Description — Agricultural and Extension Education of Courses

828. Teaching Farmer Classes in Agriculture
Fall of even-numbered years. 3(3-0)
Approval of department.
Objectives of adult education in agriculture, organizing and promoting classes, course planning, instructional procedures, follow-up and evaluation.

830. Effective Communications in Agriculture
Fall, Winter. 3(3-0)
Scientific writing for professional lay agricultural and natural resources publications; grant writing; organizing, preparing and delivery of professional scientific presentations.

851. Program Administration and Supervision
Spring of odd-numbered years. 3(3-0)
ANR 806, EAD 851A.
Principles and practices for developing, supervising and administering agricultural and extension educational programs.

858. Leadership Development in Agricultural and Extension Education
Winter. 3(3-0) Approval of department.
Sociological and philosophical bases for leadership development for agricultural and extension education in a democratic society.

860. Program Evaluation
Summer of even-numbered years. 3(3-0) AEC 820 or approval of department.
Principles of evaluating agricultural and extension education programs.

881. Selected Topics
Fall, Winter, Spring, Summer. 1 to 6 credits. May reenroll for a maximum of 9 credits if different topics are taken. Approval of department.
Topics will be selected to meet needs of graduate students in agricultural and extension education.

883. Readings and Independent Study
Fall, Winter, Spring. Summer. 1 to 6 credits. May reenroll for a maximum of 6 credits. Approval of department.
Study on an individual and group basis in the various areas of agricultural and extension education.

885. Seminar
Fall, Winter, Spring. 1(1-0) May reenroll for a maximum of 3 credits. Approval of department.
Studies and presentation of research in Agricultural and Extension Education.

899. Master's Thesis Research
Fall, Winter, Spring. Summer. 1 to 12 credits. May reenroll for a maximum of 12 credits. Approval of department.

999. Doctoral Dissertation Research
Fall, Winter, Spring. Variable credit. Approval of department.

AGRICULTURAL ECONOMICS AEC

College of Agriculture and Natural Resources

805. Agricultural Production Economics I
Fall. 4(4-0) EC 324, PAM 370.

809. Institutions: Behavior and Performance
Fall. 3(3-0) EC 324, EC 328; or approval of department.
Conceptual approaches to economic analyses of public policy issues and programs with emphasis on the relationships among institutions, behavior of participants and performance.

810. Economics of Public Choice
Winter. 3(3-0) Approval of department. Interdepartmental with the departments of Resource Development and Economics.
Economics of alternative institutions for collective action. Emphasis on property rights and natural resources. Public goods, externalities, non-marginal change, commonswealth, income and power distribution, grants, welfare criteria and market failure.

831. Food Marketing Management
Fall, Spring, 4(4-0) May reenroll for a maximum of 6 credits. Interdepartmental with and administered by the Department of Marketing and Transportation Administration.
Food industry adjustment to changing social, economic and internal company environment. Managerial principles and techniques applied to food processing and distribution. Student interaction with industry, labor and government representatives.

835. Introduction to Econometrics
Spring. 3(3-0) EC 325, STT 422; not open to students with credit in EC 836.
Interdepartmental with and administered by the Department of Economics.

837. Applied Operations Research
Spring. 4(4-0) EC 324, PAM 370.
Approval of department.
Use and interpretation of operations research techniques for problems encountered by agricultural economists. Emphasis on linear programming and its variations such as transportation models, network analysis, spatial equilibrium models.

839. Topics in Dynamic Agricultural Economics
Winter of even-numbered years. 3(3-0) AEC 837, MTH 490; EC 812R or EC 809A, EC 805B.
Intertemporal analysis of production, resources and investment problems. Firm growth theory, calculus of variations, Pontryagin's maximum principle and dynamic programming. Emphasis on applications and economic interpretation.

841. Industrial Organization of Agricultural Markets
Spring. 3(3-0) EC 324, a junior-level course in agricultural marketing.
Conceptual and analytical approaches to identify and assess market performance. Institutions and market processes for coordinating agricultural systems. Issues of organization, control, and public policy.

843. Commodity Market Analysis
Fall. 3(3-0) EC 435 or approval of department.
Projecting short- and long-run demand, supply and prices of agricultural commodities. Data collection, model development and use of computers for understanding and measuring market dynamics. Futures and options markets.

