

COM Competencies and Objectives

The KCUMB graduates must demonstrate specific competencies and objectives to graduate.

	Competency	Foundations of Medicine	Musculoskeletal	Cardiopulmonary I	Cardiopulmonary II	Gastrointestinal	Renal	Osteopathic Clinical Skills I & II	Neuroscience I	Neuroscience II	Skin Blood & Lymph	Endocrine	Reproductive	Osteopathic Clinical Skills III & IV	Years III and IV
1	Osteopathic Philosophy and Osteopathic Manipulative Medicine - Graduates are expected to demonstrate and apply knowledge of accepted standards in Osteopathic Manipulative Treatment (OMT). The education goal is to train a skilled and competent osteopathic practitioner who remains dedicated to life-long learning and to practice habits in osteopathic philosophy and manipulative medicine.	X	X	X	X	X	X	X	X	X	X	X	X	X	X
2	Medical Knowledge - Graduates are expected to demonstrate and apply knowledge of accepted standards of clinical medicine in their respective specialty area, remain current with new developments in medicine, and participate in life-long learning activities, including research.	X	X	X	X	X	X	X	X	X	X	X	X	X	X
3	Patient Care - Graduates must demonstrate the ability to effectively treat patients, provide medical care that incorporates the osteopathic philosophy, patient empathy, awareness of behavioral issues, the incorporation of preventive medicine, and health promotion.	X	X	X	X	X	X	X	X	X	X	X	X	X	X
4	Interpersonal and Communication Skills - Graduates are expected to demonstrate interpersonal and communication skills that enable them to establish and maintain professional relationships with patients, families and other members of health care teams.	X	X	X	X	X	X	X	X	X	X	X	X	X	X
5	Professionalism - Graduates are expected to uphold the Osteopathic Oath in the conduct of their professional activities that promote advocacy of patient welfare, adherence to ethical principles, and collaboration with health professionals, life-long learning, and sensitivity to a diverse patient population. Graduates should be cognizant of their own physical and mental health in order to effectively care for patients.							X						X	X
6	Practice-based Learning and Improvement - Graduates must demonstrate the ability to critically evaluate their methods of clinical practice, integrate evidence-based medicine into patient care, show an understanding of research methods, and improve patient care practices.	X	X	X	X	X	X		X	X	X	X	X		X
7	Systems-based Practice - Graduates are expected to demonstrate an understanding of health care delivery systems, provide effective and qualitative patient care with the system, and practice cost-effective medicine.	X	X	X	X	X	X		X	X	X	X	X		X

COM Educational Objectives

Below lists the 29 institutional objectives and the sections in which these are addressed through lectures, labs, and other learning activities. Also shown are those objectives addressed through clinical training with specific learning objectives. These were approved by the Curriculum Committee.

	Educational Objectives	Foundations of Medicine	Musculoskeletal	Cardiopulmonary I	Cardiopulmonary II	Gastrointestinal	Renal	OCS I	OCS II	Neuroscience I	Neuroscience II	Skin, Blood, & Lymph	Endocrine	Reproduction & Development	OCS III	OCS IV	Years III and IV
1.	Knowledge of the theories and principles that govern ethical decision making, and of the major ethical dilemmas in medicine, particularly those that arise at the beginning and end of life and those that arise from the rapid expansion of knowledge of genetics.		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
2.	Compassionate treatment of patients, and respect for their privacy and dignity.		X	X	X		X	X	X	X	X	X	X	X	X	X	X
3.	Honesty and integrity in all interactions with patients' families, colleagues, and others with whom physicians must interact in their professional lives.		X	X	X		X	X	X	X			X	X	X	X	X
4.	An understanding of, and respect for, the roles of other health care professionals, and of the need to collaborate with others in caring for individual patients and in			X	X			X	X	X	X		X	X	X	X	X

