KANSAS HEALTH SCIENCE UNIVERSITY

Programmatic Level Educational Objectives

(Approved by CCEP 2.20.22)

KHSU-KansasCOM Core Competencies

1. **Osteopathic Principles and Practices**
    1. Approach the patient with recognition of the entire clinical context, including mind-body and psychosocial interrelationships.
    2. Use the relationship between structure and function to promote health.
    3. Use OPP to perform competent physical, neurologic, and structural examinations incorporating analysis of laboratory and radiology results, diagnostic testing, and physical examination.
    4. Diagnose clinical conditions and plan patient care.
    5. Perform or recommend OMT as part of a treatment plan.
    6. Communicate and document treatment details.
    7. Collaborate with OMM specialists and other health care providers to maximize patient treatment and outcomes, as well as to advance osteopathic manipulation research and knowledge.
    8. Evaluate the medical evidence concerning the utilization of osteopathic manipulative medicine.

2. **Medical Knowledge**
    1. Articulate basic biomedical science and epidemiological and clinical science principles related to patient presentation.
    2. Apply current best practices in osteopathic medicine.
    3. Physician interventions.

3. **Patient Care**
    1. Gather accurate data related to the patient encounter.
    2. Develop a differential diagnosis appropriate to the context of the patient setting and findings.
    3. Implement essential clinical procedures.
    4. Form a patient-centered, interprofessional, evidence-based management plan.
    5. Health promotion and disease prevention (HPDP).
    6. Documentation, case presentation, and team communication.

4. **Interpersonal and Communication Skills**
    1. Establish and maintain the physician-patient relationship.
    2. Conduct a patient-centered interview that includes the following.
    3. Demonstrate effective written and electronic communication in dealing with patients and other health care professionals.
    4. Work effectively with other health professionals as a member or leader of a healthcare team.

5. Professionalism

1. KNOWLEDGE - Demonstrate knowledge of the behavioral and social sciences that provide the foundation for professionalism competency, including medical ethics, social accountability and responsibility, and commitment to professional virtues and responsibilities.
2. HUMANISTIC BEHAVIOR - Demonstrate humanistic behavior, including respect, compassion, probity, honesty, and trustworthiness.
3. PRIMACY OF PATIENT NEED - Demonstrate responsiveness to the needs of patients and society that supersedes self-interest.
4. ACCOUNTABILITY - Demonstrate accountability to patients, society, and the profession, including the duty to act in response to the knowledge of professional behavior of others.
5. CONTINUOUS LEARNING - Attain milestones that indicate a commitment to excellence, for example, through ongoing professional development as evidence of a commitment to continuous learning.
6. ETHICS - Demonstrate knowledge of and the ability to apply ethical principles in the practice and research of osteopathic medicine, particularly in the areas of provision or withholding of clinical care, confidentiality of patient information, informed consent, business practices, the conduct of research, and the reporting of research results.
7. CULTURAL COMPETENCY - Demonstrate awareness of and proper attention to issues of culture, religion, age, gender, sexual orientation, and mental and physical disabilities.
8. PROFESSIONAL AND PERSONAL SELF-CARE - Demonstrate understanding that they are a representative of the osteopathic profession and are capable of making valuable contributions as a member of this society; lead by example; provide for personal care and well-being by utilizing principles of wellness and disease prevention in the conduct of professional and personal life.
9. HONEST, TRANSPARENT BUSINESS PRACTICES.

6. Practice-Based Learning and Improvement

1. Describe and apply evidence-based medical principles and practices. Interpret features and meanings of different types of data, quantitative and qualitative, and different types of variables, including nominal, dichotomous, ordinal, continuous, ratio, and proportion.
2. Evaluate the relevance and validity of clinical research.
3. Describe the clinical significance of and apply strategies for integrating research evidence into clinical practice.
4. Critically evaluate medical information and its sources and apply such information appropriately to decisions relating to patient care.
5. Describe and apply systematic methods to improve population health.

7. Systems-Based Practice

1. The learner must demonstrate an understanding of variant health delivery systems and their effect on the practice of a physician and the health care of patients.
2. Demonstrate an understanding of how patient care and professional practices affect other healthcare professionals, healthcare organizations, and society.
3. Demonstrate knowledge of how different delivery systems influence the utilization of resources and access to care.
4. Identify and utilize effective strategies for assessing patients.

5. Demonstrate knowledge of and the ability to implement safe, effective, timely, patient-centered, equitable systems of care in a team-oriented environment to advance populations and individual patients' health.