850. Agricultural Production Management in Developing Countries
Winter. 3(3-0) EC 324 or approval of department. Not open to students with credit in FSM 420.
Farm management applications of comparative analysis, forward planning, budgeting, cash flow analysis and computer-aided decision making. Principles illustrated with developing country case studies.

851. Farm Management
Summer of even-numbered years. 3(3-0) FSM 430 or AEC 830 or approval of department.
Managerial processes for problem solving, planning and controlling. Review of decision literature in cognitive and information sciences. Budgeting, optimizing, scenario and stochastic simulation for predictive and prescriptive purposes.

853. Decision Support Systems for Agriculture
Fall of even-numbered years. 3(3-0) AEC 830; AEC 831 recommended.
Development and design of information systems. Database and modelbase systems with emphasis on decision maker/information systems interfaces. Analyses of systems using case studies.

860. Agricultural Policy in Developed Economies
Winter. 3(3-0) FSM 421, EC 324, EC 336; or approval of department.

861. Agricultural Trade Policies
Fall of odd-numbered years. Summer of even-numbered years. 3(3-0) EC 324, EC 326; or approval of department.
International trade in agricultural products, areas of competition, changes in comparative advantage, interrelationship of national and international policy regional groupings, trade and economic development, current policy proposals.

862. Agriculture in Economic Development
Winter. 3(3-0) EC 324, EC 336, PAM 462; or approval of department.
Agricultural and industrial sector interactions in the development process, examined from both historical and theoretical perspectives. Theories and models of the agricultural development process. Policy issues in agricultural development.
Agricultural Economics — Description of Courses

330. Food Production Management
Fall, Spring. 3(3-0)
Problems encountered by managers of farms and input supply firms. Identification and evaluation of alternative solutions using economic principles, financial statements and budgeting.

335. Food Processing and Distribution Management
Winter. 3(3-0) FSM 200 or MPA 300. Interdepartmental with and administered by the Department of Marketing, and Transportation Administration. Analysis of problems faced in the food processing and distribution system. Includes functional interrelationships, consumer orientation and future development.

350. Fruit Marketing Economics
Fall of odd-numbered years. 3(3-0).
Fruit grower marketing management decisions; fruit marketing systems; pricing, marketing problems, improved marketing; demand and supply, marketing, organization, bargaining, processing, marketing cooperatives; other policy alternatives.

370. Applied Statistics
Winter. 3(3-0) One course in statistics, one course in food systems economics and management or public affairs management. Interdepartmental with and administered by Public Affairs Management. Interpretation and use of statistical results in decision making. Sampling, index numbers, tabular analysis, trend estimation, regression models, decision theory.

412. Financing the Food System
Winter. 3(3-0) FSM 330 or PAM 340.

417. Land Economics

418. Livestock Product Marketing
Spring. 4(4-3) ANS 110, FSM 200. Interdepartmental with and administered by the Department of Animal Science. Structure and product values in livestock marketing channels. Field study analysis of alternative marketing strategies, futures marketing, and the components of the livestock marketing chain. Field trips required.

421. Public Policy and the Food System
Winter. 3(3-0) FSM 200 or EC 201, PAM 320 recommended.
Policy issues identified and analyzed in relation to performance goals of society and groups within the food system. Emphasis on price and income policies and regulations affecting the food system.
Description — Agricultural Economics of Courses

430. Advanced Food Production Management
Fall, Winter. 3(3) MTA 335. Interdepartmental with and administered by the Department of M. Marketing and Transportation Administration. Special emphasis on the future marketing environment. Applications to changing social, economic and internal company environment. Student interaction with industry, labor and government representatives. Field trips, special projects.

439. Advanced Food Processing and Distribution Management
Fall. 3(3-0) FSM 412. Administration.

441. Commodity and Futures Marketing
Spring. 3(3-0) STT 301, EC 201; FSM 370 or STT 317 recommended. Commodity pricing and use of marketing alternatives. Special emphasis on the futures markets and the institutional arrangements useful to farmers, elevator operators and commodity traders.

443. Cooperatives: Group Action in Marketing
Spring. 3(3-0) EC 201 or EC 202, Juniors or approval of department. Organization and operation of cooperatives. Emphasis on economics, legal foundations, and feasibility of cooperatives and other forms of group action in the U.S. food system.

