Upper Division

100. Concepts in Agricultural and Environmental Education (3)
Lecture—2 hours; laboratory—3 hours. Prerequisite: upper division standing. Philosophy and nature of formal and non-formal agricultural and environmental education programs. Emphasis on understanding the role of the teacher and observing a variety of programs. GE credit: SocSci, Wrt.—II. (Ill.) Martin- dale
160. Vocational Education (3)
Lecture—3 hours. Philosophy and organization of vocational education, with particular reference to educational principles for agriculture commerce, home economics, and industry. GE credit: SocSci, Wrt.—II. (Ill.)
171. Audiovisual Communications (2)
Lecture—1 hour; laboratory—3 hours. Prerequisite: upper division standing. Theory and principles of audiovisual communications. Comparison of audiovisual materials such as transparencies, slides, computer-generated graphics, and videos. Operation and use of audiovisual equipment is stressed.
172. Multimedia Productions (3)
Lecture—2 hours; laboratory—3 hours. Prerequisite: course 171 recommended. Design and production of educational, technical, and professional multimedia presentations. Instructional or professional presentations using a variety of media, including slides, video, transparencies, and computer-generated graphics. Offered in alternate years. GE credit: SocSci, Wrt.
190. Seminar in Agricultural Education (2)
Seminar—2 hours. Discussion of selected critical issues in agricultural education. May be repeated for credit with consent of instructor. (P/NP grading only)—II. (Ill.)
192. Internship (1-12)
Internship—3-36 hours. Prerequisite: upper division standing, consent of instructor. Supervised internship off and on campus in areas of agriculture education. (P/NP grading only)
198. Directed Group Study (1-5)
(P/NP grading only)
199. Special Study for Advanced Undergraduates (1-5)
(P/NP grading only)

Professional

300. Directed Field Experience in Teaching (2)
Discussion—1 hour; field experience—3 hours. Prerequisite: course 100. Experience as teaching assistant in agriculture or home economics programs in public schools. May be repeated one time for credit. (S/U grading only)
301. Planning for Instructional Programs (3)
Lecture—3 hours. Prerequisite: course 100; course 300 (may be taken concurrently). Major paradigms in program planning and development. Emphasis on the steps of curriculum development, including selection and organization of educational objectives, learning experiences and teaching materials and resources. —III. (Ill.) Trelxer
302. Teaching Methods in Agricultural Education (2)
Lecture—2 hours; laboratory—2 hours. Prerequisite: course 100, course 300 (may be taken concurrently). Development of teaching strategies with special emphasis on the design and teaching experiences, instructional execution, and use of teaching aids in agricultural education.
306A. Field Experience with Future Farmers of America and Supervised Experience Programs (4)
Lecture/discussion—2 hours; field work—6 hours. Prerequisite: acceptance into a teacher education program; course 306B (concurrently). Develop an understanding of the Future Farmers of America and supervised occupational experience programs through planning, conducting, and evaluating actual programs.
306B. Field Experience in Teaching Agriculture (5-18)
Student teaching (corresponds with public school session). Prerequisite: acceptance into a teacher education program; course 306A (concurrently); courses 100, 300, 301, 302. Directed teaching including supervision of occupational experience programs and youth activities in secondary schools or community colleges. May be repeated for credit up to a maximum of 18 units.
323. Resource Development: Agricultural Education (3)
Lecture—3 hours. Prerequisite: courses 306A, 306B. Selection and implementation of community resources in teaching.
390. Seminar: Issues in Agricultural Education (2)
Discussion/labatory—4 hours. Prerequisite: acceptance into a teacher education program and courses 306A, 306B. Discussion and evaluation of current issues, theories and research in agriculture education. (S/U grading only.)

Agricultural Management and Rangeland Resources

[College of Agricultural and Environmental Sciences]
This major was discontinued as of Fall 2008; see Ecological Management and Restoration, on page 229.
Faculty. See Plant Sciences, on page 476.
Courses. See Plant Sciences, on page 476.

Agricultural and Managerial Economics

See Managerial Economics, on page 386.

