438. Taxonomy of Immature Insects
Spring of even-numbered years. 4(1-9)
ENT 418
Identification of immature insects with particular emphasis on the Holometabola.

440. External Morphology of Insects
Fall. 4(2-6) ENT 301, ENT 302, or approval of department.
Morphological concepts of external skeletal parts of insects. Emphasis on evolutionary development of structures from the Apterygota through the Pterygota.

444. Insect Ecology
Fall of odd-numbered years. 3(3-0)
One course in introductory entomology. Unique characteristics and principles of insect ecology. Trophic relationships, populations, climate, co-existence, competition, behavior, communities and distributions.

450. Insect Physiology
Fall. 5(3-4) ENT 301, ENT 302; 1 biochemistry or physiology course; 1 year of chemistry including 1 term of organic. General and comparative physiology of insects, treating molecular, tissue and organ function. Laboratory exercises emphasizing mastery of sound experimental procedures.

455. Toxicology of Insecticides
Winter of odd-numbered years. 4(4-0) 1 term organic chemistry. Properties of insecticides. Mode of action, metabolism and movement in animals. Safety and potential hazards to man and wildlife. Fates of insecticides in the environment.

460. Medical Entomology
Spring. 4(3-3) ENT 301, ENT 302, or approval of department. Distribution and biology of important arthropod vectors of diseases to man, disease symptoms, life cycle of the infectious agent, reservoirs, urticating arthropods, anaphylactic reactions, myiasis, and prophylactic measures.

470. Nematode Diseases of Economic Plants
Winter 4(3-4) B S 212 or BOT 205. Interdepartmental with the Department of Botany and Plant Pathology. Major nematode diseases of economically important plants, with emphasis on diagnostic symptoms, nematode biology and principles of control.

490. Topics in Entomology
Fall, Winter, Spring, Summer. Variable credit. Majors or approval of department. Advanced work in medical entomology, acarology, advanced forest entomology, soil arthropods, behavior and biological control.

812. Graduate Seminar Topics
Fall, Winter, Spring. 1(1-0) May reenroll if different topic is taken. Graduate students and approval of department. Graduate level seminars on current research and philosophy. Student participation required.

815. Biological Control
Spring of even-numbered years. 3(2-3)
Approval of department. Properties of entomophagous species; relationships to population ecology and systematics; foreign exploration, colonization, manipulation, and evaluation; interactions with pesticides, analysis of successful programs, and future trends. Collection for taxonomic lab to be made the summer before.

820. Applied Insect Ecology
Winter of odd-numbered years. 3(2-3) Approval of department.
Ecolgical factors in an insect's ecosystem that can be manipulated for the purpose of pest management. Critical evaluation of current and classical literature presented by students in both oral and written reports.

833. Principles of Taxonomy
Spring of odd-numbered years. 3(3-0)
Taxonomy of insects and entomology, scientific classification, evolutionary relationships, family identification keys, and nomenclature, and their emendations.

871. Biology of Nematodes
Spring. 4(2-6) ENT 470 or approval of department. Interdepartmental with the Department of Botany and Plant Pathology. Ontogeny, taxonomy, morphology, pathology and ecology of nematodes, with special reference to plant-parasitic and phytopathogenic species.

881. Biology of the Arthropoda
Winter. 5(3-6) ZOL 461 or approval of department. Interdepartmental with and administered by the Department of Zoology. Ecology, life cycles, morphology, taxonomy, and distribution of arthropods other than insects.

920. Problems
Fall, Winter, Spring, Summer. 1 to 6 credits. May reenroll for a maximum of 12 credits. Majors or approval of department. Advanced individual work in agriculture, aquatic insects, insect biochemistry, biosystematics, economic insects, insect ecology, forest insects, morphology, nematology, insect physiology, plant disease transmission, insect toxicology, araneida, acarina, medical entomology, chemistry of insecticides, insect biology, extension entomology, systems.

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

Family and Child Ecology – Descriptions of Courses

FAMILY AND CHILD ECOLOGY

118. Family Resources
(F E 118.) Fall, 3(2-2)
Skill development in identification, description and classification of human and non-human family resources on a historical and cross-cultural basis.

145. The Individual, Marriage and the Family
(FCS 145.) Fall, Winter, Spring. 4(4-0) Students may not receive credit in both FCE 145 and S W 228.