	Educational Objectives	Foundations of Medicine	Musculoskeletal	Cardiopulmonary I	Cardiopulmonary II	Gastrointestinal	Renal	OCS I	OCS II	Neuroscience I	Neuroscience II	Skin, Blood, & Lymph	Endocrine	Reproduction & Development	OCS III	OCS IV	Years III and IV
	developmental, metabolic, toxic, microbiologic, autoimmune, neoplastic, degenerative, and traumatic) of maladies and the ways in which they operate on the body (pathogenesis).																
11.	Knowledge of the altered structure and function (pathology and pathophysiology) of the body and its major organ systems that are seen in various diseases and conditions.	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
12.	An understanding of the power of the scientific method in establishing the causation of disease and efficacy of traditional and non-traditional therapies.	X	X	X	X	X	X	X	X	X	X		X		X	X	X
13.	An understanding of the need to engage in lifelong learning to stay abreast of relevant scientific advances, especially in the disciplines of genetics and molecular biology.	X	X	X	X		X	X	X	X		X	X	X	X	X	X
14.	The ability to obtain an accurate medical history that covers all essential aspects of the history, including issues related to age, gender, and socio-economic status.			X	X		X	X	X	X	X		X	X	X	X	X

	Educational Objectives	Foundations of Medicine	Musculoskeletal	Cardiopulmonary I	Cardiopulmonary II	Gastrointestinal	Renal	OCS I	OCS II	Neuroscience I	Neuroscience II	Skin, Blood, & Lymph	Endocrine	Reproduction & Development	OCS III	OCS IV	Years III and IV
	conditions, both acute and chronic, including medical, psychiatric, and surgical conditions, and those requiring short- and long-term rehabilitation.																
21.	The ability to recognize patients with immediately life threatening cardiac, pulmonary, or neurological conditions regardless of etiology , and to institute appropriate initial therapy.			X	X		X	X	X				X		X	X	X
22.	Knowledge about relieving pain and ameliorating the suffering of patients.		X				X	X	X	X		X	X	X	X	X	X
23.	The ability to communicate effectively both orally and in writing, with patients, patients' families, colleagues, and others with whom physicians must exchange information in carrying out their responsibilities.		X				X	X	X	X			X	X	X	X	X
24.	Knowledge of the important non-biological determinants of poor health and of the economic, psychological, social, and cultural factors that contribute to the development and/or continuation of maladies.		X	X	X		X	X	X			X	X	X	X	X	X

	Educational Objectives	Foundations of Medicine	Musculoskeletal	Cardiopulmonary I	Cardiopulmonary II	Gastrointestinal	Renal	OCS I	OCS II	Neuroscience I	Neuroscience II	Skin, Blood, & Lymph	Endocrine	Reproduction & Development	OCS III	OCS IV	Years III and IV
25.	Knowledge of the epidemiology of common maladies within a defined population, and the systematic approaches useful in reducing the incidence and prevalence of those maladies.		X	X	X	X	X			X	X	X	X	X			X
26.	The ability to identify factors that place individuals at risk for disease or injury, to select appropriate tests for detecting patients at risk for specific diseases or in the early stage of disease, and to determine strategies for responding appropriately.		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
27.	The ability to retrieve (from electronic databases and other resources), manage, and utilize biomedical information for solving problems and making decisions that are relevant to the care of individuals and populations.							X	X				X		X	X	X
28.	Knowledge of various approaches to the organization, financing, and delivery of health care.	X		X		X	X			X							X
29.	A commitment to provide care to patients	X		X		X	X			X							X