Agricultural and Resource Economics

[College of Agricultural and Environmental Sciences]
Richard J. Sexton, Ph.D., Chair of the Department
Department Office. 2116 Social Sciences and Humanities Building 530-752-9995
Undergraduate Student Information for the Managerial Economics major, 1176 Social Sciences and Humanities Building 530-754-9536; http://manecon.ucdavis.edu
Graduate Student Information, 1171 Social Sciences and Humanities Building 530-752-6185; http://www.agecon.ucdavis.edu
Faculty
Julian M. Alston, Ph.D., Professor
Stephen R. Boucher, Ph.D., Associate Professor
Calin A. Carter, Ph.D., Distinguished Professor
Michael R. Carter, Ph.D., Professor
James A. Challant, Ph.D., Professor
Y. Hussein Farzin, Ph.D., Professor
Dalia A. Gharem, Ph.D., Assistant Professor
Raachael E. Goodhue, Ph.D., Professor
Richard D. Green, Ph.D., Professor
Lovel S. Jarvis, Ph.D., Professor
15. Population, Environment and World Agriculture (4)
Lecture—4 hours. Prerequisite: one of course 100A, 103. Focuses on the relationship between human population growth and environmental degradation. Topics include historical trends, the causes and consequences of population growth, the major environmental challenges of the 21st century, and the roles of political, economic, and social factors in shaping policy responses. GE credit: SocSci | SS, WC.

115A. Economic Development (4)
Lecture—4 hours. Prerequisite: Economics 1A and 1B. Major issues encountered in emerging from international poverty, problems of growth and structural change, welfare, population growth and health, labor markets and international migration. Important issues of policy concerning international trade and industrialization. [Same course as Economics 115A.] GE credit: SocSci, Div | SS, WC.—I, II, III, IV. (I, II, III, IV.)

115B. Economic Development (4)
Lecture—4 hours. Prerequisite: Economics 1A and 1B. Major issues of developing countries. Issues include problems of generating capital, conduct of monetary and fiscal policies, foreign aid and investment. Important issues of policy concerning international borrowing and international debt of developing countries. [Same course as Economics 115B.] GE credit: SocSci | SS, WC.—I, II, III, IV. (I, II, III, IV.)

118. Tax Accounting (4)
Lecture—4 hours. Prerequisite: Management 11A, 11B; course 1B recommended. Development and application of a framework to understand the tax effects of typical management decisions on both entities and their owners. Impacts that different methods of taxation have on business with an emphasis on tax planning, using income and deduction strategies, retirement plans, and choice of business entities for tax minimization.

119. Intermediate Managerial Accounting (4)

120. Agricultural Policy (4)
Lecture—4 hours. Prerequisite: course 100A or the equivalent. Analytical treatment of historical and current economic problems and governmental policies influencing American agriculture. Use of economic theory to develop historical and conceptual understanding of the economics of agriculture; how public policies influence the nature and performance of American agriculture. GE credit: SocSci | ACGH, SS.—III. (III.)

120S. Agricultural Policy (4)
Lecture—4 hours. Prerequisite: course 100A or the equivalent. Analytical treatment of historical and current economic problems and governmental policies influencing agriculture. Use of economic theory to develop historical and conceptual understanding of the economics of agriculture; how public policy influences the nature and performance of agriculture. Taught in Australia under the supervision of a UC Davis faculty member. Not open for credit to students who have completed course 120. GE credit: SocSci | SS, WC.

121. Economics of Agricultural Sustainability (4)
Lecture—3 hours. Prerequisite: course 100A or consent of instructor. Analytical treatment of historical and current economic problems and governmental policies influencing agriculture. Use of economic theory to develop historical and conceptual understanding of the economics of agriculture; how public policy influences the nature and performance of agriculture. Taught in Australia under the supervision of a UC Davis faculty member. Not open for credit to students who have completed course 120. GE credit: SocSci | SS, WC.

122. Fundamentals of Organization Management (4)
Lecture—4 hours. Prerequisite: upper division standing or consent of instructor. Open to majors in the College of Agricultural and Environmental Sciences. Role of organizational design and behavior in business and public agencies. Principles of planning, decision behavior, management, leadership, informal groups, conflict and change in the organization. GE credit: SocSci | SS.—I, II, III, IV. (I, II, III, IV.)

123. Fundamentals of Marketing Management (4)
Lecture—4 hours. Prerequisite: Economics 1A. For non-majors only. Nature of product marketing by the business firm. Customer relationship management, pricing and demand; development and marketing strategy; promotion and advertising; product life cycles; the distribution system; manufacturing, wholesaling, retailing. Government regulations and restraints. [Not open for credit to students who have completed course 136.] GE credit: SocSci | SS.

124. Agricultural and Resource Economics
prices, costs, and margins; market information, regulation, and controls; cooperative marketing. GE credit: SocSci | SS.—I, II, III, IV.