8. Interprofessional Collaboration

1. Act with honesty and integrity in relationships with patients, families, and other team members.
2. Work with other health professionals to establish and maintain a climate of mutual respect, dignity, diversity, ethical integrity, and trust.
3. Communicate one's role and responsibilities clearly to patients, families, and others.
4. Explain the roles and responsibilities of other care providers and how the team works together to provide care.
5. Engage other health professionals, as appropriate to the specific care situation, in shared patient-centered problem-solving for effective team-based care.

<u>Competencies unique to KansasCOM:</u>

9. Discovery

1. Review existing literature in an area of interest and formulate questions.
2. Form a hypothesis that then leads to a high-quality research project.
3. Deploy appropriate research methods to answer an investigative question.
4. Understand and apply ethical considerations in the conduct of research.
5. Communicate and disseminate new knowledge obtained from scientific inquiry.

10. Intelligence

1. Use healthcare informatics to enhance clinical outcomes, patient experience, population health, health equity, the work-life of physicians and healthcare providers, and reduce cost.
2. Evaluate the appropriate use of machine and deep learning in healthcare decision-making.

KHSU-KansasCOM: Track Outcomes

Track 1: Patient Presentation

1. Define normal and abnormal physiologic processes within each of these body systems
2. Describe abnormal structural changes associated with disease processes within each of these systems
3. Describe basic clinical implications of these abnormal physiologic and structural changes
4. Describe pharmacologic and immunologic treatment concepts utilized to ameliorate these abnormalities of structure or function
5. Describe non-pharmacological interventions for treatment of these abnormalities, e.g., surgical, radiation, etc.
6. Apply knowledge of biomedical sciences (physiology, biochemistry, genetics, immunology, microbiology, pharmacology) to understand and analyze health and disease.
7. Apply knowledge of biomedical sciences and evidence-based logic when approaching the diagnosis, prevention, or treatment of patients with diseases.
8. Apply knowledge of disease prevalence and patient characteristics to refine the diagnosis, prevention, or treatment of diseases in specific populations of patients.
9. Apply knowledge and understanding of the etiology, pathophysiology, patient presentation, and treatment of common diseases, while formulating relevant wellness strategies including healthy nutrition, physical activity, and lifestyle behaviors to optimize the mind, body, and spirit of each patient.
10. Demonstrate professionalism and the ability to work collaboratively in a small group to solve case-based clinical problems.
11. Apply the basic sciences of Anatomy, Physiology, Biochemistry, Embryology, Histology, Pharmacology, Pathology and OMM to describe the presentations, diagnosis, and treatment of common diseases affecting the nervous, dermatologic, visual, and auditory systems.
12. Discuss neurologic, skin, head, eye, ears, nose, and throat (HEENT) examination techniques and common findings in states of health and disease.
13. Correlate neurological examination findings with Brain, Cranial Nerve, Spinal cord, Peripheral, Autonomic and Neuro-endocrine pathology.
14. Apply knowledge of the anatomy and physiology to healthy and diseased states of the: 1) Central and Peripheral nervous systems, with its blood supply, supporting, sustaining and protective structures 2) Autonomic Nervous system, 3) Neuroendocrine system 4) Dermatologic system 5) Visual and Auditory systems.
15. Identify and describe both normal and pathologic radiologic images of the neuroanatomical, ophthalmologic, auditory, and dermatologic structures.
16. Describe osteopathic treatments and approaches to the conditions discussed within this course.
17. Examine the etiology, pathology, presentation, and treatment of selected diseases involving the female and male reproductive systems, both pharmacologic and surgical approaches considered to correct abnormalities, and relevant strategies for prevention.
18. Examine age-related changes in organs and organ systems in pediatric and geriatric patients.
19. Discriminate between normal and abnormal growth and development in pediatric and geriatric patients, applying principles of expected progression to clinical presentations.
20. Determine assessment methods to measure changes in clinical presentations of pediatric and geriatric patients.
21. Solve case-based clinical problems related to reproductive health, pediatric, and geriatric populations to further skills of gathering history data, developing a differential diagnosis, and formulating treatment plans.