460. Regional Economics

461. Regional Economics Laboratory

462. Agriculture and Rural Development in Developing Nations
Fall. 3(3-0) PAM 201 or EC 201; PAM 280 recommended. Interdepartmental with Public Affairs Management and Agriculture and Natural Resources. Traditional agricultural systems and the incentive environment for economic growth in rural areas. Adjustment to technological, institutional and human change. Strategies for rapid agricultural transformation.

480. Independent and Supervised Study
Fall. Winter, Spring, Summer. 4 to 9 credits. May reenroll for a maximum of 6 credits. Approval of department.

484. Selected Topics
Fall, Winter, Spring. 1 to 4 credits. May reenroll for a maximum of 12 credits if different topics are taken. Approval of department.

Public Affairs Management PAM

201. Introduction to Community Economics
Fall, Spring. 3(3-0) Identification and analysis of problems faced by public decision makers in managing public revenues and services and governing private resource use. Impact of political and economic structures on resource use.

260. World Food, Population and Power
Winter. 3(3-0) Description, analysis and alternative solutions of food, technology transfer, population and poverty problems, emphasizing trade and aid programs and the role of multinational firms in low income nations.

306. Government Programs for Workers
Winter. Spring. 4(4-0) EC 201, Interdepartmental with and administered by the Department of Economics. Economic policies of selected government institutions and programs for workers. Social security, worker's compensation, unemployment insurance, OSHA, employment and training programs, wages and hours legislation, anti-discrimination programs.

320. Economic Policy Processes I
Fall. 3(3-0) PAM 201 or EC 201. Analysis of processes by which public economic policy is established at various levels of government. Role of economic interests and pressures. Alternative processes for economic policy formulation. Case studies.

321. Economic Policy Processes II
Winter. 3(3-0) PAM 305 or approval of department. Analysis of socioeconomic forces as they affect the public decision process for economic policy. Means of increasing effectiveness of staff persons in the decision process. Case studies.

340. Managerial Economics
Spring. 3(3-0) EC 201. Production, consumption decisions and their interrelation. Pricing of market and non-market goods. Effects of monetary and fiscal policies. Applications to problems in food system or community management.

363. Economic Development of Tropical Africa
Spring. 3(3-0) EC 201, EC 202 or EC 210. Interdepartmental with and administered by the Department of Economics. African economic development in historical perspective. Analysis of contemporary economic development problems faced by tropical African countries. Alternative strategies for African economic development.

370. Applied Statistics
Winter. 3(3-0) One course in statistics, one course in food systems economics and management or public affairs management. Interdepartmental with Public Affairs Management and Agriculture and Natural Resources. Interpretation and use of statistical results in decision making. Sampling bias, nonlinear regression models, decision theory.

404. Social Accounts and Community Choice
Winter. 3(3-0) PAM 303 or approval of department. Social accounting as a framework for program evaluation and measurement of policy effectiveness. Conceptualization of social accounts. Use of selected social indicators in policy formulation and decision making.

406. Public Expenditure: Theory and Policy
Fall. Spring. 4(4-0) EC 201 or EC 210. Interdepartmental with and administered by the Department of Economics. Public expenditure theory: objectives and rationale of government activity in the market system; efficiency criteria in government decision making; planning, programming, budgeting systems and cost-benefit analysis.

417. Land Economics

431. Law and Social Change
Fall. Spring. 3(3-0) GBL 430 or approval of department. Interdepartmental with and administered by the Department of Resource Development. Law as applied to urban and rural context of social change. A review of both formal and informal aspects of system accessibility, institutional formation, government, civil rights, and human service.

432. Women and Work: Issues and Policy Analysis
Winter. 3(3-0) PAM 201 or EC 201 or EC 202 or approval of department. Interdepartmental with the Department of Economics. Quantity and quality of labor force participation by women, current status and past trends. Issues analyzed include differential earnings and occupations of men and women, employment discrimination and labor legislation.

460. Regional Economics
Winter. 4(4-0) R D 417 or EC 324. Interdepartmental with Food Systems Economics and Management and the departments of Economics and Resource Development. Administered by the Department of Resource Development. Forces affecting location decisions of firms, households and governments. Applications to agricultural, industrial, and regional development.

461. Regional Economics Laboratory