

## Descriptions —Osteopathic Manipulative Medicine of Courses

### 890. *Independent Study*

Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 22 credits in all enrollments for this course.

R: Approval of department.

Individual or group work related to biomechanics and/or neuromuscular system.

### 899. *Master's Thesis Research*

Fall, Spring, Summer. 1 to 25 credits. A student may earn a maximum of 25 credits in all enrollments for this course.

### 930. *Current Issues in Biomechanical Aspects of Physical Activity*

Spring. 3(3-0) A student may earn a maximum of 9 credits in all enrollments for this course. Interdepartmental with Physical Education and Exercise Science. Administered by Physical Education and Exercise Science.

P: PES 830.

Selected issues of biomechanical analyses of sport and physical activity.

## OSTEOPATHIC MEDICINE OST

### College of Osteopathic Medicine

#### 501. *Clinical Skills I*

Fall. 3(1-4)

R: Graduate-professional students in College of Osteopathic Medicine.

Introduction to osteopathic physical examination.

#### 502. *Clinical Skills II*

Spring. 3(1-4)

P: OST 501. R: Graduate-professional students in College of Osteopathic Medicine.

Continuation of OST 501.

#### 504. *Doctor/Patient Relationship I*

Fall. 1 credit.

R: Graduate-professional students in College of Osteopathic Medicine.

Basics of interpersonal communication related to physician interaction with patients.

#### 505. *Doctor/Patient Relationship II*

Spring. 1 credit.

P: OST 504. R: Graduate-professional students in College of Osteopathic Medicine.

Skills of interviewing patients for the purposes of gathering information, giving information, and patient motivation.

#### 511. *Systems Biology: Neuromusculoskeletal I*

Summer. 7(5-4)

P: ANT 551, ANT 552, OST 501, OST 502, PSL 501. R: Open only to graduate-professional students in College of Osteopathic Medicine. Approval of college.

A multidisciplinary approach to the peripheral neuromusculoskeletal system. Integration of basic science and clinical information with osteopathic manual medicine.

#### 512. *Systems Biology: Neuromusculoskeletal II*

Fall. 6(4-4)

P: OST 511. R: Open only to graduate-professional students in College of Osteopathic Medicine. Approval of college.

A multidisciplinary approach to the neuromusculoskeletal system. Emphasis on the central nervous system. Integration of basic science and clinical information with osteopathic manual medicine.

#### 513. *Systems Biology: Neuromusculoskeletal III*

Spring. 5(3-4)

P: OST 512. R: Open only to graduate-professional students in College of Osteopathic Medicine. Approval of college.

Multidisciplinary approach to the neuromusculoskeletal system. Emphasis on ophthalmology, rheumatology, and orthopedics. Integration of basic science and clinical information with osteopathic manual medicine.

#### 516. *Systems Biology: Behavior I*

Fall. 3(3-0)

P: OST 511, PHM 563. R: Open only to graduate-professional students in College of Osteopathic Medicine.

A multidisciplinary approach to behavior. Focus on normal human development, behavioral and cultural medicine, and medical ethics.

#### 517. *Systems Biology: Behavior II*

Spring. 2(2-0)

P: OST 516. R: Open only to graduate-professional students in College of Osteopathic Medicine.

A multidisciplinary approach to behavior. Focus on psychopathology, chronic illness and disability, health policy and terminal care.

#### 518. *Systems Biology: Behavior III*

Summer. 2(2-0)

P: OST 517. R: Open only to graduate-professional students in College of Osteopathic Medicine.

A multidisciplinary approach to behavior. Focus on substance abuse and child abuse.

#### 519. *Ethics, Policy and Jurisprudence*

Spring. 2(2-0)

R: Open only to graduate and graduate-professional students in the colleges of Osteopathic Medicine, Human Medicine and Nursing or approval of department.

Key issues in ethics, policy and law encountered in the practice of medicine.

#### 521. *Systems Biology: Hematopoietic*

Fall. 2(2-0)

P: ANT 551, ANT 563; BCH 521, MIC 522, PHM 563, PTH 542. R: Open only to graduate-professional students in College of Osteopathic Medicine. Approval of college.

