

**Descriptions – Packaging  
of  
Courses**

**810. Advanced Packaging Materials**  
*Spring. 3(2-2) PKG 427 or approval of department.*

Physical and chemical properties of packaging materials. Relationship between properties of materials and performance of packages.

**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. 1 to 4 credits. May reenroll for a maximum of 8 credits. Approval of school.*

**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.*

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

History of development of attitudes and values about the environment in western civilization. Wilderness, environmentalism, environmental quality, economic development, conservation. Environmental perception and environment-behavior relationships.

**304. Recreation Planning and Design**  
*Fall, Spring. 3(3-0) Approval of department.*

Basic planning and design concepts applied to recreation areas, facilities, and programs. Planning process, public involvement, population and resource analysis, aesthetic and functional considerations in park design.

**310. Camp Counseling**  
*(HPR 300.) Spring. 3(2-3)*

Orientation and preparation for job. Organization of activities and special programs. Group leadership responsibilities. Development of camp counseling techniques.

**313. Recreation and Youth Organization Programs**  
*(HPR 303.) Winter. 4(4-0) Sophomores.*

Development and conduct of special recreation events in community and youth organization programs including civic and youth centers, agency operation, adult and senior citizen activities.

**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).

**362. Introduction to Therapeutic Recreation**  
*(HPR 362.) Fall. 3(3-0) Recreation major or approval of department.*

Philosophical and theoretical foundations of therapeutic recreation, overview of populations, type and nature of settings and services and information related to concepts of delivery and resources available.

**370. Playground and Day Camp Administration**  
*(HPR 370.) Winter, Spring. 3(3-0) Approval of department.*

Organization and administration of playground and day camp programs; equipment and areas, supplies and maintenance; staff selection and training; policies, records and legal responsibilities.

**400. Camp Administration**  
*(HPR 400.) Fall. 3(3-0) PRR 310 or approval of department.*

Organization and administration of public, semipublic, and private camps; their program requirements and standards. Equipment, camp sites, budgets, and staff.

**401. Organization and Administration of Community Recreation**  
*(HPR 401.) Winter, Spring. 3(3-0) PRR 370, PRR 422, HPE 404.*

Development of the recreational movement in respect to leisure time. Community recreation programs. State and national acts. Principles and practices in recreational administration.

**402. Student Leadership in Recreation**  
*(HPR 402.) Summer. 3 to 6 credits. May reenroll for a maximum of 6 credits.*

Student will act as a camp counselor or playground leader under supervision at an approved camp or playground. Reports required of student periodically.

**403. Fieldwork in Park and Recreation**  
*Fall, Winter, Spring. 1 to 8 credits. May reenroll for a maximum of 8 credits. Approval of department.*

Fieldwork course in which student acts as a leader under supervision in community park and recreation programs.

**422. The Theory and Philosophy of Recreation**  
*(HPR 422.) Fall, Winter, Spring. 3(3-0)*  
Philosophy and psychology of play. Types of play program, program building, the play teacher.

**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.

**444. Park and Recreation Area Design**  
*Fall, Winter. 4(2-4) PRR 304; HRT 211 or HRT 212, or BOT 318 or approval of department.*

Planning and design principles of space, scale, and circulation applied to the use of park and recreation areas and facilities. Field trip required.

**445. Comprehensive Recreation Planning**  
*Fall, Winter. 4(4-0) EC 200, PRR 344 or approval of department.*

Comprehensive planning techniques for recreation resources at national, state, and local levels. Supply-demand analysis, forecasting, impact assessment, survey methods and citizen input for recreation system planning.

**446. Park Area Operations**  
*Winter, Spring. 3(3-0) Approval of department.*

Problems in operations and maintenance of park and recreation areas and facilities. Personnel practices, budgeting, and maintenance schedules. Selection and adaptability of maintenance equipment. Field trip required.

**PARK AND RECREATION  
RESOURCES PRR**

**College of Agriculture and Natural  
Resources**

**201. Social Recreation and Game Leadership**  
*(HPR 201.) Fall. 3(2-3) Approval of department.*

Methods, materials, and practice in conducting party programs, indoor games, and celebrations for large and small groups. Games using special equipment commonly employed in resorts and community centers.

**300. Wilderness Survival**  
*Fall, Winter, Spring, Summer. 3(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.

**448. Field Studies in Park Administration**  
*Fall. 3 credits. Approval of department.*

Investigation and analysis of outstanding park and recreation programs. Visits to areas under local, state, and federal jurisdiction. Evaluation of administrative practices, area management, and operation policies. Conducted as a traveling class with agency assistance.

**449. Recreation Land Management**  
*Winter. 3(3-0) Not open to majors.*

Fundamentals of outdoor recreation resource management. Planning, development, and administration of programs and facilities.

**450. Natural Resource Administration**  
*Winter. 4(4-0) Seniors; not open to forestry majors. Interdepartmental with Agriculture and Natural Resources and the departments of Fisheries and Wildlife, Forestry, and Resource Development. Administered by the Department of Forestry.*

Concepts and methods of administering wild-land properties. The legal, economic and social environment. Benefit-cost analysis of management changes. Unit organization, personnel management and accounting. Presents a systems view of administration.

**451. Environmental Interpretation II: Methods and Devices**  
*Spring. 4(4-0) PRR 351.*

Methodology and equipment used in information transmission in natural, historic, and scenic areas. Site selection and development criteria for natural resource interpretation.

**452. Sky Interpretation**  
*Spring 3(2-2) PRR 351 or approval of department.*

Observations of celestial objects and phenomena; past and present concepts of the sky; and procedures and materials for interpreting the sky.