Track 2: Physicianship

1. Perform a comprehensive and problem-focused history and physical exam
2. Document a comprehensive and problem-focused history and physical examination.
3. Document a hospital visit, including discharge plan and patient education.
4. Give an oral presentation of a patient, beginning skills.
5. Use basic clinical ethics to give compassionate care to all patients.
6. Use critical thinking skills to arrive at a differential diagnosis using evidence-based care.
7. Use radiologic basic imaging and ultrasound to assess patients.
8. Have awareness of medical/legal issues that impact physicians in practice.
9. Complete Basic Life Support Course successfully.
10. Begin to work as a team with other healthcare professionals.
11. Have basic proficiency in suturing, basic wound care, venipuncture, IV placement, injections, nasogastric tube placement, bladder catheterization, and I and D of superficial lesions.
12. Continue to develop physical exam and history-taking skills with documentation in a time-limited setting, with a presentation to faculty.
13. Perform one OSCE per Trimester, demonstrating history, physical exam, and differential diagnosis skills, using advanced physical examination skills.
14. Use previous history and physical exam skills to begin to give care to special populations: pregnant patients, pediatric patients, geriatrics, special needs patients, and patients with mental health problems.
15. Use ethics skills previously required to deliver palliative care to patients.
16. Continue to use radiologic imaging with advanced skills in ultrasound, evaluating images from radiographs, MRI, and CT.
17. Complete successfully PALS, and ACLS.
18. Have a basic understanding of health-systems science, including patient safety, quality improvement, population health, and physician leadership.
19. Demonstrate professionalism by dress, effective communication, attitude, and demeanor.
20. Demonstrate readiness to begin clinical clerkships through knowledge, professionalism, and communication.

Track 3: Osteopathic Manipulative Medicine

1. Describe the fundamental values of the osteopathic approach to medicine and how they apply to whole-person healthcare
2. Describe & analyze the scientific knowledge supporting the use of OMM and OMT, including the basic science of the mechanisms of OMT, visceral and somatic dysfunctions, the current evidence base for the clinical application of OMT, and the role of the osteopathic physician to facilitate health
3. Perform an osteopathically focused structural exam, appropriately formulate a diagnosis, treat with OMT, and reassess the patient
4. Name and define the types of physical examination findings that are consistent with somatic dysfunction
5. Perform palpation techniques related to the diagnosis of somatic and visceral dysfunctions
6. Describe the autonomic nervous system and the role it plays in the development and treatment of visceral and somatic dysfunctions
7. Describe, identify, and apply the underlying mechanisms, signs, symptoms, and physical findings associated with viscerosomatic, somatovisceral, viscerovisceral, somatosomatic, Chapman, and Triggerpoint reflexes
8. Interpret the patient's history, signs, symptoms, and physical findings to determine the presence of somatic and visceral dysfunctions
9. Translate (or Interpret) palpatory findings for the purpose of documenting somatic and visceral dysfunctions

10. Synthesize the indications and contraindications for specified osteopathic treatment modalities based on a patient's history and diagnosis
11. Document a patient's history, physical findings, diagnosis (codable diagnosis and correlating somatic dysfunction within the ten body regions), and develop an appropriate care plan
12. Demonstrate professional behavior
13. Demonstrate leadership skills and the ability to work as a team in small groups

Track 4: Anatomy

1. Demonstrate teamwork, leadership skills, and professionalism during the Integrated Anatomical Sciences course and its activities.
2. Demonstrate self-directed learning skills in executing activities during the Integrated Anatomical Sciences course.
3. Describe the correlation of osteopathic principles to the anatomical sciences and the use of anatomical information for osteopathic manipulative medicine.
4. Demonstrate knowledge of the scientific method in addressing the project in the Integrated Anatomical Sciences course and its activities.
5. Demonstrate the use of correct anatomical/medical nomenclature.
6. Demonstrate the ability to describe anatomical structures in a manner understood by the patient.
7. Discuss common medical imaging techniques including when they are used most effectively.
8. Describe the microscopic features of a cell, body tissues, and their functions.
9. Describe the typical ultrastructure of a human cell.
10. Describe the typical development of a human including the stages of embryogenesis, development of the nervous system, development of body cavities, lung, and heart, and development of head and neck.
11. Describe and identify landmarks on the surface of the human body.
12. Discuss the general structural organization (both macroscopic and microscopic) of the human body.
13. Discuss the structural organization (both macroscopic and microscopic) and functions of the hematological system.
14. Describe the microscopic features of body tissues and their functions with an emphasis on the gastrointestinal, cardiovascular, and respiratory systems.
15. Describe the typical development and common developmental anomalies of a human focused on the gastrointestinal, cardiovascular, and respiratory systems.
16. Describe and identify landmarks on the surface of the human body related to the gastrointestinal, cardiovascular, and respiratory systems.
17. Discuss the structural organization (both macroscopic and microscopic), relationships, and functions of the gastrointestinal, cardiovascular, respiratory, and lymphatic systems.
18. Describe the microscopic features of body tissues and their functions with an emphasis on the musculoskeletal, renal, and endocrine systems.
19. Describe the typical development and common developmental anomalies of a human focused on the musculoskeletal, renal, and endocrine systems.
20. Describe and identify landmarks on the surface of the human body related to the musculoskeletal, renal, and endocrine systems.
21. Discuss the structural organization (both macroscopic and microscopic), relationships, and functions of the musculoskeletal, renal, and endocrine systems.
22. Discuss the development, structural organization (both macroscopic and microscopic) relationships, and functions of the central nervous system and peripheral nervous system.
23. Differentiate between central nervous system and peripheral nervous system dysfunctions.
24. Describe and identify landmarks on the surface of the human body related to the nervous and integumentary systems.