132. Cooperative Business Enterprises (3)
Lecture—3 hours. Prerequisite: Economics 1A. Study of cooperative business enterprise in the United States and elsewhere; economic theories of behavior, organization, finance, decision-making, and taxation. GE credit: SocSci | SS.—I, II, III, IV.

135. Agribusiness Marketing Plan Development (2)
Lecture/discussion—2 hours. Prerequisite: upper division standing. Fundamental components required to develop a marketing plan. Appreciation of the concept of a marketing plan, appropriate research required, including the use of library and Internet, survey and interview instruments, government documents, market analysis, business proposition, action planning, financial evaluation and monitoring. (P/NP grading only.) GE credit: SS.

136. Managerial Marketing (4)
Lecture—4 hours. Prerequisite: course 100A; Statistics 103. Application of economic theory and statistics in the study of marketing. Marketing measurement and forecasting, market planning, market segmentation, determination of optimal product market mix, sales and cost analysis, conduct of marketing research, marketing models and systems. GE credit: SocSci | SS.—I, II, III, IV. (II, III, IV)

Lecture—3 hours; discussion—1 hour. Prerequisite: course 100A and 100B; Economics 100. Pass Two open to majors in the College of Agricultural and Environmental Sciences. Basic nature and scope of international trade in agricultural commodities, agricultural inputs, and natural resources. Market dimensions and policy institutions. Case studies to illustrate import and export problems associated with different regions and commodities. GE credit: SocSci | SS.—I, III, IV. (I, III, IV)

139. Futures and Options Markets (4)
Lecture—3 hours; discussion—1 hour. Prerequisite: course 100A; Statistics 103. Pass One open to majors in the College of Agricultural and Environmental Sciences. History, mechanics, and economic functions of futures and options markets; hedging; theory of intertemporal price formation and behavior of futures and options prices; price forecasting; futures and options as policy tools. GE credit: SocSci | SS.—II, III. (II)

140. Farm Management (5)
Lecture—5 hours. Prerequisite: Economics 1A. Farm organization and resources; economic and technological principles in decision making; analytical techniques and management control; problems in organizing and managing the farm business. GE credit: SocSci | SS.

142. Personal Finance (3)
Lecture—3 hours. Prerequisite: Economics 1B. Management of income and expenditures by the household. Use of consumer credit, savings, and insurance by households. Principles of tax, retirement, and estate planning. GE credit: SocSci | SS.—I, II, III, IV. (I, III, IV)

143. Investments (3)
Lecture—3 hours. Prerequisite: course 142 or consent of instructor. Survey of investment institutions, sources of investment information, and portfolio theory. Analysis of the stock, bond and real estate markets. Fundamental elements of the perspective of the investor. GE credit: SocSci | SS.—II, III.

144. Real Estate Economics (3)
Lecture—3 hours. Prerequisite: course 100A. The economic theory, analysis, and institutions of real estate markets and related financial markets. Case studies drawn from the raw land, single family, multi-family, industrial and office real estate markets. GE credit: SocSci | SS.—III. (III)

145. Farm and Rural Resources Appraisal (4)
Lecture/discussion—4 hours. Principles, procedures, and practice of the valuation process with specific emphasis placed on farm real estate. Concepts of value, description of land, identification of the major physical and economic determinants of value, the three primary appraisal approaches to valuation, discussion of appraisal activity and practice. GE credit: SocSci | SS.—II. (III)

146. Business, Government Regulation, and Society (3)
Lecture—3 hours. Prerequisite: course 100A or the equivalent. Pass Two open to majors in the College of Agricultural and Environmental Sciences. Variety, nature and impact of government regulation: anti-trust laws and economic and social regulation. Nature of the legislative process, promulgation of regulations, and their impact, especially as analyzed by economists. GE credit: SocSci | AGCH, SS.—I, II, III, IV.

147. Resource and Environmental Policy Analysis (3)
Lecture—3 hours. Prerequisite: Economics 1A; enrollment open to non-majors only. Natural resource use problems with emphasis on past and current policies and institutions affecting resource use; determinants, principles, and patterns of natural resource use; property rights, conservation, private and public resource use problems; and public issues. Students who have had or are taking course 100A, Economics 100, or the equivalent, may receive only 2 units of credit, so may enroll in course 147M instead.) GE credit: SocSci | SS.—I, II.

