

Agricultural Economics—AEC

- 885 Leadership in Natural Resources and Environmental Management**
Fall. 3(3-0) Interdepartmental with Fisheries and Wildlife; Forestry; Park, Recreation and Tourism Resources. Administered by Department of Fisheries and Wildlife.

Theory and practice of leadership in natural resource and environmental management. Integration across disciplinary and jurisdictional divisions.

- 890 Independent Study**
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 8 credits in all enrollments for this course. R: Open only to graduate students in Agricultural Economics. Approval of department.

Independent study of selected topics in agricultural economics.

- 891 Topics in Agricultural Economics**
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 12 credits in all enrollments for this course.

Selected topics in analytical methods, agri-food systems economics and management, and agricultural and natural resource development and policy.

- 898 Master's Research**
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to master's students in the Agricultural Economics major. Approval of department.

Master's degree Plan B research.

- 899 Master's Thesis Research**
Fall, Spring, Summer. 1 to 6 credits. A student may earn a maximum of 99 credits in all enrollments for this course. R: Open only to master's students in the Agricultural Economics major. Approval of department.

Master's thesis research.

- 923 Advanced Environmental and Resource Economics**
Fall. 3(3-0) Interdepartmental with Economics; Forestry; Park, Recreation and Tourism Resources; Resource Development. RB: (AEC 829 and EC 812A)

Advanced economic theory of environmental management and policy. Treatment of externalities and market and non-market approaches to environmental improvement. Topics in conservation and sustainable economic growth. Applications to research and policy.

- 925 Advanced Natural Resource Economics**
Spring. 3(3-0) Interdepartmental with Forestry; Resource Development; Park, Recreation and Tourism Resources; Economics. RB: (EC 812A and AEC 829 and FOR 866) SA: AEC 991H

Economic theory of managing nonrenewable and renewable resources, including optimal use, the incentives for use under decentralized markets, and public policy design. Analysis of the co-evolution of economic and ecological systems.

- 930 Dynamic Analysis in Agriculture and Natural Resources**
Spring. 3(3-0) RB: (EC 801 and EC 812A) R: Open only to Ph.D. students in the College of Agriculture and Natural Resources or College of Business or College of Social Science or approval of department. SA: AEC 991E

Methods of dynamic optimization and their application to agricultural and natural resources problems. Discrete time dynamic programming, calculus of variations, and discrete time maximum principle.

- 932 Information Economics and Institutions in Agriculture and Natural Resources**
Fall. 3(3-0) RB: (AEC 800 or AEC 810 or AEC 841) and (EC 812A and EC 812B) R: Open only to Ph.D. students in the Colleges of Agriculture and Natural Resources or Business or Social Science.

Applications to issues in agriculture, agribusiness, the food system, natural resources, and the environment. Asymmetric information, incomplete markets, principal/agent issues, transaction costs, and the design of contracts and other institutions.

- 977 Professional Practice in Agricultural Economics**
Spring. 3(3-0) R: Open only to Ph.D. students in the Department of Agricultural Economics or Department of Economics. SA: AEC 947

Matching appropriate tools to applied problems in agricultural and resource economics. Individual and team preparation, under tight deadlines, of professional analyses and oral presentations for diverse audiences. Use of peer review.

- 978 Research Methodologies in Agricultural and Resource Economics**
Spring. 3(3-0) R: Open only to Ph.D. students in the College of Agriculture and Natural Resources or College of Business or College of Social Science. SA: AEC 991F

Alternative research philosophies, types of knowledge, and kinds of research. Critical appraisal of facts, theories, and values in economic research. Testing and communication of research results. Development of a research proposal.

- 991 Advanced Topics in Agricultural Economics**
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 12 credits in all enrollments for this course. R: Open only to Ph.D. students in the colleges of Agriculture and Natural Resources, Business, and Social Science; or with department approval.

Advanced topics such as price analysis, finance, risk and modeling techniques, agri-food systems, environmental economics and management, and agricultural and natural resource development and policy.

- 999 Doctoral Dissertation Research**
Fall, Spring, Summer. 1 to 24 credits. A student may earn a maximum of 99 credits in all enrollments for this course. R: Open only to Ph.D. students in Agricultural Economics. Approval of department.

Doctoral dissertation research.

AGRICULTURAL AT TECHNOLOGY

Institute of Agricultural Technology College of Agriculture and Natural Resources

- 290 Independent Study in Agricultural Technology**
Fall, Spring, Summer. 1 to 4 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to freshmen or sophomores in the Institute of Agricultural Technology.

Supervised individual study on experimental, theoretical or applied topics related to agricultural science and technology.

- 291 Selected Topics in Agricultural Technology**
Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to freshmen or sophomores in the Institute of Agricultural Technology.

Selected topics of current interest in agricultural science and technology.

- 293 Professional Internship in Agricultural Technology**
Fall, Spring, Summer. 3 to 6 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Open only to freshmen or sophomores in the Institute of Agricultural Technology.

Supervised professional experience in agencies, business and industry related to a student's major field of study.

AGRICULTURAL ATM TECHNOLOGY AND SYSTEMS MANAGEMENT

Department of Biosystems and Agricultural Engineering College of Agriculture and Natural Resources

- 150 Metal Fabrication Technology**
Fall. 2(1-2)
Physical principles and safety techniques for electric and gas welding. Soldering, brazing, cutting, tool use, machine shop equipment use, and hot and cold metalworking.

- 195 National Electrical Code Review**
Fall. 3(3-0) RB: (AE 094 or BCM 230) SA: AE 095
Electrical installation problems. Principles of and compliance with the National Electrical Code.

- 240 Machine Systems and Management**
Spring. 3(2-2) P: (CSE 101 or CSE 131 or AT 090)
Principles, analysis, performance, operation, and management of agricultural machines.