A multidisciplinary approach to the hematopoietic system. Emphasis on hematopoiesis, clotting, and hematopoietic pathologies. Integration of clinical and basic science information.

#### 522. *Systems Biology: Gastrointestinal*

Fall. 6(6-0)

P: ANT 551, ANT 562, BCH 521, MIC 522, PHM 563, PSL 501, PTH 542. R: Open only to graduate-professional students in College of Osteopathic Medicine. Approval of college.

A multidisciplinary approach to the gastrointestinal system emphasizing normal structure and function, and pathologies. Integration of basic science and clinical information.

#### 523. *Systems Biology: Genitourinary*

Summer. 5(5-0)

P: ANT 551, ANT 562, MIC 522, PHM 563, PSL 501, PTH 542. R: Open only to graduate-professional students in College of Osteopathic Medicine. Approval of college.

A multidisciplinary approach to the urinary system. Emphasis on normal structure and function, and pathologies, of the urinary and male reproductive systems. Integration of basic science and clinical information.

#### 524. *Systems Biology: Cardiovascular*

Spring. 7(6-2)

P: ANT 551, ANT 553, BCH 551; MIC 522, PHM 563, PSL 551, PTH 542. R: Open only to graduate-professional students in College of Osteopathic Medicine. Approval of college.

A multidisciplinary approach to the cardiovascular system emphasizing normal structure and function, and pathologies. Integration of basic science and clinical information.

#### 525. *Systems Biology: Respiratory*

Spring. 5(4-2)

P: ANT 551, BCH 521, MIC 522, PHM 563, PSL 501. R: Open only to graduate-professional students in College of Osteopathic Medicine. Approval of college.

A multidisciplinary approach to the respiratory system emphasizing normal structure and function, and pathologies. Integration of basic science and clinical information.

#### 526. *Systems Biology: Integumentary*

Summer. 2(2-0)

P: ANT 551, ANT 562, MIC 522, PHM 563, PTH 542. R: Open only to graduate-professional students in College of Osteopathic Medicine. Approval of college.

A multidisciplinary approach to the integumentary system. Emphasis on diagnosis and treatment of integumentary pathologies. Integration of basic science and clinical information.

#### 527. *Systems Biology: Female Reproductive*

Summer. 5(5-0)

P: ANT 551, ANT 562, BCH 521, MIC 522, PHM 563, PSL 501. R: Open only to graduate-professional students in College of Osteopathic Medicine. Approval of college.

A multidisciplinary approach to the female reproductive system emphasizing normal structure and function, and pathologies. Integration of basic science and clinical information in obstetrics and gynecology.

#### 528. *Systems Biology: Growth and Development*

Summer. 3(3-0)

P: ANT 551, ANT 562, BCH 521, MIC 522, PHM 563, PSL 501; C: OST 546 concurrently. R: Open only to graduate-professional students in College of Osteopathic Medicine.

A multidisciplinary approach to growth and development. Emphasis on normal structure and function, and pathologies. Integration of basic science and clinical information.

#### 529. *Systems Biology: Endocrinology*

Fall. 2(2-0)

P: PSL 501; ANT 553; BCH 551. R: Open only to graduate professional students in College of Osteopathic Medicine. Approval of college.

A multidisciplinary approach to endocrinology. Emphasis on normal endocrine function and the principles of diagnosis and treatment of endocrine disorders. Integration of basic science and clinical information.

#### 535. *Principles of Gerontology for Medical Practice*

Spring. 3(3-0)

R: Open only to graduate-professional students in the Colleges of Osteopathic and Human Medicine or approval of department.

Lectures, readings, tapes, small group seminars, and home visits related to normal aging epidemiology. Major chronic diseases and other issues of geriatric care. SA: CMS 522

#### 541. *Integrative Clinical Correlations I*

Fall. 1 credit.

R: Graduate-professional students in College of Osteopathic Medicine.