147M. Resource and Environmental Policy Analysis (2)
Lecture—3 hours. Prerequisite: Economics 1A; enrollment open to non-majors only. Natural resource use problems with emphasis on past and current policies and institutions affecting resource use; determinants, principles, and patterns of natural resource use; property rights, conservation, private and public resource use problems; and public issues. Students who have had or are taking course 100A, Economics 100, or the equivalent, must enroll in this course (for 2 units) rather than course 147.) GE credit: SocSci | SS.—II. (II)

150. Agricultural Labor (3)
Lecture—3 hours; discussion—1 hour. Importance of family and hired labor in agriculture; farm labor market; unions and collective bargaining in California agriculture; wage bargaining exercise, effects of unions on farm wages and earnings. GE credit: SocSci, Div, W | AGCH, DD, SS, WE.—III, III

155. Operations Research and Management Science (4)
Lecture—3 hours; discussion—1 hour. Prerequisite: course 100A; Statistics 103. Pass One open to Managerial Economics majors; Pass Two open to majors in the College of Agricultural and Environmental Sciences. Introduction to quantitative methods used to analyze business and economic processes: decision analysis for management, mathematical programming, competitive analysis, and other methods. GE credit: SocSci | SS, QL.—I, II, III. (I, II, III, IV)

156. Introduction to Mathematical Economics (4)
Lecture—4 hours. Prerequisite: courses 100A and 155; Mathematics 16C or 21C recommended [students should note that the formal mathematical content of this course is higher than other courses in the curriculum]. Linear algebra for economists; necessary and sufficient conditions on the static optimization problems; implicit function theorem; economic methodology and mathematics; comparative statics; envelope theorems; Le Chatelier principle; applications to production and consumer models. GE credit: SocSci | QL, SS.

157. Analysis for Operations and Production Management (4)
Lecture—4 hours. Prerequisite: course 100A; Statistics 103. Pass Two open to majors in the College of Agricultural and Environmental Sciences; Pass Two open to all majors. Application of economic theory and quantitative methods to analyze operations and production management problems, including process strategy, quality management, location and plant layout, and inventory management. GE credit: SocSci | SS.—I, II, III, IV.

171A. Financial Management of the Firm (4)
Lecture—3 hours; discussion—1 hour. Prerequisite: course 106; Management 11A or 11B. Financial analysis at the firm level: methods of depreciation; influence of the tax structure; inventory, cash, and accounts receivable management; sources of short-term and long-term financing, and financial problem solving using a computer spreadsheet program. Not open for credit to students who have completed Economics 134. GE credit: SocSci | QL, SS.—I, II, III, IV. (I, II, III, IV)

171B. Financial Management of the Firm (4)
Lecture—3 hours; discussion—1 hour. Prerequisite: course 171A. Financial analysis at the firm level: methods of capital budgeting; calculating the cost of capital; dividend policies, mergers and acquisitions; and special current topics in finance. GE credit: SocSci | QL, SS.—II, III, IV. (II, III, IV)

175. Natural Resource Economics (4)
Lecture—3 hours; discussion—1 hour. Prerequisite: course 100B or Economics 100. Natural resource use problems with emphasis on past and current policies and institutions affecting resource use; determinants, principles, and patterns of natural resource use; property rights, conservation, private and public resource use problems; and public issues. Students who have had or are taking course 100A, Economics 100, or the equivalent, must enroll in this course (for 2 units) rather than course 147.) GE credit: SocSci | SS.—II. (II)

176. Environmental Economics (4)
Lecture—3 hours; discussion—1 hour. Prerequisite: course 100B or Economics 100. Role of the environment in economic activity and methods for protecting and enhancing environmental quality; implications of market failures for public policy; design of environmental policy; theory of welfare measurement; measuring the benefits of environmental improvement. GE credit: SocSci | SS.—II. (II)

190. Topics in Managerial Economics (3)
Lecture—3 hours. Prerequisite: passing grades in courses 100A and 100B; consent of instructor. Selected topics in managerial economics, focusing on current research. May be repeated four times for credit when topic differs. Offered irregularly. GE credit: SocSci | SS.

192. Internship (1-6)
Internship—3-18 hours. Internship experience off and on campus in all subject areas offered in the Department of Agricultural and Resource Economics. Internships are supervised by a member of the staff. (P/NP grading only.) GE credit: SS.

