Descriptions — Osteopathic Medicine of Courses

551. Introduction to Laboratory Medicine
   Winter. 2 credits. ANT 560, BCH 501, PTH 502.
   Introduction to laboratory medicine leading to proficiency in patient evaluation and diagnosis through understanding of common pathologies and basic laboratory procedures in blood, urine and feces analysis.

552. Systems Biology - Integumentary
   A multidisciplinary approach to the integumentary system providing a functional integration of basic science and clinical information.

553. Systems Biology - Nervous System
   Fall. 10 credits. ANT 560, PSL 500A, PTH 502, BCH 502, PTH 502.
   A multidisciplinary approach to the nervous system providing a functional integration of basic science and clinical information.

554. Systems Biology - Cardiovascular
   A multidisciplinary approach to the cardiovascular system providing functional integration of basic science and clinical information.

555. Systems Biology - Respiratory
   A multidisciplinary approach to the respiratory system providing functional integration of basic science and clinical information.

556. Systems Biology - Urinary
   Summer. 1 credit. ANT 560, ANT 565, PSL 500A, MPH 521, BCH 502, PTH 502.
   A multidisciplinary approach to the urinary system providing functional integration of basic science and clinical information.

557. Systems Biology - Gastrointestinal
   A multidisciplinary approach to the gastrointestinal system providing functional integration of basic science and clinical information.

558. Systems Biology - Growth and Development
   Fall. 5 credits. ANT 560, ANT 565, PSL 500A, MPH 521, BCH 502, PTH 502.
   A multidisciplinary approach to growth and development within the field of pediatrics providing functional integration of biological, behavioral and clinical sciences.

559. Systems Biology - Reproductive
   Fall. 7 credits. ANT 560, ANT 565, PSL 500A, MPH 521, BCH 502, PTH 502.
   A multidisciplinary approach to the male and female reproductive system providing functional integration of basic science and clinical information (includes obstetrics and gynecology).

560. Systems Biology - Musculoskeletal
   Fall. 8 credits. ANT 560, ANT 565, PSL 500A, MPH 521, BCH 502, PTH 502.
   A multidisciplinary approach to the musculoskeletal system providing functional integration of basic science and clinical information.

590. Special Problems
   Fall. Winter. Spring. Summer. 1 to 6 credits. May renew for a maximum of 8 credits. Approval of department.
   Each student will work under direction of a faculty member on an experimental, theoretical or applied problem.

600. Ambulatory Care
   Fall. Winter. Spring. Summer. 24 credits. Grade Prerequisite: all courses offered in Terms 1-8 or approval of department.
   A multidisciplinary approach in clinical settings to the ambulatory patient to achieve proficiency in motor skills, aptitudes, comprehension of concepts and principles: patient evaluation, diagnosis, management, and therapy.

614. The Osteopathic Examination I
   Winter, Spring. 1(0-4) OST 533 or approval of instructor.

615. The Osteopathic Examination II
   Spring, Summer. 1(0-4) OST 614 or approval of instructor.
   Introductory clinical course in the application of neuromusculoskeletal assessment, palpatory diagnosis and osteopathic manipulative treatment in ambulatory clinics.

616. The Osteopathic Examination III
   Fall. Summer. 1(0-4) OST 615 or approval of instructor.
   Introductory clinical course in the application of neuromusculoskeletal assessment, palpatory diagnosis and osteopathic manipulative treatment in the hospital setting.

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. Spring. 4(4-0) PKG 210, PHY 237, CEM 141A or CEM 141B, CEM 161, CEM 143.
   Common packaging materials including wood, paper, paperboard, plastics, metal 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(0-0)
   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
   Fall. Winter. Spring. 4(4-0) PKG 320 or approval of school.
   Design, use and evaluation of packages and packaging systems.

423. Dynamics of Packaging
   Fall. Winter. 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 renew 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. Winter. 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(2-4) PKG 426, PKG 422 or approval of school.

428. Packaging Development
   Fall. Winter. Spring. 4(3-3) PKG 427, CPS 115. Seniors.
   Development of packages to meet present-day requirements of protection and merchandising.

429. Packaging Economics
   Winter. 3(3-0) PKG 422, EC 300, 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(4-0) 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.

435. Distribution Packaging
   Fall. Winter. Spring. 3(4-0) EC 200, PKG 422, Juniors or approval of school.
   Interrelationships between packaging and other segments of the distribution system. Market related issues in packaging materials handling, transportation, and inventory control.
840. Food Packaging Systems Spring, 3(3-0) PKG 427 or approval of department. Analysis of various existing packaging systems; problem solving exercises.

841. 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.

842. Permeability and Shelf Life Winter, 4(3-2) PKG 422, MTH 113, CPS 115 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.

843. 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.

844. Special Investigations in Packaging Fall, Winter, Spring, Summer. 1 to 4 credits. May reenroll for a maximum of 8 credits. Approval of department.

845. Selected Topics Fall, Winter, Spring, Summer. 1 to 4 credits. May reenroll for a maximum of 8 credits if different topics are taken. Approval of department.

846. Special Topics Fall, Winter, Spring, Summer. 1 to 4 credits. May reenroll for a maximum of 12 credits if different topics are taken. Juniors or approval of school.

847. Design of Shipping Containers Spring, 3(1-2) PKG 421. Students design, build and test a shipping package system for an industrial product. Lectures by industry personnel on specific shipping container systems not discussed in other packaging courses.

848. Packaging Laws and Regulations Spring, 3(3-0) PKG 422 or approval of school. History and development of packaging laws and regulations. Relationships among law, government regulation and commercial regulation. Effect of current laws and regulations on packaging. Personal liability of the packaging professional.

849. Food Packaging Fall, 1(2-2) PKG 427 or approval of school. Food packaging systems and their relationship to specific products, processes, regulations and equipment.

850. Seminar Fall, 2(0-4) Senior Majors. Discussions on current packaging problems.

851. 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.

852. 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.

853. Camp Counseling and Administration (HPR 360.) Spring, 3(3-0) Camp counseling techniques, leadership roles and responsibilities, campcraft skills, programming camp activities, organization and administration of youth camps.

854. Recreation Program Management (HPR 313.) Winter, Spring, 4(4-0) Recreation Program Management 215. Application of recreation programming and leadership principles to program planning, management and evaluation. Development of recreation programs utilizing leisure education format and small group process.

855. 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.

856. 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.

857. Wilderness Survival (HPR 362.) Fall, Winter, Spring, Summer, 3(3-0) Credit may not be earned in both PRR 300 and PRR 301.