MD2 - MEDICAL SCHOOL: YEAR 2

MD2 6001 Human Disease Foundations I Cr. 10
Human Disease Foundations I launches the MD2 pre-clerkship segment of the MD degree program. This is the first of a 3-part series. This course builds on the normal structure and function of organ systems from Segment 1 to provide students with foundational knowledge of disease processes. The overall goal of the Human Disease Foundations series is to engage second-year medical students in learning the key concepts and foundational principles related to the etiology, pathogenesis, pathology, pathophysiology, clinical manifestations, basic principles of diagnosis, and treatment of disease processes. These courses emphasize foundational knowledge in pathophysiology, microbiology, immunology, genetics, and pharmacology. In Human Disease Foundations-I, we will cover the foundational aspects of the pathology and pathophysiological mechanisms of disease, clinical genetics, immunology, microbiology/infectious disease, and the musculoskeletal, peripheral nervous and integumentary systems. Offered Yearly.

MD2 6002 Human Disease Foundations II Cr. 10
Human Disease Foundations II continues the MD2 pre-clerkship segment of the MD degree program. This is the second course of a 3-part series. This course builds on the normal structure and function of these organ systems from Segment 1 to provide students with foundational knowledge of disease processes. The overall goal of the Human Disease Foundations series is to engage second-year medical students in learning the key concepts and foundational principles related to the etiology, pathogenesis, pathology, pathophysiology, clinical manifestations, basic principles of diagnosis, and treatment of disease processes. These courses emphasize foundational knowledge in pathophysiology, microbiology, immunology, genetics, and pharmacology. In Human Disease Foundations-II, we will cover the most important aspects of the pathology and pathophysiological mechanisms of diseases affecting the cardiopulmonary, gastrointestinal, and urinary systems. Offered Yearly.

MD2 6003 Human Disease Foundations III Cr. 10
Human Disease Foundations III concludes the MD2 pre-clerkship segment of the 4-year program leading to the MD degree. This is the last course of a 3-part series that provides medical students with foundational knowledge of disease processes, building on organ-based normal structure and function from Segment 1. The goal of Human Disease Foundations-III is to engage students in learning the key concepts and foundational principles related to etiology, pathology, pathophysiology, recognition of clinical presentations, basic principles of diagnosis, and treatment of disease processes which affect the hematologic/lymphatic, endocrine, reproductive and central nervous systems. This course emphasizes foundational knowledge in pathophysiology, microbiology, immunology, genetics, pharmacology, neurology and psychiatry. The knowledge gained will build a strong foundation for future clinical training on the internal medicine, obstetrics and gynecology, neurology, and psychiatry clerkships. Offered Yearly.

MD2 6101 Clinical Skills 2-A Cr. 1
Designed to develop and demonstrate foundational knowledge and basic clinical skills in history-taking, patient examination, oral case presentation, clinical reasoning and performance of procedures required to participate in clinical service-learning activities. Students who are competent in these foundational skills will then proceed to develop advanced skills in patient interviewing and physical examination emphasizing a patient-centered empathic and compassionate approach incorporating the patient's perspective, socioeconomic background and cultural intelligence, and protection of patient privacy required to participate in early clinical experiences. Offered Yearly.

MD2 6102 Clinical Skills 2-B Cr. 1
Designed to develop and demonstrate foundational knowledge and basic clinical skills in history-taking, patient examination, oral case presentation, clinical reasoning and performance of procedures required to participate in clinical service-learning activities. Students who are competent in these foundational skills will then proceed to develop advanced skills in patient interviewing and physical examination emphasizing a patient-centered empathic and compassionate approach incorporating the patient’s perspective, socioeconomic background and cultural intelligence, and protection of patient privacy required to participate in early clinical experiences. Offered Yearly.

