

**PACKAGING**

**PKG**

**College of Agriculture and Natural Resources**

**210. Principles of Packaging**

Fall, Winter, Spring, Summer. 3(3-0)

A general course in packaging principles covering the growth and development of the field, and the technological and motivational problems involved in present day packaging. Consideration will be given to the basic functions of the package and their relation to the needs and wants of our society.

**320. Packaging Materials**

Fall, Winter. 4(4-0) PKG 210, PHY 237, CEM 130.

Common packaging materials including wood, paper, paperboard, plastics, metal foils and sheets, glass, adhesives, cushioning media; their basic properties in relation to performance of package.

**330. Package Printing**

Winter. 3(3-0) PKG 320 or approval of school.

Basic printing processes used for packaging materials. Advantages, disadvantages and identification of these printing methods.

**340. Packaging and the Environment**

Winter. 4(4-0)

Broad study of the effects of packaging on environmental quality, including solid waste, air and water quality, laws, economics, energy considerations and resources conservation.

**422. Packaging Systems**

Winter, Spring. 4(4-0) PKG 320 or approval of school.

Design, use and evaluation of packages and packaging systems. A one-day field trip is required.

**423. Dynamics of Packaging**

Spring. 4(3-3) PKG 422 or approval of school.

A study of the protective function of the packaging systems in relation to their environment and shock and vibration isolation methods. A one-day field trip is required.

**424. Packaging Problems**

Fall, Winter, Spring, Summer. 1 to 3 credits. May reenroll for a maximum of 9 credits. PKG 422, 2.50 grade-point average and approval of school.

Development of solutions to specific packaging problems.

**425. Packaging Process Analysis**

Fall, Spring. 4(4-0) PKG 422.

The integrated study of the operation structure and control of the packaging and package-making process. A one-day field trip is required.

**427. Packaging Materials and Systems Laboratory**

Fall, Winter, Spring. 4(2-6) PKG 320, PKG 422 or approval of school.

Methods of measuring properties of packaging materials. Design, manufacture and performance testing of complete packages. Techniques for evaluating test results. Value of various test methods.

**428. Packaging Development**

Fall, Spring. 4(3-2) PKG 427, CPS 110.

Seniors.

Development of packages to meet present-day requirements of protection and merchandising.

**429. Packaging Economics**

Winter. 3(3-0) PKG 422, EC 200, AFA 201 or approval of school.

Examination of economic issues in packaging as they relate to policies of the firm and of government. Relationships between economic policy and social issues.

**430. Packaging Machinery**

Spring. 4(4-0) PKG 422 or approval of school.

The components for automated packaging lines, and auxiliary materials handling equipment, including consideration of design, selection, specification and operation of machinery for the package-making and package-filling operations. One-day field trip required.

**440. Special Topics**

Fall, Winter, Spring, Summer. 1 to 4 credits. May reenroll for a maximum of 12 credits if different topics are taken. Juniors or approval of school.

**463. Seminar**

Fall. 2(0-4) Senior Majors.

Discussions on current packaging problems.

**801. Packaging Systems**

Fall. 4(3-3)

Analysis of various existing packaging systems; problem solving exercises.

**820. Permeability and Shelf Life**

Winter. 4(3-3) PKG 422, MTH 113, CPS 110 or approval of school.

Comprehensive study of the relationship of the storage life of packaged food and agricultural products and the gas, moisture, and vapor permeability of packages in various environments. Computer aided package design.

**822. Seminar**

Fall. 1(1-0) Approval of department.

Discussions of recent advances in packaging and reports by graduate students and faculty on research problems. Field trips required.

**834. Special Investigations in Packaging**

Fall, Winter, Spring, Summer. Variable credit.

**840. Selected Topics**

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

**899. Master's Thesis Research**

Fall, Winter, Spring, Summer. Variable credit. Approval of school.

**PARK AND RECREATION RESOURCES**

**PRR**

**College of Agriculture and Natural Resources**

**IDC. Resource Ecology and Man**

For course description, see Interdisciplinary Courses.

**300. Wilderness Survival**

Fall, Winter, Spring, Summer. 4(3-0)

Outdoor skills for utilization of plant and animal materials to provide shelter, fire, signals, water and food in the outdoors. Psychology and attitudes conducive to wilderness survival and appreciation. Field trip required.

**301. Wilderness Survival (TV)**

Fall, Winter, Spring, Summer. 3(3-0) Credit may not be earned in both PRR 300 and PRR 301.

A television lecture course dealing with the principles and attitudes necessary to promote survival in a wilderness setting.

**302. Environmental Attitudes and Concepts**

Fall. 3(3-0)

Beliefs and attitudes toward land by primitive man and ancient civilizations. Effects of Muir, Thoreau, and others on man/land relationships. Industrialism and environmental quality. Current environmental controversy. Field trip required.

**304. Designs for Recreation: Nature and Man**

Fall, Spring. 3(3-0) Approval of department.

Design strategies are used to demonstrate relationships between characteristics of the environment and man's use of it. Integration of work, leisure, and recreation uses within environmental potentials and limits is emphasized.

**344. Leisure and Recreation Resources**

Fall, Spring. 3(3-0)

Leisure in relation to park and recreation resources. History and philosophy, significance in modern society, and impact on urban and natural resource developments.

**351. Environmental Interpretation I: Principles**

Fall, Winter. 3(3-0)

Philosophy, needs, types, and uses of information services in private, municipal, county, state and federal park and recreation areas. The role of the park interpreter (naturalist).

**440. Park and Recreation Administration**

Winter, Spring. 4(4-0)

Park and recreation organization, administration and policy at municipal, county, and regional level. Field trip required.

**442. State and Federal Recreation Resource Policy**

Winter. 3(3-0)

Origin, development and significance of public policy in recreation resource development in the United States with emphasis at state and federal levels. Field trip required.