194HA-194HB. Special Study for Honors Students (4-4)
Independent study—3-18 hours; seminar—1 hour. Prerequisite: Minimum GPA of 3.500; course 100B; courses 106 and 155 (may be taken concurrently); major in Agricultural and Managerial Economics or Managerial Economics; senior standing; A program of research culminating in the writing of a senior honors thesis under the direction of a faculty adviser. (Deferred grading only, pending completion of sequence.) GE credit: SocSci | QL, SS, WE.

1977. Tutoring in Managerial Economics (1-3)
Prerequisite: senior standing in Managerial Economics and consent of Department Chairperson. Undergraduate assistant the instructor by tutoring students in one of the department's regularly scheduled courses. (P/NP grading only.) GE credit: SS.

Quarter Offered: Fall, Winter, Spring, Summer. 2013-2016 offering in parentheses.
198. Directed Group Study (1-5)
Prerequisite: consent of instructor. (P/NP grading only.) GE credit: B4.

199. Special Study for Advanced Undergraduates (1-5)
Prerequisite: consent of instructor. (P/NP grading only.) GE credit: SS.

Graduate

200A. Microeconomic Theory (5)
Lecture—4 hours; discussion—1 hour. Prerequisite: course 200A. Characteristics of market equilibrium under perfect competition, simple monopoly and monopsony. Emphasis on general equilibrium and welfare economics, the sources of market success and market failures. (Same course as Economics 200A.)—I. (Iii.)

200B. Microeconomic Theory (5)
Lecture—4 hours; discussion—1 hour. Prerequisite: course 200A. Uncertainty and information economics. Individual decision making under uncertainty. Introduction to game theory, with emphasis on applications to markets with firms that are imperfect competitors or consumers that are imperfectly informed. (Same course as Economics 200B.)—II. (III.)

200C. Microeconomic Theory (5)
Lecture—4 hours; discussion—1 hour. Prerequisite: course 200B. Uncertainty and information economics. Individual decision making under uncertainty. Introduction to game theory, with emphasis on applications to markets with firms that are imperfect competitors or consumers that are imperfectly informed. (Same course as Economics 200C.)—III. (III.)

202A. Introduction to Applied Research Methods (3)
Lecture/discussion—3 hours. Prerequisite: courses 204A and 256, or the equivalent; course 200A concurrently. Study of phrasing and methodology of applied research in agricultural economics. Methods of conceptualization of researchable topics. Method of communication and constructive criticism.—I. (Ii.)

202B. Applied Microeconomics I: Consumer and Producer Behavior (3)
Lecture/discussion—3 hours. Prerequisite: courses 200A and 202A; course 200A concurrently. Application of consumer and producer theory in models of individual behavior and market-level phenomena. Implications of consumer and producer theory for specification of empirical models of supply and demand for inputs and outputs and market equilibrium displacement models.—II. (II.)

202C. Research Design for Applied Microeconomics (3)
Lecture/Discussion—3 hours. Prerequisite: courses 240A and 240B. Third of three courses in the Ph.D. level applied research sequence. Examines the design of empirical research and the application of econometric theory.—III. (III.)

204A. Microeconomic Analysis I (4)
Lecture—4 hours. Prerequisite: course 100B or Econometrics 100; advanced undergraduates with consent of instructor. Behavior of consumers and producers and their interactions; tools and methods needed to analyze economic behavior in the marketplace. Application of these methods to real-world problems.—I. (I)

204B. Microeconomic Analysis II (4)
Lecture—4 hours. Prerequisite: course 204A or consent of instructor. Behavior in imperfectly competitive markets, including oligopoly and monopolistic competition; oligopoly. Introduction to noncooperative game theory. Analysis of decisions made under risk and uncertainty and imperfect information. The economics of externalities and public goods.—II. (II)

214. Development Economics (4)
Lecture—4 hours. Prerequisite: course 100A, 100B, Economics 101; course 204A and Economics 160A, 160B recommended. Review of the principal theoretical and policy issues whose analyses have formed development economics. Analyzes of economic development theories and development strategies and their application to specific policy issues in developing countries and contexts. (Same course as Economics 214.)—III. (III.)