MD2 6103 Clinical Skills 2-C Cr. 2
Designed to develop and demonstrate foundational knowledge and basic clinical skills in history-taking, patient examination, oral case presentation, clinical reasoning and performance of procedures required to participate in clinical service-learning activities. Students who are competent in these foundational skills will then proceed to develop advanced skills in patient interviewing and physical examination emphasizing a patient-centered empathic and compassionate approach incorporating the patient’s perspective, socioeconomic background and cultural intelligence, and protection of patient privacy required to participate in early clinical experiences. Offered Yearly.

MD2 6201 Population, Patient, Physician and Professionalism (P4) 2-A Cr. 1
P4 Segment 2 is a second year medical student course designed to guide students to: provide patient-centered and culturally responsive care, to become effective team members, to learn evidence based theories that reduce healthcare disparities, to recognize their own professional development, and to foster self-directed learning through use of flipped classroom models, case studies, and real world interactions in community projects that utilize an inter-professional approach to caring for specialized populations. Offered Yearly.

MD2 6202 Population, Patient, Physician and Professionalism (P4) 2-B Cr. 1
P4 Segment 2 is a second year medical student course designed to guide students to: provide patient-centered and culturally responsive care, to become effective team members, to learn evidence based theories that reduce healthcare disparities, to recognize their own professional identity formation, and to foster self-directed learning through use of flipped classroom models, case studies, and real world interactions in community projects that utilize an inter-professional approach to caring for specialized populations. Offered Yearly.

MD2 6203 Population, Patient, Physician and Professionalism (P4) 2-C Cr. 1
P4 Segment 2 is a second year medical student course designed to guide students to: provide patient-centered and culturally responsive care, to become effective team members, to learn evidence based theories that reduce healthcare disparities, to recognize their own professional identity formation, and to foster self-directed learning through use of flipped classroom models, case studies, and real world interactions in community projects that utilize an inter-professional approach to caring for specialized populations. Offered Yearly.

MD2 6301 Service Learning 2-A Cr. 0
Segment 2 Service Learning is a second year medical school course designed to guide students to: provide patient-centered and culturally responsive care, to become effective team members, to learn evidence based theories that reduce healthcare disparities, to recognize their own professional identity formation, and to foster self-directed learning through use of flipped classroom models, case studies, and real world interactions in community projects that utilize an inter-professional approach to caring for specialized populations. Offered Yearly.
MD2 6302 Service Learning 2-B Cr. 0
Builds on concepts learned in the first segment with additional emphasis on equipping trainees to provide patient-centered and culturally responsive care to distinct patient populations living in Detroit. Topics of discussion include nutrition-related chronic disease, veteran health, sexual health, homeless health, school-based health, and healthcare provided to those with disabilities. Through large group sessions, small group sessions, online modules, and service-learning activities, trainees will become effective inter-professional team members, learn how to reduce health care disparities, improve professional development, and foster self-directed learning skills. Offered Yearly.

MD2 6303 Service Learning 2-C Cr. 0
Builds on concepts learned in the first segment with additional emphasis on equipping trainees to provide patient-centered and culturally responsive care to distinct patient populations living in Detroit. Topics of discussion include nutrition-related chronic disease, veteran health, sexual health, homeless health, school-based health, and healthcare provided to those with disabilities. Through large group sessions, small group sessions, online modules, and service-learning activities, trainees will become effective inter-professional team members, learn how to reduce health care disparities, improve professional development, and foster self-directed learning skills. Offered Yearly.

MD2 6401 Clinical Experiential Clerkship 2-A Cr. 1
The course is focused on ambulatory clinical exposure with the overall objective of developing students as medical professionals, patient advocates, and skilled clinicians. Offered Yearly.

MD2 6402 Clinical Experiential Clerkship 2-B Cr. 1
The course is focused on ambulatory clinical exposure with the overall objective of developing students as medical professionals, patient advocates, and skilled clinicians. Offered Yearly.

MD2 6403 Clinical Experiential Clerkship 2-C Cr. 1
The course is focused on ambulatory clinical exposure with the overall objective of developing students as medical professionals, patient advocates, and skilled clinicians. Offered Yearly.

