PACKAGING

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 710, PHY 237, CEM 130.
Common packaging materials including wood, paper, paperboard, plastics, metallic 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.

430. 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 retake 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 packaging-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.

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(3-0) 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 retake 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 retake for a maximum of 12 credits if different topics are taken. Approval of department.

889. Master's Thesis Research
Fall, Winter, Spring, Summer.
Variable credit. Approval of school.

PARK AND RECREATION RESOURCES

College of Agriculture and Natural Resources

1DC. Resource Ecology and Man
For course description, see Interdisciplinary Courses.

300. Wilderness Survival
Fall, Winter, Spring, Summer 3(3-0)
Outdoor skills for utilization of plant and animal materials, and for survival in the wilderness. Techniques of utilizing natural resources for cooking, shelter, fires, and for survival in the outdoors. Includes foraging, animal and plant identification, and Sharpening skills in wilderness survival. Field trip required.

301. Wilderness Survival (TV)
Fall, Winter, Spring, Summer 3(1-0)
Credit may not be earned in both PRR 300 and PRR 301.
A television course dealing with the principles and attitudes necessary to promote survival in a wilderness setting.

302. Environmental Attitudes and Concepts
Fall 3(3-0)

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.