Kansas City University of Medicine and Biosciences

MASTER OF SCIENCE IN BIOMEDICAL SCIENCES LEARNING OUTCOMES BY COURSE

Course	1. Graduates will be able to understand and summarize articles on current research topics from biomedical science journals and present professional reviews of the topics in seminars and professional quality papers.	2. Graduates will have a basic knowledge of the role and use of biostatistics in biomedical research and be able to generate hypothesis and select appropriate statistical tests to properly evaluate comparative research data.	3. Graduates will be able to interpret biomedical data reported in the literature and use it to design/conduct research in biomedical sciences.	4. Graduates will be able to effectively utilize bioinformatics databases when investigating scientific objectives.	5. Graduates will be able to summarize how current research is used to develop new therapies in medicine.	6. Graduates will be able to articulate interrelationships of discipline based information and apply that relationship to current clinical situations.	7. Graduates will be prepared to succeed in doctoral programs in the health professions and life sciences.	TWO YR. RESEARCH TRACK	
								8. Graduates will be able to conduct original, translational research.	9. Graduates will be able to develop the ability to meet professional standards for writing publications and assist with grant preparation and submissions.
BIOS 501 Anatomy	1. General knowledge of anatomical terminology and their clinical applications as shown by ability to successfully answer exam and quiz questions. 2. Mini-thesis & seminar	N/A	N/A	N/A	N/A	1. 2 Exams 2. 10 Quizzes 3. Mini-thesis & seminar	1. Comprehensive Exam	N/A	N/A
BIOS 502 Anatomy	General knowledge of anatomical terminology and their clinical applications as show by ability	N/A	N/A	N/A	N/A	1. 2 Exams 2. 10 Quizzes 3. Mini-thesis & seminar	1. Comprehensive Exam	N/A	N/A

Course	1. Graduates will be able to understand and summarize articles on current research topics from biomedical science journals and present professional reviews of the topics in seminars and professional quality papers.	2. Graduates will have a basic knowledge of the role and use of biostatistics in biomedical research and be able to generate hypothesis and select appropriate statistical tests to properly evaluate comparative research data.	3. Graduates will be able to interpret biomedical data reported in the literature and use it to design/conduct research in biomedical sciences.	4. Graduates will be able to effectively utilize bioinformatics databases when investigating scientific objectives.	5. Graduates will be able to summarize how current research is used to develop new therapies in medicine.	6. Graduates will be able to articulate interrelationships of discipline based information and apply that relationship to current clinical situations.	7. Graduates will be prepared to succeed in doctoral programs in the health professions and life sciences.	TWO YR. RESEARCH TRACK	
								8. Graduates will be able to conduct original, translational research.	9. Graduates will be able to develop the ability to meet professional standards for writing publications and assist with grant preparation and submissions.
	to successfully answer exam and quiz questions. 2. Mini-thesis & seminar.								
BIOS 503 Cell Biology & Histology	1. Exams 2. Mini-thesis & seminar.	N/A	N/A	N/A	1. Exam address application of basic cell biology and histological techniques as related to clinical applications and diagnosis.	1. 4 exams, including material addressing clinical applications of cell biology. 2. 4 quizzes over normal and pathological tissue slides.	1. Comprehensive Exam	N/A	N/A
BIOS 505 Human Physiology	1. Exams 2. Mini-thesis & seminar.	N/A	N/A	N/A	N/A	1. Exams compare normal human	1. Comprehensive Exam	N/A	N/A

Course	1. Graduates will be able to understand and summarize articles on current research topics from biomedical science journals and present professional reviews of the topics in seminars and professional quality papers.	2. Graduates will have a basic knowledge of the role and use of biostatistics in biomedical research and be able to generate hypothesis and select appropriate statistical tests to properly evaluate comparative research data.	3. Graduates will be able to interpret biomedical data reported in the literature and use it to design/conduct research in biomedical sciences.	4. Graduates will be able to effectively utilize bioinformatics databases when investigating scientific objectives.	5. Graduates will be able to summarize how current research is used to develop new therapies in medicine.	6. Graduates will be able to articulate interrelationships of discipline based information and apply that relationship to current clinical situations.	7. Graduates will be prepared to succeed in doctoral programs in the health professions and life sciences.	TWO YR. RESEARCH TRACK	
								8. Graduates will be able to conduct original, translational research.	9. Graduates will be able to develop the ability to meet professional standards for writing publications and assist with grant preparation and submissions.
						physiological processes with pathological processes. 2. Extensive use of an interpretation of graphic data from classical and current research showing normal and abnormal relationships.			
BIOS 506 Human Physiology II	1. Exams 2. Mini-thesis & seminar.	N/A	N/A	N/A	N/A	1. 4 Exams as in Human Physiology I above.	1. Comprehensive Exam	N/A	N/A