MD2 6510 Clinical Medicine II: Physical Diagnosis Cr. 0
Advanced physician-patient communication skills; additional competencies in physical examination and diagnosis. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Med Second Year; enrollment is limited to students with a major in Medicine; enrollment is limited to Medical level students. Offered Yearly.

Repeatable for 8 Credits

MD2 6701 Population, Patient, Physician and Professionalism (P4) Part II Cr. 5
Builds on concepts learned in the first course with additional emphasis on equipping trainees to provide patient-centered and culturally responsive care to distinct patient populations living in Detroit. Topics of discussion include nutrition-related chronic disease, veteran health, sexual health, homeless health, school-based health and healthcare provided to those with disabilities. Through large group sessions, small group sessions, online modules, and service-learning activities, trainees will become effective inter-professional team members, learn how to reduce health care disparities, improve professional development and foster self-directed learning skills. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Med Second Year.

MD2 6702 Musculoskeletal, Skin and Peripheral Nervous Systems: Fundamentals of Human Disease Cr. 3
Engages medical students in learning the key concepts related to the pathogenesis, pathology, pathophysiology, basic principles of diagnosis, and treatment of disease processes affecting the musculoskeletal organ system, skin, and peripheral nervous system. Content includes: review of the anatomy of the extremities/spine; upper/lower extremity fractures/injuries; development, normal structure/function, and aging of bones and joints; metabolic and non-metabolic bone disease; scoliosis; disorders of the extracellular matrix and soft tissue; synovial fluid analysis; osteoarthritis; rheumatoid arthritis; septic arthritis; gout; CPPD deposition disease and pseudogout; ankylosing spondylitis; reactive arthritis; psoriatic arthritis; systemic lupus erythematosus; systemic sclerosis; skin tumors and rashes; skin and soft tissue infections; manifestations of neuromuscular diseases; and pharmacologic interventions for the treatment of MSK, PNS, and skin disorders. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Med Second Year.
MD 6703 Cardiopulmonary Systems: Fundamentals of Human Disease Cr. 2
Covers the key concepts related to the pathology, pathophysiology, diagnosis and treatment of cardiovascular and pulmonary disease. The cardiovascular component includes: normal anatomy, embryology, and physiology; systemic hypertension; atherosclerosis and ischemic heart disease; basic electrophysiological principles; ECG interpretation; valvular heart disease; diseases of the pericardium; tumors; non-atherosclerotic vascular disease; primary myocardial disease; cardiovascular disease in the elderly; congenital heart disease; and congestive heart failure. The pulmonary component includes: normal anatomy, histology, and physiology; arterial blood gases; various diseases affecting the pulmonary system; lung cancer and smoking cessation; aging and the respiratory system; respiratory failure; and introduction to sleep and sleep medicine. Relevant pharmacologic management of cardiovascular and pulmonary diseases will also be discussed. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Med Second Year.

MD 6704 Gastrointestinal Systems: Fundamentals of Human Disease Cr. 3
Engages medical students in learning the key concepts related to the etiology, pathogenesis, pathology, and pathophysiology of non-infectious and infectious disease processes affecting the gastrointestinal organs, as well as basic principles of their diagnosis and treatment. The following content areas will be covered: liver disorders; diseases affecting the gallbladder, extrahepatic biliary tract and pancreas; diseases of the salivary glands, esophagus, stomach, small intestine, and colon; genetic predisposition to cancers of the gastrointestinal tract; and the effects of various systemic disorders on the GI tract. Nutritional and pharmacologic management of gastrointestinal diseases will also be included. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Med Second Year.

MD 6705 Renal and Urinary Systems: Fundamentals of Human Disease Cr. 2
Provides medical students with an understanding of the pathogenesis, pathology and pathophysiology of disease processes affecting the kidney and urinary tract. Students will develop the skills of diagnosis and learn treatment options. The following content areas are covered: normal renal physiology; various disorders of body fluid, electrolyte and acid#basis# regulation; the principles underlying appropriate therapeutic strategies; acute and chronic renal failure; uremia; end stage renal disease; major glomerular, tubulointerstitial and systemic diseases with renal involvement; major benign and malignant tumors of the kidney and bladder; infections of the urinary tract; the principles for appropriate supportive and therapeutic measures including nutritional management of patients with renal disease; and an understanding of the physiologic basis for the pharmacologic actions of drugs on the kidney. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Med Second Year.