200. Ecological Approach to Family and Health
(F E 200.) Fall, Winter, 2(2-0) Sophomores. Not open to HEC majors.
Use of the human ecosystem perspective to study people and their various environments with focus on family and health support systems.

221. The Role of the Helping Professions and Organizations in Community Services
(IDC 221., F E 221.) Fall, Winter, Spring. 4(4-0) Interdepartmental with and administered by the Department of Urban and Metropolitan Studies.
Analysis of human and community needs; review and examination of existing and emerging resources to meet those needs; role of professionals and volunteers in providing community and human services.

238. Personal Finance
(F E 238.) Fall, Winter, Spring. 3(3-0)
Strategies, techniques and resources useful in the management of personal finance.

255. Family and Individual Development: Life Cycle
(FCS 255.) Winter, Spring. 3(3-0) Three terms of natural science; sophomores.
Overview of family development. Predictable individual developmental changes over the life span. Cognitive, moral, physical, psychological and social aspects. Interface between individual and family development.

262A. Child Growth and Development: Conception through Early Childhood
(FCS 262A) Fall, Winter, Spring. 3(3-0) Sophomores, PSY 170 or PSY 170 or ED 200; FCE 262B concurrently.
Physical, cognitive, social, and emotional aspects of human growth and development from conception through early childhood.

262B. Child Growth and Development Laboratory
(FCS 262B.) Fall, Winter, Spring. 3(3-0) FCE 262A concurrently or approval of department.
Observation of human development in infants and young children.
Descriptions – Family and Child Ecology of Courses

263. Children, Youth and the Family (FCS 345, FCS 263.) Fall, Winter, Spring. 3(3-0) Sophomores; SOC 241 or FCE 145 or FCE 263A; or approval of instructor. A family systems perspective of middle childhood, adolescence, and youth development is presented, incorporating childhood through launching stages of family development. Interaction of parents, children and socio-cultural factors are analyzed.

332. Theory and Application of Home Management (F E 332.) Fall, Winter, Spring. 4(2-4) Juniors and HEC 301 or concurrently; or approval of instructor. Principles of effective home management and their application in a living situation.

340. Instruction in Human Ecology for Non-Formal Settings (F E 340.) Fall, Winter, Spring. 3(3-0) Juniors, HEC 301; Dietetic Majors: HNF 320 or concurrently. Theory and practice of instruction in Human Ecology with specific application to non-formal environments. For majors in Dietetics and Community Services and other majors in human ecology.

364A. Interacting with Young Children in Child Development Centers (FCS 364., FCS 364A.) Fall, Winter, Spring. 3(3-0) FCE 262A, FCE 262B each with a minimum grade of 2.0; FCE 364B concurrently. Application of principles of human growth and development to personal interaction with children ages three to six individually and in small groups in schools of early childhood.

364B. Interacting with Young Children–Laboratory (FCS 364.) Fall, Winter, Spring. 1(0-3) FCE 364A or concurrently. FCE 262A, FCE 262B each with a minimum grade of 2.0. Experience in interaction with children ages two to six years, individually and in groups in a child development center.

369A. Learning Activities for Early Childhood Programs (FCS 369A.) Fall, Spring. 3(0-3) Majors: FCE 262A, and FCE 262B, FCE 364A and FCE 364B each with a minimum grade of 2.0; FCE 364B concurrently. Others: approval of department. Planning learning activities and teaching strategies for children ages 3 to 6 in early childhood education programs.

369B. Learning Activities for Early Childhood Programs–Laboratory (FCS 369B.) Fall, Spring. 1(0-3) FCE 369A concurrently and approval of department. Experience in planning and carrying out learning activities with young children in an early childhood program.

400H. Honors Work (FCS/EE 400H) Fall, Winter, Spring. Variable credit. May reenroll for a maximum of 16 credits. Seniors; approval of department.

404. Home as a Learning Center Fall. 3(3-0) Seniors or approval of department. Learning processes and resource use in home settings. Exploration of linkages between the informal educational system and formal and non-formal systems.

408. Workshop in Family Ecology (F E 408) Fall, Winter, Spring. 3(3-0) or 4(4-0) May reenroll for a maximum of 12 credits. Seniors. Current issues of concern to professional family ecologists.