215A. Microdevelopment Theory and Methods I (4)
Lecture—3 hours; discussion—1 hour. Prerequisite: course 200A or 204A; course 240A recommended. Agricultural development theory, with a focus on microeconomics. Agricultural household behavior with and without credit options and uncertainty. Analysis of rural land, labor, credit and insurance markets, institutions, and contracts. (Same course as Economics 215A.)—I. (I)

215B. Open Microeconomics of Development (4)
Lecture—3 hours; discussion—1 hour. Prerequisite: courses 200A or 204A; 200D or 205, and 214 or 215A. Models and policy approaches regarding trade, monetary and fiscal issues, capital flows and debt are discussed. Microeconomic framework of an open developing country. The basic analytical focus is real exchange rate and its impact on sectoral allocation of resources. (Same course as Economics 215B.)—II. (II)

215C. Microdevelopment Theory and Methods II (4)
Lecture—3 hours; discussion—1 hour. Prerequisite: course 215A. Extension of development theory and microeconomic methods to developing technology and technological change; poverty and income inequality; multi-sectoral, including village and regional models. Computable general equilibrium methods and applications. (Same course as Economics 215C.)—III. (III.)

215D. Environment and Economic Development (4)
Lecture—3 hours; discussion—1 hour. Prerequisite: course 200A. Extension of development theory and microeconomic methods to development technology and technological change; poverty and income inequality; multi-sectoral, including village and regional models. Computable general equilibrium methods and applications. (Same course as Economics 215D.)—III. (III.)

222. International Agricultural Trade and Policy (3)
Lecture—3 hours. Prerequisite: course 100B or 204A; Economics 160A or the equivalent. Analysis of country interdependence through world agricultural markets. Partial equilibrium analysis is used to study the impacts of national intervention on world markets, national policy choice in an open economy and multinational policy issues.—I. (I)

231. Supply and Demand for Agricultural Products (4)
Lecture—3 hours; discussion—1 hour. Prerequisite: courses 200A, 202A, and 240A or consent of instructor. Analysis of supply and demand for agricultural commodities emphasizing the effective use of microeconomic theory with econometric methods, and other empirical procedures, in conducting applied analysis of supply and demand at the firm and industry level.—I. (I)

232. Agricultural Commodity Markets (4)
Lecture—3 hours; discussion—1 hour. Prerequisite: courses 200A, 202A, and 240A or consent of instructor. Economic analysis of industries that produce, market, transport, store, and process basic commodities. Analysis of market equilibrium under perfect and imperfect competition, with and without government involvement.—II. (II)

233. Agricultural Policy (4)
Lecture—3 hours; discussion—1 hour. Prerequisite: courses 200A, 202A, and 240A or consent of instructor. Nature, formation, evolution, and institutions of economic policy applied to food, agricultural and rural issues. Examples for detailed consideration include food security, commodity issues, and trade policy. Analytical approaches include static and dynamic welfare analysis, policy design, and political-economic analysis.—III. (III)

239. Econometric Foundations (4)
Lecture—3 hours; discussion—1 hour. Prerequisite: one course in undergraduate-level econometrics. The course will prepare students for econometric theory and empirical work by examining the statistical foundation of econometrics. Special attention is paid to problems specific to nonexperimental data common to social sciences. Topics from other econometrics courses are also covered. (Same course as Economics 239.)—I. (I)

240A. Econometric Methods (4)
Lecture—3 hours; discussion—1 hour. Prerequisite: Statistics 133 and a course in algebra or the equivalent. Least squares, instrumental variables, and maximum likelihood estimation and inference for single equation linear regression model; linear restrictions; heteroscedasticity and lagged dependent variables. (Same course as Economics 240A.)—II. (II)

240B. Econometric Methods (4)
Lecture—3 hours; discussion—1 hour. Prerequisite: course 240A. Topics include time series and instrumental variables, pooled time-series cross-section estimation, seemingly unrelated regression, classical hypothesis tests, identification and estimation of simultaneous equation models, cointegration, error-correction models, and qualitative and limited dependent variable models. (Same course as Economics 240B.)—III. (III.)

240C. Time Series Econometrics (4)
Lecture—3 hours; discussion—1 hour. Prerequisite: course 240B. Probability theory, estimation, inference and forecasting of time series models; trends and non-standard asymptotic theory; vector time series methods and cointegration; error correction models for higher order movements and transition data; state-space modeling; the Kalman filter. (Same course as Economics 240C.)—II. (II)

240D. Cross Section Econometrics (4)
Lecture—3 hours; discussion—1 hour. Prerequisite: course 240B. Estimation and inference for nonlinear regression models for cross-section data; models for discrete data and for limited dependent variables; models for panel data; additional topics such as bootstrap and semiparametric regression. (Same course as Economics 240D.)—I. (I)

240E. Topics in Time Series Econometrics (4)
Lecture—3 hours; discussion—1 hour. Prerequisite: courses 240A, 240B and 240D. Modern econometric techniques for cross-section data. Expand on topics covered in Economics 240A, 240B and 240C. Contents may vary from year to year. (Same course as Economics 240E.)—II. (II)

