Description — Osteopathic Medicine of Courses

590. Systems Biology · Musculoskeletal
    Summer. 6 credits. ANT 560, ANT 565; PSL 506A; MPH 521; BCH 502; PHM 521; 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 8 credits. May reenroll for a maximum of 32 credits.
    Each student will work under direction of a faculty member on an experimental, theoretical or
    applied problem.

610. Subspecialty Clerkship: Child Psychiatry
    Fall, Winter, Spring, Summer. 4 to 10 credits. PSC 608. Interdepartmental with and administered by
    the Department of Psychiatry. Subspecialty experiences in psychiatry in clinical settings with child
    patients and their families.

614. The Osteopathic Examination I
    Winter, Spring. 1(0-4) OST 533 or approval of instructor.
    Emphasizes continuing development of palpatory diagnostic skills, neuromusculoskeletal
    assessment, selection and utilization of appropriate osteopathic manipulative treatment.

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 PKG

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.

321. Technical Principles for Packaging
    Fall, Winter, Spring. 4(3-2) PKG 210, PHY 237 or approval of school.
    Relationships between package systems and distribution environments. Testing, evaluating and
    predicting package performance under various environmental influences.

330. Package Printing
    Winter. 3(3-0) PKG 321 or approval of school.
    Basic printing processes used for packaging materials. Advantages, disadvantages and identification
    of these printing methods.

331. Plastic and Glass Packaging
    Fall, Winter, Spring. 4(3-2) PKG 321, CEM 143, CEM 161 or approval of school.
    Physical and chemical properties of plastics and glass and their relationship to selection, design,
    manufacture, performance and evaluation of containers systems.

332. Paper and Metal Packaging
    Fall, Winter, Spring. 4(3-2) PKG 321, CEM 143, CEM 161 or approval of school.
    Physical and chemical properties, manufacture, conversion and use of wood, paper, paperboard,
    metals, metal foils and related components. Design, use and evaluation of packages made from
    these materials.

340. Packaging and the Environment
    Winter. 3(3-0)
    Broad study of the effects of packaging on environmental quality including solid waste management,
    air and water quality, laws, economics, energy considerations, resource conservation and
    environmental ethics.

423. Dynamics of Packaging
    Fall, Winter, Spring. 4(3-2) PKG 331, PKG 332 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 reenroll for a maximum of 9 credits. PKG 331, PKG
    332, 2.50 grade point average, approval of school.
    Development of solutions to specific packaging problems.

425. Packaging Process Analysis
    Fall, Winter, Spring. 4(3-2) PKG 331, PKG 332.
    The integrated study of the operation, structure and control of packaging and package-making
    processes. A one-day field trip is required.

428. Packaging Development
    Fall, Winter, Spring. 4(3-2) PKG 423, PKG 425, Seniors.
    Development of packages to meet present-day requirements of protection and merchandising.

429. Packaging Economics
    Winter. 3(3-0) PKG 331, PKG 332, EC 202, ACC 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 331, PKG 332 or approval of school.
    An introduction to the elements of automated packaging lines, auxiliary materials handling equipment,
    including consideration of design, selection, specification and operation of machinery for
    the packaging and packaging-filling operations.

435. Distribution Packaging
    Fall, Winter, Spring. 3(3-0) EC 202, PKG 331, PKG 332, 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.

438. Pharmaceutical Packaging
    Winter. 4(3-2) PKG 331, PKG 332.
    Special requirements for packaging pharmaceuticals and medical devices. Evaluations of pack
    age systems and packaging procedures that meet these requirements.

440. Special Topics (MTC)
    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.

448. Design of Shipping Containers
    Spring. 2(1-2) PKG 443.
    Students design, build and test a shipping packaging system for an industrial product. Lectures by
    industry personnel on specific shipping containers not discussed in other packaging courses.

450. Packaging Laws and Regulations
    Spring. 3(3-0) PKG 331, PKG 332 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.

455. Food Packaging
    Fall. 4(3-2) PKG 331, PKG 332 or approval of school.
    Food packaging systems and their relationship to specific products, processes, regulations and equipment.

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

801. Packaging Systems
    Fall. 4(3-3)
    Analysis of various existing packaging systems: problem solving exercises.

810. Advanced Packaging Materials
    Spring. 3(2-0) PKG 331, PKG 332 or approval of school.
    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 331, PKG 332, MTH 113, CPS 115 or approval of school.
    Comprehensive study of the relationship of the storage life of packaged food and agricultural products
    and their gas, moisture, and vapor permeability of packages in various environments. Computer aided
    packaging design.

822. Seminar
    Fall. 1(0-0) 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 6 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.