

**Descriptions—Obstetrics, Gynecology, and Reproductive Biology of Courses**

**609. Advanced Obstetrics and Gynecology Clerkship**

Fall, Spring, Summer. 4 to 6 credits. P: OGR 608. R: Open only to graduate-professional students in College of Human Medicine.

Additional exposure to obstetrics or gynecology in the preceptor mode. Participation in ambulatory and inpatient care including surgery. May include maternal and fetal medicine

**610. Perinatology Clerkship**

Fall, Spring, Summer. 4 to 6 credits. P: OGR 608. R: Open only to graduate-professional students in College of Human Medicine.

Additional exposure to high risk obstetrics including prenatal diagnosis and counseling, antepartum evaluation, and care of the high risk patient. Management of the intrapartum high risk patient.

**611. Reproductive Endocrinology and Infertility Clerkship**

Fall, Spring, Summer. 4 to 6 credits. P: OGR 608. R: Open only to graduate-professional students in College of Human Medicine.

Added exposure to clinical problems in reproductive endocrinology and female infertility primarily in ambulatory setting. Occasional participation in inpatient experiences. Assisted reproductive technologies.

**612. Gynecologic Oncology Clerkship**

Fall, Spring, Summer. 4 to 6 credits. P: OGR 608. R: Open only to graduate-professional students in College of Human Medicine.

Added clinical experience in inpatient and ambulatory gynecologic oncology, breast disease, and complicated benign gynecology in the preceptor mode. Pre-treatment evaluation and cancer management, including surgery.

**633. Extended Clinical Experience**

Fall, Spring, Summer. 6(6-0) P: (OGR 608)

Based in community hospitals and ambulatory sites, this is a 4 week clinical experience emphasizing interviewing skills, history, physical exam, problem solving and therapy.

**637. Core Competencies III**

Spring, Summer. 2 credits. A student may earn a maximum of 6 credits in all enrollments for this course. Interdepartmental with Human Medicine; Family Practice; Medicine; Pediatrics and Human Development; and Surgery. Administered by Human Medicine. P: FMP 602. R: Open only to graduate-professional students in College of Human Medicine.

A weekly seminar addressing core knowledge and skills from an interdisciplinary perspective.

**OSTEOPATHIC MANIPULATIVE MEDICINE**

**OMM**

**Department of Osteopathic Manipulative Medicine  
College of Osteopathic Medicine**

**590. Special Problems in Biomechanics**

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 and 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.

SA: BIM 590

**601. Osteopathic Manipulative Medicine 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.

Advanced training in the diagnosis of musculoskeletal dysfunction and application of osteopathic manipulative techniques.

SA: BIM 601

**620. Directed Studies**

Fall, Spring, Summer. 1 to 30 credits. A student may earn a maximum of 30 credits in all enrollments for this course.

Individual or group work on special problems related primarily to the biomechanics of the musculoskeletal system.

SA: BIM 620

**800. Special Topics**

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

Directed study in topics of biomechanics.

SA: BIM 800

**830. Biomechanical Analysis of Physical Activity**

Fall. 3(2-2) Interdepartmental with Kinesiology; Medicine; Obstetrics, Gynecology and Reproductive Biology; Pediatrics and Human Development; and Surgery. Administered by Kinesiology.

Kinematic analysis of mechanical and anatomical characteristics in physical activity and sport skills.

SA: BIM 830, PES 830

**831. Advanced Biomechanics of Physical Activity**

Spring of even years. 3(2-2) Interdepartmental with Kinesiology; Medicine; Obstetrics, Gynecology and Reproductive Biology; Pediatrics and Human Development; and Surgery. Administered by Kinesiology. P: PES 830.

Kinetic analyses of the performance of physical activity and sport.

SA: BIM 831, PES 831

**841. Theory of Neuromuscular Mechanics**

Fall of even years. 2(2-0)

Neurological control of joint mechanics.

SA: BIM 841

**861. Clinical Biomechanics**

Spring of odd years. 3(3-0)

Application of biomechanics to medicine.

SA: BIM 861

**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.

SA: BIM 890

**899. Master's Thesis Research**

Fall, Spring, Summer. 0(2-2) A student may earn a maximum of 25 credits in all enrollments for this course.

SA: BIM 899

**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 Kinesiology. P: PES 830.

Selected issues of biomechanical analyses of sport and physical activity.

SA: BIM 930, PES 930

**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(0-2) 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(0-2) 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.
- 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(0-2) 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(0-2) 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(0-2) 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(0-2) 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(0-2) 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(0-2) 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

## Descriptions—Osteopathic Medicine of Courses

### 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 College of Osteopathic Medicine. Approval of college.

Individual study directed by a faculty member on an experimental, theoretical, or applied problem.

### 602. Primary Care Ambulatory Clerkship

Fall, Spring, Summer. 1 to 36 credits. A student may earn a maximum of 36 credits in all enrollments for this course. Interdepartmental with Internal Medicine; Osteopathic Surgical Specialties; Pediatrics; Psychiatry; and Family and Community Medicine. P: Successful completion of the preclerkship requirements in College of Osteopathic Medicine Units I and II.

A 24-week ambulatory care continuity experience involving 12 weeks in a multidisciplinary environment (family medicine, pediatrics, and internal medicine), 6 weeks in family medicine and 6 weeks in specialty areas (internal medicine, surgery, and obstetrics and gynecology). Didactic sessions are scheduled concurrently.

## OSTEOPATHIC SURGICAL SPECIALITIES

OSS

### Department of Osteopathic Surgical Specialities 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, OM 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.

SA: OM 590

### 602. Primary Care Ambulatory Clerkship

Fall, Spring, Summer. 1 to 36 credits. A student may earn a maximum of 36 credits in all enrollments for this course. Interdepartmental with Osteopathic Medicine; Internal Medicine; Pediatrics; Psychiatry; Family and Community Medicine. Administered by Osteopathic Medicine. P: Successful completion of the preclerkship requirements in College of Osteopathic Medicine Units I and II.

A 24-week ambulatory care continuity experience involving 12 weeks in a multidisciplinary environment (family medicine, pediatrics, and internal medicine), 6 weeks in family medicine and 6 weeks in specialty areas (internal medicine, surgery, and obstetrics and gynecology). Didactic sessions are scheduled concurrently.

### 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.

SA: OM 620

### 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.

SA: OM 651

### 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.

SA: OM 653

### 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.

SA: OM 654

### 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.

SA: OM 656

### 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.

SA: OM 658

## OFFICE OF THE PROVOST

PRO

### Office of the Provost

### 101. Freshman Seminar

Fall, Spring. 0(1-0) A student may earn a maximum of 2 credits in all enrollments for this course. R: Open only to freshmen. Approval of department.

Introduction to the academic life of the University. Special topics proposed by faculty to engage the interests of new students.

## 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 and CEM 143 and MTH 124 and PKG 221 or concurrently) and (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