464. Problems in Teaching in a Child Development Center (FCS 464A.) Fall, Winter, Spring, Summer. 2(0-0) FCE 464A or FCE 464C or concurrently. Analysis of problems in teaching in an early childhood program. Application of child guidance techniques and principles.

464A. Practicum in a Child Development Center (FCS 464A.) Fall, Winter, Spring, Summer. 7(0-21) FCE 364A, FCE 364B each with a minimum grade of 2.0; FCE 464 concurrently. Advance application required. Not open to students with credit in FCE 464C. A directed practicum in planning, implementing and evaluating the learning environment in a class of young children during an entire term.

464C. Practicum in a Child Development Center (FCS 464C.) Fall, Winter, Spring, Summer. 4(4-0) FCE 364A, FCE 364B each with a minimum grade of 2.0, FCE 464 concurrently. Advance application required. Not open to students with credit in FCE 464A. A directed practicum in planning, implementing and evaluating the learning environment in a class of young children. For experienced teachers.

467. Administration of Child Development Centers (FCS 467.) Spring. 3(3-0) FCE 464A, FCE 464B or concurrently, or approval of department. Administrator’s role in child development centers. Application of child care, administration and management and communication skills to operation of early childhood education programs. Federal, state, and local regulations and support services.

468. Teacher-Parent Interaction (FCS 468.) Fall, Winter, Spring. 3(3-0) FCE 464, FCE 464B concurrently; or approval of department. Credit may not be earned in both FCE 445 and PSY 290. Analysis of parent-teacher communication and interaction, parent involvement, and parent education related to early childhood education programs operated by schools, churches, or community agencies. Field experience when feasible.

469. Selected Topics in Family Ecology (F E 469) Fall, Winter, Spring. 3(3-0) or 4(4-0) May reenroll for a maximum of 12 credits. Seniors. Current issues of concern to professional family ecologists.

470. Current Issues in Family and Child Sciences (FCS 470.) Winter, Spring. 3(3-0) FCE 464A, or Seniors, or approval of department. Analysis of current events, issues, of legislation which has bearing on homes, families and children and children’s programs. Implications for professional decisions and actions.

479. Adult Development and The Family: Adult Middle Years Winter. 3(3-0) A course in human development or approval of department. Adult development and the relationships of middle aged individuals in their personal, family, work, and societal environments.
480. Adult Development and the Family: The Aging Years (FCS 480) Fall, Spring. Summer of odd-numbered years. 4 (3-1) Introductory sociology or psychology or a course in human development.
Social-psychological-biological development and socialization for roles in later years. Generational relationships, societal influences. Case study approaches involving interaction with an adult or family in later years.

495. Independent Study (FCS 495) Fall, Winter, Spring. Semester 1 to 12 credits. May reenroll for a maximum of 12 credits. Approval of department. Study of a selected topic under the guidance of a faculty member.

498. Field Study (FCS 498) Fall, Winter, Spring. Semester 2 (2-8) to 16 (8-42) May reenroll for a maximum of 16 credits. Approval of department. Preprofessional experience in community, governmental or business sponsored organization related to student's program. Student analysis of learning experiences required.

800A. Seminar in Family Ecology (F E 800A) Fall, Winter, Spring. Summer of even-numbered years. 3 (3-0) May reenroll for a maximum of 12 credits. Approval of department.

801. Seminar in Family Life (FCS 801A, FCS 801) Fall, Winter, Spring. 3 (3-0) May reenroll for a maximum of 12 credits. Approval of department.

802. Seminar in Child Development (FCS 802B, FCS 802) Fall, Winter, Spring. 3 (3-0) May reenroll for a maximum of 12 credits. Approval of department.

804. Human Resource Development in Family (F E 804) Winter. Summer of odd-numbered years. 3 (3-0) EC 200, EC 201; FCE 444.

810. Workshop (FCS 810) Summer. 2 to 10 credits. May reenroll for a maximum of 10 credits. Approval of department. Content varies depending on nature of workshop.

IDC. Aging and Communication
For course description, see Interdisciplinary Courses.

813. Special Studies in Family Life (FCS 813B, FCS 813) Fall, Winter, Spring. Semester 1 to 4 credits. May reenroll for a maximum of 12 credits. Approval of department.

819. Theories of Child Development (FCS 862, FCE 879) Fall. 3 (3-0) FCE 262A or child psychology.
Comparative study of conceptual frameworks utilized in child development.