Course	TWO YR. RESEARCH TRACK								
	1. Graduates will be able to understand and summarize articles on current research topics from biomedical science journals and present professional reviews of the topics in seminars and professional quality papers.	2. Graduates will have a basic knowledge of the role and use of biostatistics in biomedical research and be able to generate hypothesis and select appropriate statistical tests to properly evaluate comparative research data.	3. Graduates will be able to interpret biomedical data reported in the literature and use it to design/conduct research in biomedical sciences.	4. Graduates will be able to effectively utilize bioinformatics databases when investigating scientific objectives.	5. Graduates will be able to summarize how current research is used to develop new therapies in medicine.	6. Graduates will be able to articulate interrelationships of discipline based information and apply that relationship to current clinical situations.	7. Graduates will be prepared to succeed in doctoral programs in the health professions and life sciences.	8. Graduates will be able to conduct original, translational research.	9. Graduates will be able to develop the ability to meet professional standards for writing publications and assist with grant preparation and submissions.
BIOS 507 Neuroscience	1. Exams 2. Mini-thesis & seminar.	N/A	N/A	N/A	N/A	1. Exams	1. Comprehensive exam	N/A	N/A
BIOS 508 Human Genetics	1. Exams 2. Mini-thesis & seminar 3. Students are required to read and summarize several current research papers in various aspects of genetics.	1. Students use a variety of statistical tests to study problems in several areas, including population genetics and complex diseases.	N/A	N/A	N/A	1. 4 exams addressing classical and modern genetic principles with emphasis on the transmission of human traits, including inheritable diseases. 2. 10 problem sets addressing the application of	1. Comprehensive exam		

	TWO YR. RESEARCH TRACK								
Course	1. Graduates will be able to understand and summarize articles on current research topics from biomedical science journals and present professional reviews of the topics in seminars and professional quality papers.	2. Graduates will have a basic knowledge of the role and use of biostatistics in biomedical research and be able to generate hypothesis and select appropriate statistical tests to properly evaluate comparative research data.	3. Graduates will be able to interpret biomedical data reported in the literature and use it to design/conduct research in biomedical sciences.	4. Graduates will be able to effectively utilize bioinformatics databases when investigating scientific objectives.	5. Graduates will be able to summarize how current research is used to develop new therapies in medicine.	6. Graduates will be able to articulate interrelationships of discipline based information and apply that relationship to current clinical situations.	7. Graduates will be prepared to succeed in doctoral programs in the health professions and life sciences.	8. Graduates will be able to conduct original, translational research.	9. Graduates will be able to develop the ability to meet professional standards for writing publications and assist with grant preparation and submissions.
						genetics in understanding and predicting probabilities of transmission of genetic traits, including inheritable diseases.			
BIOS 509 Intro to Epidemiology	1. Students learn about interventional and observational studies. 2. Student practice reading and reviewing the medical literature.	1. Students learn the names and appropriate use of common biostatistical tests for nominal, ordinal, and interval data.	1. Students learn about interventional and observational studies. 2. Students practice reading and reviewing the medical literature.	1. Students are taught to search the common medical literature search engines and databases, along with limiting, for	N/A	1. Students practice reading and reviewing the medical literature. 2. Students develop written journal club report.	Comprehensive Exam	N/A	N/A

								TWO YR. RESEARCH TRACK	
Course	1. Graduates will be able to understand and summarize articles on current research topics from biomedical science journals and present professional reviews of the topics in seminars and professional quality papers.	2. Graduates will have a basic knowledge of the role and use of biostatistics in biomedical research and be able to generate hypothesis and select appropriate statistical tests to properly evaluate comparative research data.	3. Graduates will be able to interpret biomedical data reported in the literature and use it to design/conduct research in biomedical sciences.	4. Graduates will be able to effectively utilize bioinformatics databases when investigating scientific objectives.	5. Graduates will be able to summarize how current research is used to develop new therapies in medicine.	6. Graduates will be able to articulate interrelationships of discipline based information and apply that relationship to current clinical situations.	7. Graduates will be prepared to succeed in doctoral programs in the health professions and life sciences.	8. Graduates will be able to conduct original, translational research.	9. Graduates will be able to develop the ability to meet professional standards for writing publications and assist with grant preparation and submissions.
	3. Students develop a written journal club report. 4. Exams	2. Exams	3. Students develop a written journal club report. 4. Exams	proper outcomes. 2. Exams		3. Exams			
BIOS 510 Intro to Research	1. Exam questions from guest researchers; 2. Discussion of published manuscripts	N/A	1. Writing a publication quality laboratory report; 2. Assessment of laboratory notebooks	1. Bioinformatics laboratory exercise and exam questions	1. Exam questions from guest researchers; 2. Laboratory report paper	Same as #5	1. Comprehensive exam	1. Process and understand a research project; 2. Conduct experiments	1. Write a publication quality paper meeting prof. standards; 2. Assist with grant preparation and submission; 3. Discuss and identify next steps for research design from the paper.
BIOS 511 Adv. Research Ethics	1. Exam	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