MD 6706 Endocrine and Reproductive Systems: Fundamentals of Human Disease Cr. 3
Engages medical students in learning the key concepts related to the pathogenesis, pathology, and pathophysiology of the more common disease processes affecting the endocrine and reproductive organ systems, as well as basic principles of their diagnosis and treatment. The following content areas will be covered: fundamental concepts regarding endocrine hormones; the hypothalamic/pituitary axis and related disorders; reproductive endocrinology and corresponding abnormalities; disorders of the male and female genital tracts; abnormalities of the placenta and selected complications of pregnancy; breast disease; diabetes mellitus; lipid disorders; diseases of the thyroid, parathyroid, and adrenal glands; calcium homeostasis and disorders of calcium; endocrine hypertension; obesity; and genetic factors that play a role in endocrine disorders. Nutritional management of diabetic and obese patients will be covered. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Med Second Year.

MD 6707 Hematopoietic and Lymphoid Systems: Fundamentals of Human Disease Cr. 2
The overall goal will be to provide the foundations, background facts and expected competencies, to foster understanding common benign and malignant hematological disorders. At the end of this course, students should have the skills and the ability to integrate the acquired knowledge into clinical settings. The following content areas will be covered: a review of normal blood coagulation, hemostasis and platelet function; hemolytic anemia including diagnostic tests; hemoglobinopathies including how hemoglobin alterations produce disease, diagnosis and management; platelet disorders including the symptoms associated with inherited and acquired coagulation and vascular disorders; an introduction to stem cell transplantation; transfusion medicine; diagnostic criteria, pathophysiology, and therapeutic options for the treatment of anemia, myelodysplastic syndromes, acute leukemias, myeloproliferative disorders, and lymphomas, among other topics. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Med Second Year.

MD 6708 Central Nervous System: Fundamentals of Human Disease Cr. 3
Covers key concepts related to disease processes affecting the central nervous system, and provides the basis for understanding the unique features that disease processes in the brain. Enables students to integrate neuroanatomy, neuropathology, and introductory clinical neurology in preparation for the clinical rotation in neurology. The following content areas will be covered: basic neuropathology and mass lesions; brain tumors and infectious processes; neurodegenerative diseases; cognitive dysfunction and dementia; the application of neuroradiology to diagnosis; pathology of cerebrovascular disorders and stroke; nervous system trauma; autoimmune and demyelinating diseases; epilepsy; and the pharmacotherapy of headache. Normal development and the recognition and treatment of psychiatric disorders seen in adults and children will also be covered. This portion will prepare students for their clinical rotation in psychiatry and provide a background in psychiatry. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Med Second Year.

MD 6709 Clinical Skills Course III Cr. 3
A self-directed, competency-based course designed to develop and demonstrate knowledge and skills in history-taking, patient examination, oral case presentation, clinical reasoning and procedural skills. Offered Yearly.
Restriction(s): Enrollment limited to students with a class of Med Second Year.
MD2 6710 Clinical Experiential Clerkship Cr. 1-3
The course is focused on ambulatory clinical immersion with the overall objective of developing students as medical professionals, patient advocates, and skilled clinicians. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Med Second Year.
Repeatable for 4 Credits

MD2 6711 Medical Political Action and Public Health Leadership (MPAC) Part II Cr. 5
Provides students with an opportunity to learn, practice and apply knowledge and skills as physician healthcare leaders and advocates. Students will engage in healthcare advocacy to improve healthcare for patients and communities and to improve the health systems that deliver care. Working with organized medicine, students will author resolutions and meet with governmental leaders to present and advocate for reforms to decrease health disparities. Students will learn about use of media as a tool for advocacy and learn about philanthropy as it relates to healthcare. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Med Second Year.