Application of basic science information, problem-solving, and clinical skills in an integrated clinical case format. Case presentations by students and faculty.

**542. Integrative Clinical Correlations II**  
Spring, 1(9-2)  
P: OST 541.  
Application of basic science information, problem-solving, and clinical skills in an integrated clinical case format. Case presentations by students and faculty.

**543. Integrative Clinical Correlations III**  
Summer, 1 credit.  
P: OST 542.  
Application of basic science information, problem-solving, and clinical skills in an integrated clinical case format. Case presentations by students and faculty.

**544. Integrative Clinical Correlations IV**  
Fall, 1 credit.  
P: OST 543. R: Approval of college.  
Application of systems biology information, problem-solving, and clinical skills in an integrated clinical case format. Case presentations by students and faculty.

**545. Integrative Clinical Correlations V**  
Spring, 1 credit.  
P: OST 544. R: Approval of college.  
Application of systems biology information, problem-solving, and clinical skills in an integrated clinical case format. Case presentations by students and faculty.

**546. Integrative Clinical Correlations VI**  
Summer, 1 credit.  
P: OST 545. R: Approval of college.  
Application of systems biology information, problem-solving, and clinical skills in an integrated clinical case format. Case presentations by students and faculty.

**551. Issues in Minority Health**  
Fall, Spring, Summer, 3(3-0)  
R: Open only to graduate and graduate-professional students in the Colleges of Osteopathic Medicine, Human Medicine, and Nursing or approval of college.  
Patterns of health and illness in minority populations.  
SA: CMS 515

**590. Special Problems**  
Fall, Spring, Summer, 1 to 24 credits. A student may earn a maximum of 60 credits in all enrollments for this course.  
R: Open only to graduate-professional students in the College of Osteopathic Medicine. Approval of college.  
Individual study directed by a faculty member on an experimental, theoretical, or applied problem.

## OSTEOPATHIC SURGICAL SPECIALTIES OSS

### Department of Osteopathic Surgical Specialties College of Osteopathic Medicine

**512. Biostatistics and Epidemiology**  
Summer, 2(2-0)  
R: Open only to graduate and graduate-professional students in the Colleges of Osteopathic Medicine, Human Medicine, and Nursing or approval of department.  
Medical literature to illustrate statistical reasoning and research design. Emphasis on analysis rather than computation. Prospective or retrospective studies. Sensitivity, specificity, and predictive values. Epidemiologic terminology.  
SA: CMS 512

**590. Special Problems**  
Fall, Spring, Summer, 1 to 24 credits. A student may earn a maximum of 48 credits in all enrollments for this course.  
R: Open only to graduate-professional students in the College of Osteopathic Medicine. Approval of department.  
Each student works under faculty direction on an experimental, theoretical, or applied problem.

**620. Directed Studies**  
Fall, Spring, Summer, 1 to 30 credits. A student may earn a maximum of 48 credits in all enrollments for this course.  
R: Open only to graduate-professional students in the College of Osteopathic Medicine upon completion of Units I and II.  
Individual or group work on special problems in medicine.

**651. Obstetrics and Gynecology Clerkship**  
Fall, Spring, Summer, 1 to 9 credits. A student may earn a maximum of 9 credits in all enrollments for this course.  
R: Open only to graduate-professional students in the College of Osteopathic Medicine upon completion of Units I and II.  
Obstetric patient evaluation and management: motor skills, aptitudes, evaluation of postpartum patient and management of gynecologic problems.

**653. Surgery Clerkship**  
Fall, Spring, Summer, 1 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course.  
R: Open only to graduate-professional students in the College of Osteopathic Medicine upon completion of Units I and II.  
Surgical diagnosis, management, and treatment. Structure developed to achieve proficiency in motor skills, aptitudes, comprehension of concepts and principles, patient evaluation, diagnosis, management, therapy.

**654. Anesthesiology Clerkship**  
Fall, Spring, Summer, 1 to 4 credits. A student may earn a maximum of 4 credits in all enrollments for this course.  
R: Open only to graduate-professional students in the College of Osteopathic Medicine upon completion of Units I and II.  
Motor skills, concepts and principles, patient evaluation, management and therapy.

