

For Classes up to and including the Graduating Class of 2010

First Year

The first year is designed to introduce students to the basic concepts of human anatomy (gross anatomy, neuroscience, histology, and embryology), biochemistry and physiology. Interwoven throughout the curriculum are osteopathic principles and practice, introductions to clinical medicine, physical diagnosis, problem based learning, and preventive medicine and public health.

Introduction to Biochemistry and Tissues (2 units)

The Introduction to Biochemistry portion of the course provides a brief introduction to several key biochemical concepts and processes that are central to organ and cell function. These include: the structure and function of proteins; pH, acids and buffers; general anabolism and catabolism; and the transmission of extracellular signals to bring about intracellular events. The Introduction to Tissues portion of the course provides an overview of basic cell structure. In addition, two basic tissue types will be described: the epithelial and connective tissues. This overview will act as the basis for the more in-depth study of all tissues that will occur as part of the Basic Science Foundation course.

Basic Science Foundations for Osteopathic Medicine 1 (7 units) & 2 (7.5 units)

Basic Science Foundations for Osteopathic Medicine is an integrated basic science course designed to demonstrate the natural relationships of material presented in traditional physiology, biochemistry, and histology courses. The basic principles of all three disciplines are presented, but the material is organized in a unified matrix centered on organ systems. For each organ system the histology, physiology, and biochemistry are described, not as isolated facets, but as thoroughly related properties. The emphasis is on the normal functioning of each system and its relationship to total body function. Some organ pathology is introduced. Principles of osteopathic medicine are applied where applicable within the various organ systems. Organ systems to be covered include nerve/homeostasis, muscle/connective tissue, cardiovascular, liver/nutrition, blood/lymph, respiratory, renal, gastrointestinal, endocrine/reproductive, and molecular aspects of medicine.

General Human Anatomy 1 & 2 (5 units per semester)

These courses present the observable structure, function, and clinical manifestations of the human body through lectures and cadaver dissection laboratories. General Human Anatomy integrates the systems of the body with anatomical regions, embryological development, and diagnostic imaging. The course emphasizes anatomical knowledge that relates to the practice of osteopathic medicine. The lectures emphasize developmental, functional and clinical anatomy. The laboratories offer a challenging series of dissection exercises that promote discovery-based learning.

Neuroscience (5 units)

This course, which begins in the fall but is completed in the spring, is designed to introduce the student to the normal anatomy and function of the central nervous system. This comprehensive course covers basic neuroanatomy, neurophysiology and an introduction to neurology in both a lecture and laboratory format. The course builds on knowledge of neural structure and function to encompass complex brain activities such as sleep, learning and memory, emotion, language, and cognition.

Basic Science Foundations of Infection and Immunity (1 unit)

This spring course is intended to provide the student with insight into the foundations of microbial pathogenesis and treatment of infectious diseases of the human body. The course begins by examining in detail the basic mechanisms by which the immune system functions in protecting against infection. The basic principles of microbial pathogenesis will then be described along with the characteristic features of the major types of microbial pathogens.

Problem Based Learning (0.5 units)

This spring course provides a student-centered, faculty-facilitated series of small group work sessions, in which clinical cases will be presented. Each case will provide an opportunity to develop clinical reasoning skills. Students will analyze and synthesize the available data, develop and test hypotheses, consult journals, conduct on-line searches, and collaborate with other members of the group in the process of developing diagnoses and prevention/treatment options.

Osteopathic Manipulative Medicine 1 & 2 (3 units per semester)

OMM 1

This course is designed to introduce the basic tenets, philosophy, principles and practice of osteopathic medicine. Instruction will be started in the art and science of palpation that will be utilized and continue to develop throughout medical practice. Biomechanics of the spine, physiological motion, regional and segmental diagnosis, history and research will be covered. Additionally, identification of landmarks, introduction to radiographs, the osteopathic structural exam, Soft Tissue techniques, Lymphatic techniques, Muscle Energy techniques, Counterstrain techniques and High Velocity/Low Amplitude Thrust techniques will be taught.

OMM 2

This course is designed to continue instruction in the art and science of palpation, osteopathic structural diagnosis and manipulative treatment. Regional and segmental diagnosis, Mitchell model of pelvic diagnosis, management of short leg, and research will be covered. Additional Muscle Energy techniques, Counterstrain techniques and further work in the Cranial model will be taught.

Introduction to Clinical Medicine 1 & 2 (2 units per semester)

This course is designed to introduce students to the common experience of osteopathic physicians in clinical practice. It will lay foundations for the care of patients in medical setting by examining the interaction of the biological, behavioral, and social factors involved in health. It will focus on the many roles of the physician, development of clinical reasoning, approaches to medical care, medical ethics and cultivating professionalism. The importance of partnership with others will be a common theme.

Physical Diagnosis 1 & 2 (2 units per semester)

The Physical Diagnosis course consists of lecture and lab experience designed to allow the student to develop beginning level skills in history taking and physical examination; beginning clinical reasoning, and proficiency in use of basic diagnostic tools and presentation of case materials in written and/or oral format with appropriate documentation,. Osteopathic principles are included as appropriate to the systems. Screening (asymptomatic) exam serves as the template; examples of focused exams are provided as illustration. Practical exams are required and teaching includes standardized patients in lab.

Preventive Medicine and Public Health (2 units)

This fall course covers a variety of topics including: an overview of public health and health care delivery systems; an introduction to evidence-based medicine; epidemiology; definitions and applications in prevention and control of communicable and chronic diseases; biostatistics and hypothesis testing; definitions and appropriate uses; major public health issues for families, children, and older adults; managed care; and legal and ethical aspects of medical and public health practices.

