

825. Methods of Teaching Adults
(H E 825, ED 828A.) Spring of even-numbered years. 3(3-0) Approval of department.

Developmental needs of adults and changes in society affecting families as a basis for development of adult programs in homemaking education. Experiences will be provided with programs in progress.

826. Supervision
(H E 826, ED 837B.) Winter of odd-numbered years; Summer of even-numbered years. 3(3-0) Approval of department.

Objectives, techniques, and organization of supervising teaching in teacher education programs.

827. Evaluation
(H E 827, ED 868.) Winter, Summer. 3(3-0) Approval of department.

Evaluation procedures and practices for various levels of educational programs in the area of human ecology.

830. Individual Readings
Fall, Winter, Spring, Summer. Variable credit. Approval of department.

831. Values and Family Behavior
Winter of even-numbered years. Summer of odd-numbered years. 4(4-0) Approval of department.

Role and function of values as fundamental to understanding behavior in the family. Cognition and actualization of values. Resolution of value conflicts. Conceptual and methodological approaches to study of values.

832. Theories of Management and Decision-Making in the Family
(FCS 832.) Winter of odd-numbered years. 4(2-1) 331.

Comparative study of conceptual frameworks of family decision-making and of interrelated decisions, including both individual and social choices.

835. Family As an Ecosystem
Fall. 3(3-0) Approval of department.

Family viewed as an ecosystem. Emphasis placed on energy and communication cycles within the family. Integration of management, family dynamics and developmental concepts.

837. Allocation of Family Resources
(FCS 837.) Spring of even-numbered years. Summer of odd-numbered years. 4(4-0) 437, 438.

Contributors to and recipients of family resources both human and non-human. Patterned use of resources and the effect of definite factors such as standard of living on those patterns.

838. Analysis of Family Income
(FCS 838.) Spring of odd-numbered years. Summer of even-numbered years. 3(3-0) 438.

Forms of family income and economic problems relative to the protection of family economic security through insurance and investments, property rights and descent of property, and estate planning.

840. Workshops in Family Ecology
(H E 830.) Summer. 2 to 10 credits. May re-enroll for a maximum of 10 credits. Approval of department.

Laboratory approach which provides opportunities for experienced educational personnel to concentrate their study on common professional problems.

841. Seminars in Home Economics Education

(H E 831.) Spring, Summer. 2 or 3 credits. May re-enroll for a maximum of 9 credits. Approval of department.

Seminars in selected topics.

842. Laboratory and Field Experience
(H E 832.) Fall, Spring. 4 credits.

Approval of department.
Supervised graduate practicums, observation, internships, and externships.

843. Independent Study in Family Ecology

(H E 833.) Fall, Winter, Spring, Summer. 1 to 5 credits. May re-enroll for a maximum of 9 credits. Approval of department.

Study on an individual or group basis.

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

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

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.

932. History and Philosophy of Home Management

(FCS 932.) Fall. Summer of even-numbered 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.

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

545. Principles of Family Medicine I
Spring. 3(3-0) Admission to medical school and approval of department.

Clinical medicine which is specific in content for the practice of family medicine.

555. Principles of Family Medicine II
Summer. 4(4-0) Admission to medical school and approval of department.

Continuation of 545.

620. Special Problems
Fall, Winter, Spring, Summer. 1 to 6 credits. May re-enroll for a maximum of 24 credits. Approval of department.

Individual or group projects on special problems related to family medicine.

630. The Osteopathic Examination I
Winter. 1(0-2) Admission to medical school and approval of department.

Instruction in the osteopathic examination.

632. Principles of Family Practice I
Winter. 1(0-4) Admission to medical school and approval of department.

Placement of the student in a family physician's office or clinic.

640. The Osteopathic Examination II
Spring. 1(0-2) Admission to medical school and approval of department.

Continuation of 630.

642. Principles of Family Practice II
Spring. 1(0-4) Admission to medical school and approval of department.

Continuation of 632.

650. The Osteopathic Examination III
Summer. 1(0-2) Admission to medical school and approval of department.

Continuation of 640.

652. Principles of Family Practice III
Summer. 1(0-4) Admission to medical school and approval of department.

Continuation of 642.

660. The Osteopathic Examination IV
Fall, Winter. 1(0-2) Admission to medical school and approval of department.

Continuation of 650.

662. Principles of Family Practice IV
Fall. 1(0-4) Admission to medical school and approval of department.

Continuation of 652.

665. Principles of Family Medicine III
Fall. 4(4-0) Admission to medical school and approval of department.

Continuation of 555.

670. The Osteopathic Examination V
Spring, Summer. 1(0-2) Admission to medical school and approval of department.

Continuation of 660.

672. Principles of Family Practice V
Winter. 1(0-4) Admission to medical school and approval of department.

Continuation of 662.

675. Principles of Family Medicine IV
Winter. 4(4-0) Admission to medical school and approval of department.

Continuation of 665.

