494. Systems of Agricultural Machines  
Fall. 4(3-2) 353.  
Systems of machines used in field and farmstall operations. Engineering principles for machines dealing with biological materials.

804. Agricultural Mechanization in Developing Countries  
Spring. 3(3-0) Approval of department.  

805. Environmental Measurements  
Fall. 3(2-2)  
Methods and techniques for accurate measurement and interpretation of environmental parameters. Temperature, humidity, wind and air flow characteristics, radiation, light intensity, gaseous and particulate concentrations in atmospheric microclimates will be discussed.

811. Technical Problems  
Fall, Winter, Spring, Summer. 1 to 4 credits. May re-enroll for a maximum of 9 credits.

812. Bio-Processing Engineering  
Winter. 3(3-0) Approval of department.  
Topics will be presented pertaining to thermal dynamics, heat and mass transfer, thermal processing, fluid flow, dehydration and freeze-drying of biological products or biological processes.

814. Physical Properties of Agricultural Products  
Winter. 2(2-0) Approval of department.  
Physical and mechanical behavior of fruits and vegetables, forages, grains and other agricultural products under constant and dynamic loading. Related to design parameters for production, handling and processing machinery.

815. Instrumentation for Agricultural Engineering Research  
Fall. 3(3-0)  
Theory, method and techniques of measuring temperature, pressure, flow, humidity, and moisture for biological materials. Associated recording and indicating equipment.

820. Research Methods in Agricultural Engineering  
Fall. 3(2-0)  
Discussion of procedure for initiating, developing, carrying out, and completing research projects.

822. Seminar  
Spring. 1(1-0)  

840. Advanced Power and Machinery  
Spring. 3(2-2) 493, 494.  
Analysis of agricultural machine components and systems. Emphasis on hydraulic power transmission, controls, and management of machinery systems.

899. Research  
Fall, Winter, Spring, Summer. Variable credit. Approval of department.

900. Advanced Topics in Agricultural Engineering  
Fall, Winter, Spring. 3(3-0) May re-enroll for a maximum of 9 credits. Approval of department.  
New developments in agricultural engineering. Subjects to be covered include atmospheric turbulence, agricultural systems, measurement systems, food engineering, and agricultural microbiology.

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

AGRICULTURE AND NATURAL RESOURCES  

401. Agriculture and Natural Resources Communications  
Water, Spring. 3(2-2) JRN 201 or other writing course and approval of department.  
Techniques, strategies and practices in development of agricultural and natural resources information programs, including writing, public relations, TV and radio production for specialized and general audiences.

402. Agriculture and Natural Resources Communications Internship  
Fall, Winter, Spring, Summer. 1 to 6 credits. May re-enroll for a maximum of 6 credits. 401, approval of college.  
Internship with professionals in communications field with emphasis on student's areas of interest—writing, radio, TV, publications, etc.

450. United States Agriculture for Overseas Students  
Fall. 3(3-0) Advanced undergraduate or graduate students from countries other than the United States or Canada.

462. Rural Transformation in Developing Societies  
Fall. 3(3-0) PAM 201 or RC 201; PAM 260 recommended. Interdepartmental with Public Affairs Management and Food Systems Economics and Management.

475. International Studies in Agriculture and Natural Resources  
Summer. 3 to 9 credits. Approval of the college. Interdepartmental with Natural Resources.

Winter. 3(4-0)  
For course description, see Interdisciplinary Courses.

489. Research  
Fall, Winter, Spring, Summer. Variable credit. Approval of department.

866. Rural Development Administration II  
Spring. 3(3-0)  
Interdepartmental with and administered by the Department of Agricultural Economics. Comparative analysis of major cases of intensive, purposeful change in less developed countries with emphasis on economic, administrative, political and other relevant factors which help explain program or policy effectiveness.

880. Soils and Land Use in Tropical and Subtropical Regions  
Spring. 3(3-0) Approval of department. Interdepartmental with and administered by Soil Science.

American Thought and Language — Descriptions of Courses