	TWO YR. RESEARCH TRACK								
Course	1. Graduates will be able to understand and summarize articles on current research topics from biomedical science journals and present professional reviews of the topics in seminars and professional quality papers.	2. Graduates will have a basic knowledge of the role and use of biostatistics in biomedical research and be able to generate hypothesis and select appropriate statistical tests to properly evaluate comparative research data.	3. Graduates will be able to interpret biomedical data reported in the literature and use it to design/conduct research in biomedical sciences.	4. Graduates will be able to effectively utilize bioinformatics databases when investigating scientific objectives.	5. Graduates will be able to summarize how current research is used to develop new therapies in medicine.	6. Graduates will be able to articulate interrelationships of discipline based information and apply that relationship to current clinical situations.	7. Graduates will be prepared to succeed in doctoral programs in the health professions and life sciences.	8. Graduates will be able to conduct original, translational research.	9. Graduates will be able to develop the ability to meet professional standards for writing publications and assist with grant preparation and submissions.
(online)									
BIOS 512 Adv. Techniques in Biochemistry & Molecular Biology	N/A (for one year M.S. Track)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIOS 513 Biochemistry	1. Yes 2. Take-home assignment 3. Exams	N/A	1. Yes 2. Take-home assignment 3. Exams	1. Yes 2. Take-home assignment 3. Exams	1. Yes 2. Take-home assignment	N/A	1. Publications; 2. Presentations 3. Comprehensive Exam	N/A	N/A
BIOS 514 Molecular Biology	1. Exams 2. Home Project	N/A	1. Exams	N/A	1. Exams 2. Home Project	1. Exams 2. Home Project	1. Exams	N/A	N/A
BIOS 515 Scientific Communication	N/A (for one-year M.S. Track)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIOS 516 Immunology	1. Final project: Students will be graded on a	N/A	1. Journal discussions that build toward	1. Investigate and search out	1. Final project: Students will	1. Homework: Throughout	N/A	N/A	N/A

								TWO YR. RESEARCH TRACK	
Course	1. Graduates will be able to understand and summarize articles on current research topics from biomedical science journals and present professional reviews of the topics in seminars and professional quality papers.	2. Graduates will have a basic knowledge of the role and use of biostatistics in biomedical research and be able to generate hypothesis and select appropriate statistical tests to properly evaluate comparative research data.	3. Graduates will be able to interpret biomedical data reported in the literature and use it to design/conduct research in biomedical sciences.	4. Graduates will be able to effectively utilize bioinformatics databases when investigating scientific objectives.	5. Graduates will be able to summarize how current research is used to develop new therapies in medicine.	6. Graduates will be able to articulate interrelationships of discipline based information and apply that relationship to current clinical situations.	7. Graduates will be prepared to succeed in doctoral programs in the health professions and life sciences.	8. Graduates will be able to conduct original, translational research.	9. Graduates will be able to develop the ability to meet professional standards for writing publications and assist with grant preparation and submissions.
	final project that requires literature search of scientific journals and oral presentation on their findings. 2. Also, homework assignments will be distributed throughout the semester that requires reading of current scientific literature and answering questions regarding the journal article.		the final project.	information.	be graded on a final project that requires them to investigate current clinical trials and compare this information with scientific literature search. (This goes along with outcome #1 – final project)	the semester clinical cases from literature will be assigned that correspond to the molecular mechanisms being learned in class.			