**656. Orthopedic Clerkship**  
Fall, Spring, Summer, 1 to 20 credits. A student may earn a maximum of 30 credits in all enrollments for this course.  
R: Open only to graduate-professional students in the College of Osteopathic Medicine upon completion of Units I and II.  
Program developed to achieve proficiency in motor skills, aptitudes, comprehension of concepts and principles, patient evaluation, diagnosis, management, and therapy.

**658. Otorhinolaryngology Clerkship**  
Fall, Spring, Summer, 1 to 20 credits. A student may earn a maximum of 30 credits in all enrollments for this course.  
R: Open only to graduate-professional students in the College of Osteopathic Medicine upon completion of Units I and II.  
Develop proficiency in motor skills, aptitudes, comprehension of concepts and principles, patient evaluation, diagnosis, management, and therapy.

## PACKAGING PKG

### School of Packaging College of Agriculture and Natural Resources

**101. Principles of Packaging**  
Fall, Spring, Summer, 3(3-0)  
Packaging systems, materials and forms and their relationship to the needs and wants of society.  
SA: PKG 210

**221. Packaging with Glass and Metal**  
Fall, Spring, 3(3-0)  
P: PKG 101 or concurrently, CEM 141, PHY 231.  
Physical and chemical properties of glass and metals and their applications to packaging.  
SA: PKG 320, PKG 325

**322. Packaging with Paper and Paperboard**  
Fall, Spring, 4(3-2)  
P: PKG 101, CEM 143, PKG 221 or concurrently. STT 200 or STT 201 or STT 315. R: Open only to sophomores or juniors or seniors or graduate students in the School of Packaging.  
Physical and chemical properties, manufacture, conversion, and use of wood, paper, paperboard, and related components in packaging. Design, use, and evaluation of packages.  
SA: PKG 325

**323. Packaging with Plastics**  
Fall, Spring, 4(3-2)  
P: PKG 101, CEM 143, PHY 232, MTH 124, PKG 221 or concurrently. STT 200 or STT 201 or STT 315. R: Open only to sophomores or juniors or seniors or graduate students in the School of Packaging.  
Physical and chemical properties of plastics and their relationship to selection, design, manufacture, performance, and evaluation of packages.  
SA: PKG 320

**330. Package Printing**  
Fall, 3(3-0)  
P: PKG 221. R: Open only to sophomores or juniors or seniors or graduate students in the School of Packaging.  
Methods of printing packages including copy preparation, design, electronic imaging, aesthetics, camera use, and effects of package materials. Production of printed packages including quality control, economics, and environmental considerations.

**370. Packaging and the Environment**  
Spring, 3(3-0)  
P: CEM 141; completion of Tier I writing requirement.  
R: Not open to freshmen and sophomores.  
Effects of packaging on environmental quality. Solid waste. Air and water quality. Laws, economics and energy. Resource use and conservation.

**410. Distribution Packaging Dynamics**  
Fall, Spring, 3(3-0)  
P: PKG 322, PKG 323. R: Open only to sophomores or juniors or seniors or graduate students in the School of Packaging.  
Identification and measurement of hazards in physical distribution. Methods of protection against climate, shock, vibration, and compression.  
SA: PKG 310

**415. Packaging Decision Systems**  
Fall, Spring, 3(2-2)  
P: MTH 116; CPS 101 or CPS 131. R: Open only to sophomores or juniors or seniors or graduate students in the School of Packaging.  
Application of computers to analyze and solve problems in the management, specification, production, and testing of packaging systems.

**432. Packaging Processes**  
Fall, Spring, 4(3-2)  
P: PKG 322, PKG 323. R: Open only to sophomores or juniors or seniors or graduate students in the School of Packaging.  
Integrated study of machines, organization and control of packaging processes. Application of pneumatics, hydraulics and electricity. Interrelationship of product, packaging and machinery.