532. Comprehensive Patient Evaluation III
   Spring. 4 credits. OST 531.
   Interdepartmental course in physical examination skills. Stresses application of comprehensive, osteopathic evaluation of the patient. Introduction to office procedures and physical diagnosis.

533. Comprehensive Patient Evaluation IV
   Fall. 2 to 6 credits. OST 532.
   Interdepartmental course in physical examination skills. Stresses comprehensive, osteopathic evaluation of the patient. Includes preceptorship and appropriate systems biology clinical experiences.

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 563, PSL 500A, PTH 502, BCH 502, PFM 521, 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
   Summer. 8 credits. ANT 560, ANT 565, PSL 500A, MPH 521, BCH 502, PFM 521, PTH 502.
   A multidisciplinary approach to the respiratory system providing functional integration of basic science and clinical information.

556. Systems Biology — Urinary
   Fall. 7 credits. ANT 560, ANT 565, PSL 500A, MPH 521, BCH 502, PFM 521, 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 systems providing functional integration of basic science and clinical information (includes obstetrics and gynecology).
560. Systems Biology - Musculoskeletal
     Summer. 6 credits. ANT 560, ANT 565; PSh 506A; MPH 521; BCh 552; PHi 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.
     Approval of department.
     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 508, Interdepartment with and administered
     by the Department of Psychiatry.
     Subspecialty experience 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 palpation skill and 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 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 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 231 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 container 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 of paper and metal and their relationship to selection, design,
     manufacture, performance and evaluation of container systems.

340. Packaging and the Environment
     Winter. 3(3-0)
     Broad study of the effects of packaging on environmental quality including solid waste manage-
     ment, 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 321, PKG 329, 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.
     Interrelationships between packaging and other segments of the distribution system. Market
     related issues in packaging: materials handling, transportation, and inventory control.

433. 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.
     Approval of school.

445. Food Packaging
     Fall, Winter, Spring, Summer. 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(2-2) 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, CPM 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.

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.