FAMILY MEDICINE* F M

College of Osteopathic Medicine

530. Physical Examination Skills
Fall. 2(1-2) Admission to medical school and approval of department.

Introductory course in physical examination skills used in the family physician's office. The lecture relates principles of physical examination to the laboratory where skills are taught.

*Established July 1, 1973. Formerly Department of Community and Family Medicine.

**Descriptions — Family Medicine
of
Courses**

680. The Osteopathic Examination VI
Spring. 1(0-2) Admission to medical school and approval of department.
Continuation of 670.

682. Principles of Family Practice VI
Spring. 1(0-4) Admission to medical school and approval of department.
Continuation of 672.

685. Principles of Family Medicine V
Spring. 4(4-0) Admission to medical school and approval of department.
Continuation of 675.

690. The Osteopathic Examination VII
Summer. 1(0-2) Admission to medical school and approval of department.
Continuation of 680.

692. Principles of Family Practice VII
Summer. 1(0-4) Admission to medical school and approval of department.
Continuation of 682.

695. Principles of Family Medicine VI
Summer. 4(4-0) Admission to medical school and approval of department.
Continuation of 685.

**FISHERIES AND
WILDLIFE**

F W

**College of Agriculture and
Natural Resources**

**100. Introduction to Fisheries and
Wildlife**
Fall. 1(1-0)

Fisheries and wildlife as a profession. Academic and curricular needs to meet professional objectives, using current management problems as a focus for discussion.

IDC. Resource Ecology and Man

For course description, see Interdisciplinary 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 Science.

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) B S 212 or approval of department.

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. Principles of Fisheries and
Wildlife Management**
Spring. 3(3-0) IDC 200 or approval of department. Not open to majors in fisheries-limnology or wildlife-ecology options.

Ecological concepts in management. Effects of regulations, refuges, stocking, species introduction, habitat manipulation, artificial feeding, genetic improvement, land use and control of predators, diseases and competitors on the production of fish and game.

328. Vertebrate Pest Control
Fall. 3(3-0) B S 212 or approval of department.

The role wild animals play as a damaging agent to man's interests; the concepts of damage and control; damage control techniques. Field trip.

340. Wildlife Biometry
Winter. 4(3-2) MTH 111, six credits in Fisheries and Wildlife.

Survey of statistical formulas, methods and applications of statistics to problems in fisheries and wildlife.

374. Biological Oceanography
Winter. 3(3-0) B S 212 or approval of department.

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

**402. Environmental Conservation
Education**
Fall, Winter, Spring, Summer. 4(3-2) Education majors or approval of department.

Nature, distribution and interrelationships of natural resources dictating the quality of man's environment. Principles of resource use, study of natural objects and techniques of teaching in and about the environment.

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.

420. Ecology of Animal Parasites
Summer. 6 credits. B S 212 or approval of department. Given at W. K. Kellogg Biological Station. Interdepartmental with the departments of Microbiology and Public Health and Zoology and administered by the Department of Microbiology and Public Health.

Parasitism of animals by protozoa, helminths and arthropods with emphasis on the interrelationships of host-parasite associations with the natural environments.

424. Wildlife Population Analyses
Spring. 4(3-2) IDC 200 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.

**427. Wildlife Biology and
Management**
Winter. 4(2-4) 424; ZOL 389 or BOT 450.

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

450. Natural Resource Administration
Fall, Spring. 4(4-0) Interdepartmental with Forestry, Parks and Recreation Resources and Resource Development Departments and Natural Resources. Administered by the Forestry Department.

Concepts and methods of administering wildland 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.

471. Ichthyology
Spring. 3(2-3) 301 or ZOL 305 or 314. Interdepartmental with Zoology Department.

Classification and natural history of fishes. Emphasis on food, game, and forage fishes.

**473. Fishery Biology and
Management**
Fall. 5(3-3) ZOL 471.

Biology of fishes with special reference to distribution and natural history, and application of this knowledge to problems of obtaining maximum return from fishery resources.

475. Fish Culture
Spring. 3(3-0) 473.

Artificial propagation of freshwater fish including hatchery management, nutritional and environmental requirements, disease and parasite control and intensive fishery management. Utilization of hatchery stock in fisheries management.

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 biological factors affecting their productivity.

477. 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. Outdoor Environmental
Education**
Fall. 4(3-2) Juniors or approval of department.

Using the outdoors as a teaching laboratory for ecological studies of plant and animal communities. Designed primarily for secondary teachers.

**485. Environmental Conservation
Program Design**
Winter. 3(3-0) Seniors or approval of department.

Materials and methods for integrating environmental conservation into educational programs in schools, nature centers, youth groups and communities.

**486. Field Techniques in
Environmental Conservation
Education**
Spring. 4(1-6) 484.

Field skills for secondary and environmental education majors, including photography, orienteering, and population investigations of area flora and fauna in natural communities. Field trips required.

801. Seminar in Fisheries and Wildlife
Fall, Winter, Spring. 1(1-0)

Graduate problems and current developments of importance.