240F. Topics in Cross Section Econometrics (4)
Lecture—3 hours; discussion—1 hour. Prerequisite: courses 240A, 240B and 240D. Modern econometric techniques for cross-section data. Expand on topics covered in Economics 240A, 240B and 240C. Contents may vary from year to year. (Same course as Economics 240F.)—III. (III)

252. Applied Linear Programming (4)
Lecture—3 hours; discussion—1 hour. Applied linear programming methods emphasizing uses for business and government decision making including production, diet, blending, network and related problems.—II. (II)

253. Optimization Techniques with Economic Applications (4)
Lecture—3 hours; discussion—1 hour. Microeconomic topics in the framework of mathematical programming.—II. (II) Paris

254. Dynamic Optimization Techniques with Economic Applications (4)
Lecture—4 hours. Prerequisite: course 253 and elementary knowledge of ordinary differential equations. Necessary and sufficient conditions in the calculus of variations and optimal control, economic interpretations, the dynamic envelope theorem and transversality conditions, infinite horizon problems and phase diagrams, local stability and comparative statics of the steady state, comparative dynamics.—I. (I)

255. Applied Dynamic Structural Econometric Modeling (4)
Lecture—4 hours. Prerequisite: course 254. Course covers structural econometric models of static games of incomplete information, single-agent dynamic
optimization problems and multi-agent dynamic games, with a focus on applications to issues relevant to the environment, energy, natural resources, agriculture, and development.—II. (II.)

256A. Applied Econometrics I (4)
Lecture—4 hours. Prerequisite: course 106 or Economics 140; or consent of instructor. First of two courses in the Masters-level econometrics sequence. The linear regression model and generalizations are applied to topics in agricultural and resource economics. Tools for empirical research for problems requiring more sophisticated tools than standard regression models are emphasized.—I. (I.)

256B. Applied Econometrics II (4)
Lecture—4 hours. Prerequisite: course 256A or consent of instructor. Second of two courses in the Masters-level econometrics sequence. The linear regression model and generalizations are applied to topics in agricultural and resource economics. Tools for empirical research for problems requiring more sophisticated tools than standard regression models are emphasized.—II. (II.)

258. Demand and Market Analysis (4)
Lecture—4 hours. Prerequisite: courses 204B and 256 or consent of instructor. Application of theoretical material covered in 204A/B, with particular focus on production theory/factor demand and imperfect competition/market power. Use of theoretical models as a foundation for empirical economic analysis, and empirical exercises. Independent research on chosen topics, with empirical application.—III. (III.)

275. Economic Analysis of Resource and Environmental Policies (4)
Lecture/discussion—4 hours. Prerequisite: course 204A. Development of externality theory, market failure concepts, welfare economics, theory of renewable and non-renewable resource use, and political economic models. Applications to policy issues regarding the agricultural/environment interface and managing resources in the public domain. (Same course as Environmental Science and Policy 275.)—I. (I.)

276. Environmental Economics (4)
Lecture—3 hours; discussion—1 hour. Prerequisite: course 204A or consent of instructor. Applications of externality theory to the design of efficient environmental policies. Evaluation of pollution control policy instruments in light of information limitations and market imperfections. Methods for nonmarket valuation of the benefits of environmental improvement.—II. (II.)

277. Natural Resource Economics (4)
Lecture—4 hours. Prerequisite: course 254 or consent of instructor. Application of capital theory and dynamic methods to issues of optimal use of renewable and nonrenewable resources. Examination of policy issues associated with forests, fisheries, groundwater, energy resources, watersheds, soil, global climate, and wildlife.—III. (III.)

290. Topics in Agricultural and Resource Economics (3)
Lecture—3 hours. Selected topics in agricultural and resource economics, focusing on current research. May be repeated 4 times for credit. Offered irregularly.

293. Analysis of California Agriculture and Resources (3)
Lecture—1.5 hours; fieldwork—45 hours total, including one 5-day summer field trip. Review and analysis of production, marketing, and resource issues facing agricultural firms in California. Application of economic theory and measurement to individual firm and industry decisions in an applied setting. (S/U grading only.)—I. (I.)

298. Directed Group Study (1-5)
Advanced study through special seminars, informal group studies, or group research on problems for analysis and experimentation. Sections: (1) Managerial Economics; (2) Agricultural Policy; (3) Community and Regional Development; (4) Natural Resources; (5) Human Resources; (6) Research Methods and Quantitative Analysis; and (7) Dissertation Research Prospectus. (S/U grading only.)