820. Human Development in the Family: Physiological Development (FCS 820) Fall. 4(4-0) Six credits in child development or approval of department. Selected aspects of family members' physiological potential, development, status explored. Family's contributions to members' physiological potential for growth and development and to realization of human potential are seen as fundamental.


822. Human Development in the Family: Socialization (FCS 822) Spring. 4(4-0) Basic course in sociology; 6 credits in child development or family life or approval of department. Influence of family structure and interaction upon socialization from infancy to adulthood. Relationship of family to processes in larger social environment, and influence of these on human social development.

823. Curriculum (F E 823) Summer. 3 (3-0) Approval of department. Clarification and use of a rationale in curriculum development. Special problems in application.

824. Programs in Home and Family Life Education (F E 824) Winter. 3 (3-0) Approval of department. Develops depth in home and family living courses offered in secondary school programs.

825. Methods of Teaching Adults (F E 825) Spring. 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. Leadership in Home Economics Education (F E 826) Fall. 3 (3-0) Approval of department. Inquiry into the process of becoming a change agent in various educational settings related to home economics. Leadership principles, current role and responsibilities of leaders in home economics, communication techniques and organizational principles.

827. Evaluation (F E 827) Summer. 3 (3-0) Approval of department. Evaluation procedures and practices for various levels of educational programs in the area of human ecology.

828. New Developments (F E 822) Fall. Odd-numbered years. 3 (3-0) ED 436. Trends in the field of family ecology and the relevance to current social needs.

830. Individual Readings (FCS/F E 830) Fall, Winter, Spring. Variable credit. Approval of department.

831. Values and Family Behavior (F E 831) Winter. 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 (F E 832) Spring. Summer of even-numbered years. 3 (3-0) Approval of department. Comparative study of conceptual frameworks of family decision-making and management, including social, economic and technical decision domains.

835. Family Ecosystems (F E 835) Fall, Spring. Summer of even-numbered years. 3 (3-0) Approval of department. Family viewed from an ecosystems perspective. Emphasis placed on energy and communication cycles within the family. Integration of management, family dynamics and developmental concepts.

837. Allocation of Family Resources (F E 837) Spring. 4(4-0) Odd-numbered years. Six credits. FCE 457, FCE 458. 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 (F E 838) Spring. Summer of odd-numbered years. 3 (3-0) FCE 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. Topics in Child Development (FCS 840) Fall. Variable credit. 3 (3-0) May reenroll for a maximum of 6 credits if different topic is taken. A child growth and development course. In-depth analysis of a selected topic pertinent to the care and education of young children in child development centers.

841. Early Childhood Education: Curricular Approaches (FCS 841) Spring. 3(3-0) FCE 262A or a child growth and development course. Exploration of theoretical background and content of curricular approaches in early childhood programs. Analysis and evaluation of early childhood curricular materials. Experience in designing and sequencing activities for young children.

842. Assessment of Development of the Young Child (FCS 842) Fall. 3 (3-0) A child growth and development course. Survey of assessment instruments and procedures for children from birth to age seven. Techniques for practitioner or parent to use to assess physical, social, emotional and intellectual development.
844. Play and Human Development
(FCS 843.) Winter of odd-numbered years. 3(3-0) One course in child development or human development.
Role of play in human development. Functions of play related to other aspects of development. Analysis of theory related to play behavior.

845. Child Development Across Cultures
Spring of odd-numbered years. 3(3-0) Approval of department.
Development of children in cultures throughout the world. Biological, ecological, and social factors influencing behavior of children and their families. Impact of rapid social changes.

846. Approaches to Child Rearing
Spring. 3(3-4) One course in child development or family development or approval of department.
Child rearing and parental practices based on various theoretical models.

847. Parent Education: Programs and Processes
Winter. 3(3-0) FCE 845 or approval of department.
Materials and approaches to parent education. Application of teaching strategies and evaluation techniques will be made by designing an educational program for parents.

850. Aging in the Family
(FCS 850.) Fall. 3(3-0) FCE 480 or approval of instructor.
Provides students with a knowledge and understanding of the literature in aging in the family and develops an appreciation of the interrelationships involved in this multidisciplinary area.

851. Death, Dying, and the Family
(FCS 831.) Spring. 3(3-4)
Theoretical frames of reference for viewing death within families and strategies designed to assist them.

