### 901. Internship

Fall, Winter, Spring, (H E 901.) Summer. 3 to 5 credits. May re-enroll for a maximum of 9 credits. Approval of depart-

Supervised advanced graduate practicums, observation, internships, and externships in the various areas of emphasis.

# 902. Independent Study in Family Ecology

(H E 902.) Fall, Winter, Spring, Summer. 1 to 5 credits. May re-enroll for a maximum of 9 credits. Approval of department.

Study on an individual basis.

### 903. Seminars in Family Ecology

(H E 903.) Spring, Summer. 2 or 3 credits. May re-enroll for a maximum of 9 credits. Approval of department.

Seminars in selected topics.

# History and Philosophy of Home Management

(FCS 932.) Fall. Summer of evennumbered years. 3(2-0)

History and development of home management as a field of study. Values and decision-making as analyzed by various disciplines and as used in home management.

## 933. Apprentice Experience in Home Management Residence

(FCS 933.) Fall, Winter, Spring. 437 and approval of department.

Experience in presenting home management as a resident course. Each student works with one home management group. Limited to a few well-qualified students.

### 999 Research

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

# FISHERIES AND WILDLIFE

F W

# College of Agriculture and Natural Resources

# 200. Resource Ecology and Man For course description, see Interdisci-

plinary Courses.

202. Soils and Man's Environment Winter. 3(3-0) Interdepartmental with Resource Development Department, Natural Resources, and Soil Science and administered by Soil Sciences.

Use of soil-water resources in a technological society as it relates to environmental quality, Nature of pollution problems and their possible solutions. Food production and world population.

## 301. Fish and Wildlife of North America

Winter. 5(3-4) N S 192 or B S 212. Comparative study of fish and wildlife groups in North America, their significant life history stages, morphology, migrations, habitats and populations. Common species are identified in the laboratory.

## 305. Management of Fish and Wildlife Resources

Winter, 3(3-0) IDC 200 or other

Effects of regulations, refuges, stocking, species introductions, habitat manipulation, artificial

feeding, genetic improvement, land use, ecological research and control of predators, diseases and competitors in the production of fish and

### 374. Biological Oceanography

(474.) Winter. 3(3-0) N S 193 or B S 212.

Biology of marine animals, with emphasis on physical, chemical and biological factors affecting their abundance and distribution.

# Conservation Education

Fall, Winter, Spring. 4(3-2) Elementary education Juniors.

Nature, distribution, abundance and interrelationships of natural resources. Biological and physical components of field, range, forest, and aquatic associations. Includes techniques of teaching about the environment.

### 403. Conservation Education

Spring, 4(3-2) Elementary education iuniors.

A continuation of 402. Special emphasis afforded lakes, streams, and wetlands.

### 404. Fisheries and Wildlife Problems

Fall, Winter, Spring, Summer. 1 to 5 credits. May re-enroll for a maximum of 12 credits. B S 212; 6 credits of fisheries and wildlife; approval of department.

To give undergraduate majors an opportunity to study special topics in fisheries and wildlife.

# Wildlife Population Analyses

Spring. 4(3-2) 305 or approval of department.

Population mensuration; reproductive and survival rates; sex and age determination; handling and marking methods.

## 425. Wildlife Habitat Analyses

Spring. 4(2-4) BOT 450 or ZOL 389 or FOR 220.

Evaluation of environmental factors affecting wildlife species; food and cover measurements. Determination of limiting factors.

## 426. Ecology of Migratory Birds

Fall. 4(2-4) ZOL 461 or approval of department.

Ecological, behavioral, and physiological characteristics affecting population parameters of migratory birds and applications of these relationships to the management of migratory wildlife resources.

# Wildlife Biology and 427. Management

Winter. 4(2-4) 424; ZOL 389 or BOT 450.

Ecology and management of resident wildlife on farm, forest and range lands.

# Natural Resource Administration Fall, Winter. 4(4-0) Interdepart-

mental with the Forestry, Park and Recreation Resources, and Resource Development Depart-ments and administered by the Forestry De-

Concepts and methods of economics and administration and application of techniques to management of wildlands.

### 471. Ichthyology

Spring. 3(2-3) ZOL 305 or 315. Interdepartmental with the Zoology Department. Classification and natural history of fishes. Emphasis on food, game, and forage fishes.

# Fishery Biology and Management

Fall. 5(3-3) ZOL 471.

Biology of fishes with special reference to dis-

tribution and natural history, and application of this knowledge to problems of obtaining maximum return from fishery resources.

## 476. Limnology

Winter. 3(3-0) B S 212. Interdepartmental with the Zoology Department. Ecology of lakes and streams with special reference to physical, chemical, and factors affecting their productivity.

# Limnological Methods

Winter. 3(0-9) 476 concurrently; ZOL 481; ENT 301, 302 recommended. Interdepartmental with the Zoology Department, Methods and instruments of limnological field investigation on lakes and streams,

## 484. Advanced Conservation Education

Fall of odd-numbered years. 4(3-2) Approval of department.

Designed for secondary teachers. Areas of outdoor education, school camping, recreation, biology teaching and camp counseling. This course will offer both content and methods applicable to people working in specified types of jobs.

## 80I. Seminar in Fisheries and Wildlife Fall, Winter, Spring. 1(1-0)

Graduate problems and current developments of importance.

### 802. Advanced Topics

Fall, Winter, Spring, Summer. 1 to 6 credits. May re-enroll for a maximum of 15 credits. Approval of department.

Study of selected advanced topics in detail and depth.

#### 899. Research

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

### 999 Research

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

# FOOD SCIENCE AND **HUMAN NUTRITION\***

# College of Agriculture and Natural Resources College of Human Ecology†

# Food Science

FSC

## 211. Introduction to Food Science Spring. 3(3-0)

Modern food processing, world food problems, and the basic characteristics of processed foods.

## 242. Meats, Poultry and Fishery Products I

Fall. 3(2-2) Interdepartmental with the Animal Husbandry Department.

Principles of evaluation and nutritive value. Identification of grades and cuts of beef, pork, lamb and poultry products.

### 300. Dairy Products I

Spring. 3(2-2)

Composition, use, classification and market grades, methods of storage and factors affecting keeping quality of dairy products.

\*Named changed October 17, 1970. Formerly Food Science and Human Nutrition and Foods. †Named changed July 1, 1970. Formerly College of Home Economics.