branding, salary negotiation, and interviewing techniques. Letter grading.

- **430. Applied Statistics, Econometrics, and Time Series with R and Python**

Units: 4.0

Lecture, three hours; discussion, one hour. Limited to Master of Applied Economics students. Introduction to probability, statistics, econometrics, and time series methods used in economics, business, and government using R and Python. Topics include estimation, simple and multiple regression, cross-sectional and panel data, instrumental variables, and estimation with stationary/non-stationary processes. Letter grading.

- **431. Introduction to Econometrics, Cross-Sectional and Panel Data, and Time Series**

Units: 4.0

Lecture, three hours; discussion, one hour. Limited to Master of Applied Economics students. Introduction to econometrics, cross-sectional and panel data, and time series methods used in economics, business, and government. Topics include estimation, simple and multiple regression, cross-sectional and panel data, instrumental variables, and estimation with stationary/non-stationary processes. Letter grading.

- **432. Data Science for Financial Engineering**



Units: 4.0

Lecture, three hours; discussion, one hour. Limited to Master of Applied Economics students. Data science provides many useful tools for modeling financial data and testing hypotheses on how markets work, and prices are formed. Study of these important tools. Focus on econometric models and methods to understand financial market dynamics. Topics include returns of financial assets, statistical tests on financial market efficiency, linear time series models, time-varying expected return models, heteroscedastic volatility models, optimal portfolio choice problem, capital asset pricing models, factor models, portfolio allocation, tracking and risk management. Letter grading.

- **433. Core Finance**

Units: 4.0

Lecture, three hours; discussion, one hour. Limited to Master of Applied Economics students. Introduction to core principles of asset valuations. Emphasis on common economic reasoning used in valuation problems. Derivations and study of valuation formulas for three broad asset classes: fixed income securities, equity, and derivatives. Practical applications to investment problems, and relation to current financial news. Letter grading.

- **434. Machine Learning and Big Data for Economists**

Units: 4.0

Lecture, three hours; discussion, one hour. Limited to Master of Applied Economics students. Discussion of some machine learning techniques including lasso, regression trees, random forests, and neural networks. Covers most recent developments at intersection of machine learning and econometrics, now commonly referred to as double machine learning. Study of double machine learning in detail, and discussion of how to apply it to enhance analysis of classical econometric problems, such as program evaluation and demand estimation. Letter grading.

- **435. Principles of Big Data Management Systems**

Units: 4.0

Lecture, three hours; discussion, one hour. Limited to Master of Applied Economics students. Focus on modern data management systems that are used in data analytics. Students are exposed to cutting-edge data management concepts and systems and provided with working knowledge needed to manage large-scale data. Covers modern data management techniques of cloud storage systems, NoSQL databases, and map-reduce computing paradigm. Letter grading.

- **495. Teaching College Economics**

Units: 2.0

Seminar, one hour; laboratory, three hours. Designed for graduate students. Required of all new teaching assistants. Classroom practice in teaching, with individual and group instruction on related educational methods, materials, and evaluation. May be repeated for credit. S/U grading.

- **501. Cooperative Program**

Units: 2.0 to 8.0

Tutorial, to be arranged. Preparation: consent of KISREAD graduate adviser and graduate dean, and host campus instructor, department chair, and graduate dean. Used to record enrollment of KISREAD students in courses taken under cooperative arrangements with USC. S/U grading.

- **596. Individual Study**

Units: 2.0 to 8.0

Tutorial, to be arranged. Directed individual study or research. S/U grading.

- **597. Individual Study: Graduate Examinations**

Units: 2.0 to 8.0

Tutorial, to be arranged. Directed individual study in preparation for MA comprehensive examination or PhD qualifying examinations. S/U grading.

- **599. Individual Research: PhD Dissertation**

Units: 2.0 to 8.0

Tutorial, to be arranged. Preparation: advancement to PhD candidacy. Directed individual research in preparation of PhD dissertation. S/U grading.

## MASTER OF SCIENCE IN BUSINESS ANALYTICS (MSBA)

The Master of Science in Business Analytics (MSBA) program prepares students to use large databases combined with descriptive, predictive, and prescriptive analytics to find answers to fundamental business problems.

### Become a Master of Business Analytics

Technology now touches every part of our lives. The amount of data available in the business world and financial markets is exploding. Businesses, government, consumers, investors, policymakers and others face major challenges as well as opportunities to adapt to the results of the fast-moving flow of information. The KISREAD Master of Science in Business Analytics is a **15 month online program** that will give you the tools to become a leader in this rapidly evolving and in-demand field.



### About Our Program

The data revolution has given birth to entirely new fields in academics. In particular, new paradigms are being developed to manage, capture, describe, and analyze the flow of data, and to extract useful and targeted information that can be used to make informed business decisions.

One of the most important areas in which these paradigms are having an important impact is in business data analytics, or business analytics for short. Specifically, business analytics is the application of statistical, computational, quantitative, econometric, and management tools to the informational flows for the purpose of addressing business needs.

#### Section I: Building Trust in Data: How Analytics Leaders Get ‘the Right Stu.’

- Trust Advances Analytics Maturity
- Why Closing the Trust Gap Matters
- Grade Your Data
- The Human Factor: Partner with Domain Experts
- AI Built on Bedrock of Data Governance
- Commit to Treating Data as an Asset

#### Section II: Success with Customer Data Depends on Keeping Customers’ Trust \

- The Pivotal Roles of Data Security and Privacy \
- The Opportunity to Build Customer Trust Based on Data \
- Trust Is Fragile — Handle with Care

### Section III: Building Trust in Innovation by Creating a Culture of Inquiry and Experimentation

- Driving Data Literacy through the Workforce
- Fostering Collaboration Drives Culture Change • Analytics Expertise: Centralize vs. Decentralize
- Communication and Education Encourage an Analytics Mindset

### Leaders' Best Practices

- Health Care – Kisread Centralized Data Store Helps Build Trust in Analytics
- Manufacturing – Caterpillar Tailors Analytics Strategies to Business Unit Needs
- Government – DataSF Teaches the Art of Asking Analytical Questions
- Financial Services – Cross-functional Teamwork Improves Predictive Models at Barclays US

### About the Research



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