852. Communication and Family Crisis
(FCS 852.) Winter. 3(3-0) Approval of department.
Dynamics of family communication and adjustment to crisis during the life cycle. Delineation of major types of family crises and their consequences. Strategies for positive communication and resolution.

853. Developing Family Competencies
Fall. 3(3-0) FCE 444 or approval of department.
Identification, clarification and application of concepts, principles, processes and interactive skills effective in maintaining and enhancing the quality of family relationships. Focus is on developing family strengths.

854. Research Literature in Family Relationships
(FCS 854.) Winter. 4(4-0) FCE 444, FCE 446 and basic research methods course or approval of department.
Historical overview and current developments in research in family relationships, with emphasis on theoretical basis and critical issues.

855. Topics in Family Relationships
(FCS 855.) Fall. 2 to 4 credits. FCE 444 or FCE 445 or approval of department.
In-depth analysis of a topic related to the American family as an interactive system within the larger society.

864. Community Systems for Community Development
(FE 814, FE 865.) Winter. 4(3-2) R D
or approval of department. Interdepartmental with and administered by the Department of Resource Development.
Basic systems of the community, their functions and interrelatedness; the family, economic, government, education, and supportive service systems. Field trips required.

865. Community Development Field Study
(FE 815, FE 886.) Spring. 4(2-4) R D
or approval of department. Interdepartmental and jointly administered with the Department of Resource Development.
On-site study of major community systems. Individual or group investigation of community efforts, problems, and opportunities. Field project required.

866. Field Techniques in Family Study
Spring. 3(3-0) FCE 835, FCE 819 or approval of instructor.
Practical experience in problem selection, data collection in a natural family setting, and analysis and presentation of data in research journal format. Field experience with a family required.

894. Field Techniques in Family Study
(FCE 833.) Fall, Winter, Spring, Summer. 4(3-0) FCE 835, FCE 819 or approval of department.
Field experience with a family to develop research skills effective in maintaining and enhancing the quality of family relationships. Focus is on developing family strengths.

901. Internship
(FE 901.) Fall, Winter, Summer. 1 to 5 credits. May reenroll for a maximum of 9 credits. Approval of department.
Supervised advanced practice in observation, internships, and externships in the various areas of emphasis.

902. Independent Study in Family Ecology
(FE 902.) Fall, Winter, Summer, 1 to 5 credits. May reenroll for a maximum of 9 credits. Approval of department.
Study on an individual basis.

903. Seminars in Family Ecology
(FE 903.) Spring, Summer. 2 or 3 credits. May reenroll for a maximum of 9 credits. Approval of department.
Seminars in selected topics.

932. History and Philosophy of Human Ecology
(FE 932.) Fall. Summer of even-numbered years. 3(2-0)
History and development of human ecology as an interdisciplinary field of study. Values underlying the field. Current emphases.

999. Doctoral Dissertation Research
(FE 998.) Fall, Winter, Spring, Summer. Variable credit. Approval of department.

FAMILY MEDICINE

College of Osteopathic Medicine

590. Special Problems in Family Medicine
Fall, Winter, Spring, Summer. 1 to 8 credits. May reenroll for a maximum of 24 credits. Approval of department.
Each student will work under direction of a faculty member on an experimental, theoretical or applied problem.

600. Clinical Practicum in Family Medicine
Fall, Winter, Spring, Summer. 2 to 12 credits. May reenroll for a maximum of 48 credits. Grade P in all courses offered in terms 1 through 8 or approval of department.
Opportunity for direct involvement and experience in functioning family practice. Emphasizes patient, office, and personnel management. Provides understanding and consideration of responsibilities encountered in the practice of family medicine.

602. Prison Medicine Clerkship
Fall, Winter, Spring, Summer. 6 credits. May reenroll for a maximum of 12 credits. F M 800.
Clinical experience in primary care in prison setting, delivering health care to incarcerated adult males. Exposure to wide variety of pathology, trauma, and psychological disorders.

620. Directed Studies
Fall, Winter, Spring, Summer. 2 to 24 credits. May reenroll for a maximum of 48 credits. Admission to a college of medicine or approval of department.
Individual or group projects on special problems related to family medicine.

632. Principles of Family Practice I
Winter. 1(0-3) Admission to a college of medicine.
Cognitive material and development of the practicum skills necessary to prepare the student to practice clinical setting.