Second Year

In the second year, the basic and clinical sciences concerned with one particular organ system of the body are integrated in classroom instruction. This approach emphasizes the relevance of basic sciences to clinical practice. The osteopathic approach is continually emphasized by lecture and laboratory demonstration of manipulative techniques. A year long course in behavioral medicine and psychiatry is also provided.

Medical Microbiology and Immunology 1 & 2 (2.5 units per semester)

These courses build upon the Basic Science Foundations of Infection and Immunity course provided in the first year. Clinical microbiology and immunology is taught in a systems-based approach intended to provide the osteopathic medical student with insight into the epidemiology, pathogenesis, clinical manifestations, and treatment of pathogen-

induced diseases of the human body. Individual groups of pathogens and the diseases that they cause are presented. How the immune system fights infection, causes disease, and how it can be used as a diagnostic and therapeutic tool is also examined.

Pathology 1 & 2 (3 units per semester)

The objective of these courses is to provide a sound foundation for the understanding of the etiology, diagnosis, progression, and appearance of human disease processes. The courses describe these conditions from the molecular to the organismal levels. The first phase addresses the fundamental principles common to all disease processes, and continues to examine each major organ system in a logical and thorough fashion, with emphasis on the clinical manifestations of each disease condition. Cell injury and death, inflammation, repair and adaptive processes, hemodynamic alterations, neoplasia, chemical and physical injuries, and infectious disease processes are discussed in great detail. A weekly laboratory session is included which enhances the understanding of the morphologic alterations in diseased tissues, as well as to promote diagnostic skills at the gross and microscopic levels. Projected material, as well as human tissue specimens in whole and glass slide formats, are included in the laboratory experience.

Pharmacology 1 & 2 (3.5 units per semester)

These courses consist of comprehensive lectures and clinical correlations which present general principles of pharmacodynamics and pharmacokinetics, followed by a systematic investigation into the pharmacological agents based on drug group classification. The major emphasis is on the clinically significant aspects of therapeutic effects, toxic effects, and the metabolism of drugs. Receptor concepts among various drug groups will be discussed. Upon completion of the course, students are expected to understand appropriate pharmacological treatment for disease processes involving the major systems.

Osteopathic Manipulative Medicine 3 & 4 (2 units per semester)

OMM 3

This course is designed to continue instruction in the art and science of palpation, osteopathic structural diagnosis and manipulative treatment. The course will begin with a review of the osteopathic structural exam, diagnosis and treatment of the pelvis. Additionally, Counterstrain approach to the pelvis, Chapman's reflexes, evaluation and treatment of the upper and lower extremities, Articular/Still technique, Muscle Energy of the cervical spine, High Velocity/Low Amplitude Thrust of the OA joint and further study of the Cranial model will be taught.

OMM 4

This course is designed to continue instruction in the art and science of palpation, osteopathic structural diagnosis and manipulative treatment. The course will focus on an integrated approach to utilizing osteopathic diagnosis and treatment in the management of a variety of inpatient and outpatient common clinical problems. Focused evaluation and treatment with a variety of manipulative models will be stressed to prepare students

for clinical rotations and future practice. These will include osteopathic management of respiratory, cardiovascular, gastrointestinal, genitourinary, post surgical, obstetric, and pediatric patients. Additionally, osteopathic management of headache, neck pain, thorax problems, low back pain, upper and lower extremity problems will be covered.

Clinical Systems 1 (10 units) and 2 (11 units)

Each organ system is presented beginning with a review of the pertinent basic science concepts. Pathophysiology and clinical manifestations of diseases affecting each system are presented along with appropriate diagnostic and treatment modalities. Special topics unique to individual systems are also included, e.g., pediatrics, geriatrics, sports medicine, normal and abnormal pregnancy, labor and delivery, human sexuality, etc. Pathology, Medical Microbiology and Immunology, and Pharmacology course presentations are closely coordinated and integrated with Clinical Systems lectures, as is Primary Care Skills. The following systems are investigated in this two-semester course.

Musculoskeletal System

Respiratory/ENT System

Renal System

Cardiovascular System

Dermatology System

Hematology/Oncology System

Gastroenterology System

Nervous System

Endocrine System

Reproductive System

Primary Care Skills 1 & 2 (1 unit per semester)

Primary Care Skills provides laboratories and small group experiences designed to teach practical clinical skills. Students gain practice in the development of patient history and physical skills, differential diagnosis, clinical reasoning, appropriate professional presentation and documentation, as well as specific procedures essential in primary care practice. Osteopathic principles are reinforced as appropriate to each system. The sessions are closely aligned with topics being presented in the lecture-based Clinical Systems course.

Laboratory Diagnosis in Family Practice (1 unit)

Through lectures and workshops, students learn to organize and interpret laboratory data in order to further develop their clinical problem solving abilities. This spring course complements the Pathology and Clinical Systems courses by focusing primarily on frequently encountered and illustrative human diseases and the typical laboratory reports that are obtained from patients with such conditions.

Behavioral Medicine and Psychiatry 1 & 2 (2 units per semester)

These courses cover a variety of topics in basic behavioral medicine and psychiatry, including, but not limited to: the psychiatric interview; emotional reactions to illness; anxiety disorders; mood disorders; sexual disorders; child and adolescent development and psychopathology; suicide; violence, including domestic violence; personality disorders; somatoform and factitious disorders; legal and ethical issues; and addiction medicine.

Orientation to Clinical Rotations (1 unit)

This course provides an introduction to clinical rotations immediately prior to students' beginning clinical years. Topics include medical-legal considerations (including HIPAA), roles of members of the health care team (including the medical student), and expectations and responsibilities of students in clinical settings. Resource information is presented, including library and off-campus resources. ACLS training and workshops in laboratory diagnosis are an integral part of the course.