25. Describe the typical development and common developmental anomalies of a human focused on the integumentary system.
26. Discuss the structural organization (both macroscopic and microscopic), relationships, and functions of the integumentary system.
27. Explain the typical development of a human from gametogenesis to birth.
28. Describe the common birth defects/congenital anomalies and the mechanisms that result in these defects/anomalies.
29. Discuss the structural organization, both macroscopic and microscopic, of the human body from infancy through senescence.
30. Describe and identify the important clinical landmarks on the surface of the human body at various ages.
31. Discuss the development, structural organization (both macroscopic and microscopic) relationships, and functions of the genitourinary and reproductive systems.
32. Describe the microscopic features of body tissues and their functions.
33. Discuss the development, structural organization (both macroscopic and microscopic) relationships, and functions of the hematological, lymphatic, gastrointestinal, musculoskeletal, integument, cardiovascular, respiratory, genitourinary, endocrine, and nervous, and special senses systems.

Track 5: Population Health and Evidenced-Based Medicine

1. Create a personal value proposition as an osteopathic physician.
2. Apply ideas to improve health and eliminate health disparities within populations.
3. Investigate and integrate complex social issues, health equity, and social determinants of health through evidence-based community engagement.
4. Analyze the role of the physician in addressing barriers to access by providing culturally relevant and high-quality healthcare for vulnerable populations.
5. Evaluate intelligence data and the medical literature as a corpus and as individual studies, drawing conclusions about medical practice.
6. Apply a working knowledge of research methodologies commonly used in biomedical research.
7. Participate in a research project, research presentation, and development of a research protocol.
8. Analyze the role of health systems in wellness and disease at the patient and population level.
9. Apply collaboration, teamwork, and leadership skills to engage with relevant populations and stakeholders to develop an intervention in response to a population health problem.
10. Create a plan for career and professional development.

1.1 Apply knowledge of epidemiology in case-based activities.
1.2 Integrate socio-cultural-environmental effects upon health through evidence-based community engagement.
1.3 Evaluate the medical literature as a corpus and as individual studies, drawing conclusions about medical practice.
1.4 Apply knowledge derived from research in practice and community engagement.
2.1 Develop a personal value proposition in preparation for residency.
2.2 Integrate key concepts in health systems science in preparation for careers in medicine.
2.3 Integrate socio-cultural-environmental effects upon health through evidence-based community engagement.
2.4 Draw conclusions and implications for future practice from appropriate evidence.
2.5 Apply knowledge derived from research in practice and community engagement.
3.1 Achieve career milestones as specified in the learner's development plan.
3.2 Analyze the challenges of health systems science as it pertains to various populations.
3.3 Understand the concept of a needs assessment in healthcare and assess its core components.

3.4 Integrate socio-cultural-environmental effects upon health through evidence-based community engagement.
3.5 Apply knowledge derived from research in practice and community engagement.
4.1 Achieve career milestones as specified in the learner's development plan.
4.2 Synthesize the elements of a research plan and protections for human subjects.
4.3 Analyze and synthesize key concepts in health systems science in preparation for careers in medicine.
4.4 Analyze promising emerging technologies in the healthcare environment.
4.5 Integrate socio-cultural-environmental effects upon health through evidence-based community engagement.
4.6 Apply knowledge derived from research in practice and community engagement.
5.1 Create a needs assessment for a community agency, which will contribute to improving one or more social determinants of health.
5.2 Synthesize key concepts in healthcare economics.
5.3 Evaluate the medical literature as a corpus and as individual studies, drawing conclusions about medical practice.
6.1 Prepare to serve in clerkships by providing culturally relevant and high-quality healthcare for vulnerable populations.
6.2 Prepare to serve in clerkships by integrating health systems science and the social determinants of health.
6.3 Prepare to serve in clerkships by demonstrating information literacy in a medical context and applying evidence-based medicine as a life-long learner.