**455. Natural Resource Economics**  
*Fall. 4(4-0) Approval of department. Interdepartmental with Agriculture and Natural Resources and the departments of Fisheries and Wildlife, Forestry, and Resource Development. Administered by the Department of Forestry.*

Basic economic and political principles and techniques that govern the production and consumption of forest land products, including basic forest valuation procedures.

**467. Principles of Therapeutic Recreation**  
*(HPR 447.) Winter. 3(3-0) PRR 362.*

Basic principles and procedures related to the planning, conducting and evaluation of Therapeutic Recreation services. Activity analysis, assessment and treatment plans are presented in depth.

**468. Techniques in Therapeutic Recreation**  
*(HPR 448.) Spring. 3(2-2) PRR 467.*

Presentation of a variety of instructional, intervention and interaction techniques used when working with special populations in recreation.

**469. Professional Issues and Trends in Therapeutic Recreation**  
*(HPR 449.) Winter. 2(2-0) PRR 468.*

Concepts of professionalism including current trends and issues, ethical and organizational considerations. Interpretation of the field and procedures of employment will be covered.

**470. Commercial Recreation Enterprises**  
*Fall. 4(4-0) EC 201; AFA 202 or approval of department.*

The planning, design, impact, and natural resource base of privately-owned outdoor recreation businesses.

**471. Recreation Products Consumption**  
*Winter. 4(4-0) PRR 470 recommended; EC 201, AFA 202, or approval of department.*

Recreation, economic and personality theories of consumption. Specific recreation product industry case studies.

**480. Supervised Study**  
*Fall, Winter, Spring, Summer. 1 to 4 credits. May reenroll for a maximum of 10 credits. Approval of department.*

Seminars on current problems. Supervised readings. Individual undergraduate research on selected topics.

**484. Senior Proseminar**  
*Winter. 1(1-0) Senior majors.*

Seminars on current professional problems and literature.

**495. Recreation Management Practicum**  
*(HPR 495.) Fall, Winter, Spring, Summer. 12(1-34) to 18(1-52) Senior recreation major and approval of department. Prerequisite courses dependent upon recreation emphasis.*

Application of academic experiences to a professional recreation setting through an extended period of placement. Incorporating leadership, planning, organization, and evaluation of programs within the professional recreation setting.

**801. Dimensions of Recreation and Leisure**  
*Fall. 3(3-0) PRR 344 or approval of department.*

Concepts of recreation and leisure in the United States and their implications for professional development. Extensive reading into concepts, definitions, values, educational components and historic roots of recreation and leisure.

**840. Recreation Economics**  
*Spring. 4(4-0) FOR 809 or approval of instructor. Interdepartmental with the departments of Forestry and Resource Development.*

Applications of economic analysis to recreation resource problems including measurement of demand and supply, valuation of recreation resources, determination of economic impact, economic decision making and policy considerations.

**842. Park and Recreation Policy**  
*Winter. 3(3-0) Interdepartmental with the Department of Resource Development.*

Recreation, leisure and work concepts. Determination of needs for recreation facilities. Factors affecting public and private allocation of resources for provision of needed facilities.

**844. Recreation Research Methods**  
*Winter. 4(4-0) Approval of department.*

Relate recreation research to broader context of social scientific investigation and to the nature and philosophy of social scientific research. Examine the theoretical and methodological approaches in recreation research.

**846. Urban and Regional Recreation Resource Planning**  
*Fall. 4(4-0) Approval of department.*

Evaluation and application of recreation planning techniques at urban and regional levels. Analysis of programs, policies, land areas, facilities, and populations as they pertain to leisure service delivery systems.

**848. Recreation Resource Law**  
*Spring. 3(3-0)*

Legal basis for public recreation. Methods of acquiring recreational resources, including contracts and condemnation procedures. Administrative problems, including zoning, liability, civil rights and law enforcement. Study of cases and statutes.

**850. Development of Water Recreation Resources**  
*Winter. 3(3-0) Approval of department.*

Administration, research, design, and construction of water recreation facilities. Policy issues, use conflict, and fiscal planning reviewed in light of interagency relationship and legislative mandate.

**871. Selected Topics**  
*Fall, Winter, Spring, Summer. 1 to 4 credits. May reenroll for a maximum of 12 credits. Approval of department.*

Selected topics in recreation resource planning, administration, management, policy, and research.

**880. Special Problems**  
*Fall, Winter, Spring, Summer. 1 to 6 credits. May reenroll for a maximum of 10 credits. Approval of department.*

Advanced work for non-thesis projects or advanced individual study in recreation: policy, land use, planning, systems administration and management, economics, recreation forestry, commercial recreation enterprises, recreation and social problems, environmental interpretation, travel and touring, spatial analysis, leisure concepts, research.

**899. Master's Thesis Research**  
*Fall, Winter, Spring, Summer. Variable credit. Approval of department.*

**999. Doctoral Dissertation Research**  
*Fall, Winter, Spring, Summer. Variable credit. May reenroll for a maximum of 36 credits. Approval of department.*

## **PATHOLOGY**

## **PTH**

### **College of Human Medicine College of Osteopathic Medicine College of Veterinary Medicine**

**404. General Pathology**  
*Fall, Spring. 5(3-6) ANT 420, Junior Medical Technology majors, or approval of department. Interdepartmental with and administered by Medical Technology. Approved through Winter 1984.*

**410. General Pathology**  
*Spring. 3(3-0) ANT 316; PSL 432 or concurrently. Interdepartmental with and administered by Medical Technology.*  
Features of lethal and sublethal cell injury and inflammation and repair process. Definition of the major causes of pathologic change with a consideration of specific associated diseases.