299. Individual Study (1-12)
Sections: (1) Managerial Economics; (2) Agricultural Policy; (3) Community and Regional Development; (4) Natural Resources; (5) Human Resources; (6) Research Methods and Quantitative Analysis; and (7) Dissertation Research Prospectus. (S/U grading only.)

299D. Special Study for Doctoral Dissertation (1-12)
(S/U grading only.)

Professional

396. Teaching Assistant Training Practicum (1-4)
Prerequisite: graduate standing. May be repeated for credit. (S/U grading only.)

American Studies

American Studies combines the study of the United States with the study of American studies, a field interdisciplinary in its approach and its goals. American Studies produces a new kind of intellectual and communication skills will prepare majors for a broad array of careers. The Program. American Studies majors take five upper division courses devoted to close study of major issues crucial to the practice of American Studies. Advanced work in at least two other departments or programs allows each student to tailor his or her own individual education goals. Sample emphases include: Culture and Consumption, Youth Education, Social Identities, Nature, Culture and Environment, Marketing, Advertising and Business, and Food and Health, for example. Students have the option of writing a senior thesis within this emphasis. Career Alternatives. As an interdisciplinary program, American Studies provides a good liberal arts and sciences undergraduate education. American Studies maximizes a student’s exposure to a variety of subject matter and approaches. Graduates have moved into a broad range of career settings, including journalism, law, teaching, marketing, nonprofit and community organizations, government, social work, environmental planning, library science, etc.

American Studies (College of Letters and Science)
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Susette Min, Ph.D. (Asian American Studies)
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Julie Sze, Ph.D. (American Studies)
Grace Wang, Ph.D. (American Studies)

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Jay Mechling, Ph.D., Professor Emeritus
Academic Senate Distinguished Teaching Award Michael L. Smith, Ph.D., Senior Lecturer Emeritus
David Scaiform Wilson, Ph.D., Senior Lecturer Emeritus

The Major Program
American Studies explores the cultures of the United States, as well as their transnational exchanges and impact. The discipline’s practitioners seek to understand the historical origins of particular cultures and practices held by individuals and groups within the United States and how those values and beliefs shape social and political realities within and beyond U.S. borders. The approach that American Studies takes is interdisciplinary, meaning that in American Studies we answer these questions using tools developed by numerous disciplines including history, sociology, anthropology, literary criticism, folklore, media and science and technology studies. American Studies takes as its subject American cultures and provides an excellent, broad education in the liberal arts. Our aim is to make each student a culture critic, a person capable of bringing a thoughtful and human approach to bear upon our understanding of the varieties of American experiences. Making connections is the way we like to characterize our work in American Studies. American Studies majors are good critical thinkers, develop excellent writing skills, and most importantly “learn how to learn,” that is, you learn to figure out what intellectual tools and specialized knowledge you will need to perform a task or solve a problem. These intellectual and communication skills will prepare majors for a broad array of careers. The Program. American Studies majors take five upper division courses devoted to close study of major issues crucial to the practice of American Studies. Advanced work in at least two other departments or programs allows each student to tailor his or her own individual education goals. Sample emphases include: Culture and Consumption, Youth Education, Social Identities, Nature, Culture and Environment, Marketing, Advertising and Business, and Food and Health, for example. Students have the option of writing a senior thesis within this emphasis. Career Alternatives. As an interdisciplinary program, American Studies provides a good liberal arts and sciences undergraduate education. American Studies maximizes a student’s exposure to a variety of subject matter and approaches. Graduates have moved into a broad range of career settings, including journalism, law, teaching, marketing, nonprofit and community organizations, government, social work, environmental planning, library science, etc.

Quarter Offered: I-Fall, II-Winter, III-Spring, IV-Summer; 2015-2016 offering in parentheses

Pre-Fall 2011 General Education (GE): ArtHum=Arts and Humanities; SciEng=Science and Engineering; SocSci=Social Sciences; Div=Domestic Diversity; Wrt=Writing Experience

Fall 2011 and on Revised General Education (GE): AH=Arts and Humanities; SE=Science and Engineering; SS=Social Sciences;
AGH=American Cultures; DD=Domestic Diversity; OL=Oral Skills; QL=Quantitative; SL=Scientific; VL=Visual; WC=World Cultures; WE=Writing Experience