Course	1. Graduates will be able to understand and summarize articles on current research topics from biomedical science journals and present professional reviews of the topics in seminars and professional quality papers.	2. Graduates will have a basic knowledge of the role and use of biostatistics in biomedical research and be able to generate hypothesis and select appropriate statistical tests to properly evaluate comparative research data.	3. Graduates will be able to interpret biomedical data reported in the literature and use it to design/conduct research in biomedical sciences.	4. Graduates will be able to effectively utilize bioinformatics databases when investigating scientific objectives.	5. Graduates will be able to summarize how current research is used to develop new therapies in medicine.	6. Graduates will be able to articulate interrelationships of discipline based information and apply that relationship to current clinical situations.	7. Graduates will be prepared to succeed in doctoral programs in the health professions and life sciences.	TWO YR. RESEARCH TRACK	
								8. Graduates will be able to conduct original, translational research.	9. Graduates will be able to develop the ability to meet professional standards for writing publications and assist with grant preparation and submissions.
BIOS 521 Research Seminar II	N/A (for one-year M.S. Track)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
BIOS 570 Synthesis/Comprehensive Exam	X	X	X	X	X	X	1. Comprehensive Exam		
BIOS 571 Seminar/Mini-Thesis	X	X	X	X	X	X	1. Comprehensive Exam		
BIOS 580 Research Project	N/A (for one-year M.S. Track)								
BIOS 590 Thesis Dissertation	N/A (for one-year M.S. Track)								

Kansas City University of Medicine and Biosciences

MASTER OF BIOETHICS LEARNING OUTCOMES BY COURSE

COURSE	#1. Graduates will demonstrate critical thinking including ethical decision-making skills.	#2. Graduates will apply various methodologies in evaluating bioethical situations.	#3. Graduates will integrate humanism, professionalism, and cultural competence in working with diverse populations.	#4 Graduates will communicate effectively in written, oral, and interpersonal contexts.	#5 Graduates will be proficient and demonstrate ethical practices in clerical and other settings.
BETH 501 History and Methodology	X			Class discussion; essays	
BETH 502 Intro to Bioethics	X	X	X	Written	
BETH 503 Religious Perspectives and Bioethics	Using different resources to analyze ethical questions	Ethnograph analysis of practices and texts intra religious reasoning texts	Study diverse religious traditions and their approaches to bioethical questions	Written interpersonal field trip and papers.	
BETH 504 Diversity, Culture and Bioethics		X	X	X	
BETH 505 Bioethics at the Margins	Critical, ethical thinking in public/health policy	Health policy analysis and analysis of marginalization	Understanding health marginalization and inequity across different populations	Written and oral presentations, papers and exam	
BETH 506 Exploring the Foundations of Bioethics	X	X	X	X	
BETH 507 Clinical Dilemmas in Bioethics					
BETH 508 Clinical Topics in Bioethics	X	X		X	
BETH 510 Film & Creative Imagination	X	X	X	Written & oral	
BETH 510 Law and Society	X	X	X	Written & oral	
BETH 510 Social and Ethical Transformations	X		X	Written	
BETH 510 Social Justice					
BETH 514 Death & Dying			X	X	
BETH 516 Pediatric Ethics	X	X		X	

COURSE	#1. Graduates will demonstrate critical thinking including ethical decision-making skills.	#2. Graduates will apply various methodologies in evaluating bioethical situations.	#3. Graduates will integrate humanism, professionalism, and cultural competence in working with diverse populations.	#4 Graduates will communicate effectively in written, oral, and interpersonal contexts.	#5 Graduates will be proficient and demonstrate ethical practices in clerical and other settings.
BETH 550 Bioethics Final Project	Expectations of critical, ethical analysis	There must be some recognized method of analysis	Sometimes	Must be well written	
IDIS 110 Ethics for Physicians	X	X	X	X	
IDIS 111 Bioethics in Action – The OSCE Experience			X	X	
IDIS 112 Bioethics in Action – The OSCE Experience			X	X	