MD2 6712 Community Engagement Part II Cr. 5
Provides students with an opportunity to explore and understand the experience of under-served patients as they navigate community health services in Southeast Michigan. Medical students interact with patients or participants and staff to learn the circumstances and challenges faced with limited resources, to foster empathy, compassion, respect and humanistic care. Meeting with agency leaders and staff students learn about program design, administration and operation through outreach and mentoring volunteering. Offered Yearly.

Prerequisite: MD1 5151
Restriction(s): Enrollment limited to students with a class of Med Second Year.

MD2 6713 Medical Research Elective Part II Cr. 5
This research program is designed to “prepare physicians who are committed to excellence by cultivating habits of research and inquiry.” By participating in an investigative experience, it will also significantly impact and sharpen critical reasoning skills. Students who are educated in a research environment are stimulated to seek a deeper understanding of health and disease and develop their ability to analyze scientific literature, making them valued members of any medical field, whether it be academic medicine, community-based practice, health care policy, or emerging technologies. Offered Yearly.

Prerequisite: MD2 6711
Restriction(s): Enrollment limited to students with a class of Med Second Year.

MD2 6714 Medical Political Action & Public Health Leadership (MPAC) Part III Cr. 1
The MPAC program elective provides students with an opportunity to learn, practice and apply knowledge and skills as physician healthcare leaders and advocates. Students will engage in healthcare advocacy to improve healthcare for patients and communities and to improve the health systems that deliver care. Working with organized medicine, students will author resolutions and meet with governmental leaders to present and advocate for reforms to decrease health disparities. Students will learn about use of media as a tool for advocacy and learn about philanthropy as it relates to healthcare. Offered Yearly.

Prerequisite: MD2 6711
Restriction(s): Enrollment limited to students with a class of Med Second Year.

MD2 6715 Community Engagement Part III Cr. 1
The Community Engagement elective provides students with an opportunity to explore and understand the experience of underserved patients as they navigate community health services in Southeast Michigan. Medical students interact with patients or participants and staff to learn the circumstances and challenges faced with limited resources, to foster empathy, compassion, respect and humanistic care. Meeting with agency leaders and staff students learn about program design, administration and operation through outreach and mentoring volunteering. Offered Yearly.

Restriction(s): Enrollment limited to students with a class of Med Second Year.

MD2 6716 Medical Research Elective Part III Cr. 1
This research program is designed to “prepare physicians who are committed to excellence by cultivating habits of research and inquiry.” By participating in an investigative experience, it will also significantly impact and sharpen critical reasoning skills. Students who are educated in a research environment are stimulated to seek a deeper understanding of health and disease and develop their ability to analyze scientific literature, making them valued members of any medical field, whether it be academic medicine, community-based practice, health care policy, or emerging technologies. Offered Yearly.

Prerequisite: MD2 6713
Restriction(s): Enrollment limited to students with a class of Med Second Year.

MD2 6717 Medical Education Research Part II Cr. 5
Society places a large emphasis on education, yet understanding the basic science of teaching and learning is neglected. That is, research exploring the effectiveness of curriculum, teaching, and learning strategies on student outcomes, has not been a priority in medical education. To train students and residents for the practice of medicine in the 21st century, we must continue to be innovative in our curriculum and teaching, stay current with new technology and be able to demonstrate the effectiveness of our programs through the practice of medical education research. Offered Yearly.

Prerequisite: MD1 5154
Restriction(s): Enrollment limited to students with a class of Med Second Year.

MD2 6800 Preparation for Clerkships Cr. 7
This course is required for all students who plan to begin clerkships in April of each year. It is designed to prepare students for the transition from the pre-clerkship classroom to the clerkship experience. Through lectures, small group sessions, and skills-building workshops, students will learn about their expected roles and responsibilities as members of the health care team, particularly an inpatient clinical team, and practice skills such as preparing oral and written presentations for inpatient rounds and performing basic procedures. During this course, students will also complete their mandatory training in electronic health records (EHR), infection control, advanced cardiovascular life support (ACLS), and HIPAA certification. Offered Yearly.