COURSE DESCRIPTION CATALOG

The School of Medicine Course Description Catalog includes course listings for the Doctor of Medicine program. All courses in this catalog are approved to be taught; however, not all courses may be offered each term. Information includes course rubrics (subject) and number, credits, and course description.
M1 Courses
MDM1 9100 Biomedical Foundations of Clinical Practice 1
MDM1 9105 Biomedical Foundations of Clinical Practice 2
MDM1 9106 Biomedical Foundations of Clinical Practice 2a
MDM1 9110 Anatomical Foundations of Clinical Practice 1
MDM1 9111 Anatomical Foundations of Clinical Practice 2
MDM1 9112 Anatomical Foundations of Clinical Practice 2a
MDM1 9120 Neuroscience
MDM1 9121 Cardiovascular
MDM1 9122 Respiratory
MDM1 9140 Art and Practice of Medicine 1
MDM1 9141 Art and Practice of Medicine 2
MDM1 9160 Medical Humanities and Clinical Bioethics 1
MDM1 9161 Medical Humanities and Clinical Bioethics 2
MDM1 9180 Promotion and Maintenance of Health 1
MDM1 9181 Promotion and Maintenance of Health 2
MDM1 9190 Capstone 1
MDM1 9191 Capstone 2
MDM1 9200 Promoting Reflection and Individual growth through Support and Mentoring 1 (PRISM 1)
MDM1 9201 Promoting Reflection and Individual growth through Support and Mentoring 2 (PRISM 2)

M2 Courses
MDM2 9310 Gastroenterology and Hepatology
MDM2 9312 Renal and Urinary
MDM2 9314 Endocrinology
MDM2 9316 Male and Female Reproductive
MDM2 9318 Musculoskeletal, Connective Tissue and Skin
MDM2 9320 Hematology
MDM2 9322 Behavioral Science
MDM2 9324 Psychopathology
MDM2 9326 Integrative Evidence Based Medicine
MDM2 9328 Neuroscience 2
MDM2 9340 Art and Practice of Medicine 3
MDM2 9341 Art and Practice of Medicine 4
MDM2 9342 Art and Practice of Medicine 5
MDM2 9360 Medical Humanities and Clinical Bioethics 3
MDM2 9361 Medical Humanities and Clinical Bioethics 4
MDM2 9380 Promotion and Maintenance of Health 3
MDM2 9381 Promotion and Maintenance of Health 4
MDM2 9390 Capstone 3
MDM2 9391 Capstone 4
MDM2 9400 Promoting Reflection and Individual growth through Support and Mentoring 3 (PRISM 3)
MDM2 9401 Promoting Reflection and Individual growth through Support and Mentoring 4 (PRISM 4)
MDM2 9410 U.S. Medical Licensure Examination Review
MDM2 9411 Clinical Internship
MDM2 9412 Community-based Internship
MDM2 9413 Education Training Internship

**M3 Courses**
MDM3 9510 Family Medicine 1
MDM3 9512 Internal Medicine
MDM3 9514 Surgery
MDM3 9516 Pediatrics
MDM3 9518 Psychiatry
MDM3 9520 Obstetrics and Gynecology
MDM3 9522 Neurology
MDM3 9524 Ophthalmology Clerkship
MDM3 9560 Medical Humanities and Clinical Bioethics 5
MDM3 9561 Medical Humanities and Clinical Bioethics 6
MDM3 9590 Capstone 6
MDM3 9591 Capstone 7
MDM3 9592 Capstone 8
MDM3 9600 Promoting Reflection and Individual growth through Support and Mentoring 5 (PRISM 5)
MDM3 9601 Promoting Reflection and Individual growth through Support and Mentoring 6 (PRISM 6)
MDM3 9610 Interdisciplinary Studies 1
MDM3 9612 Interdisciplinary Studies 2
MDM3 9620 Directed Independent Study – Medicine 1

**M4 Courses**
MDM4 9710 Family Medicine 2
MDM4 9712 Emergency Medicine Clerkship
MDM4 9713 Emergency Medicine Elective
MDM4 9714 Anesthesiology and Pain Medicine Clerkship
MDM4 9715 Anesthesiology and Pain Medicine Elective
MDM4 9716 Diagnostic Medicine 1
MDM4 9717 Diagnostic Medicine 2
MDM4 9718 Ophthalmology Clerkship
MDM4 9730 Family Medicine Sub-Internship Clerkship
MDM4 9732 Internal Medicine Sub-Internship Clerkship
MDM4 9733 Internal Medicine Sub-Internship Elective
MDM4 9734 Pediatric Sub-Internship Clerkship
MDM4 9735 Pediatric Sub-Internship Elective
MDM4 9736 Surgery Sub-Internship Clerkship
MDM4 9737 Surgery Sub-Internship Elective
MDM4 9790 Capstone 9
Electives
MDM4 9850 Allergy and Clinical Immunology
MDM4 9856 Cardiology
MDM4 9858 Cardiovascular Surgery
MDM4 9860 Colon and Rectal Surgery
MDM4 9862 Diagnostic Radiology
MDM4 9864 Core Emergency Medicine Rotation (EM1)
MDM4 9866 Advanced Emergency Medicine Rotation (EM2)
MDM4 9868 Advanced Pediatric Emergency Medicine Rotation (EM3)
MDM4 9870 Endocrinology/Metabolism
MDM4 9872 Gastroenterology/Hepatology
MDM4 9874 Geriatric Medicine
MDM4 9876 Hematology/Oncology
MDM4 9878 Infectious Diseases
MDM4 9882 Maternal Fetal Medicine
MDM4 9884 Medicine/Pediatrics
MDM4 9886 Neonatal Medicine
MDM4 9888 Nephrology
MDM4 9890 Neurology
MDM4 9892 Neurosurgery
MDM4 9894 Nuclear Medicine
MDM4 9896 Obstetrics/Gynecology
MDM4 9898 Orthopaedic Surgery
MDM4 9900 Pediatric, Acute Care Clinic
MDM4 9902 Pediatrics, Adolescent
MDM4 9904 Pediatric Cardiology
MDM4 9906 Pediatrics, Developmental and Behavioral
MDM4 9908 Pediatrics Gastroenterology
MDM4 9910 Pediatric Hematology/Oncology
MDM4 9912 Genetics, Clinical [INACTIVE]
MDM4 9914 Pediatrics, General Sub-Internship
MDM4 9916 Pediatric Infectious Disease
MDM4 9918 Pediatrics Intensive Care
MDM4 9920 Pediatric Neurology
MDM4 9922 Physical Medicine and Rehabilitation
MDM4 9924 Pulmonary Medicine
MDM4 9926 Radiation Oncology
MDM4 9928 Rheumatology
MDM4 9930 Surgery, General
MDM4 9932 Urology
MDM4 9934 Surgery, Vascular
MDM4 9936 Surgical ICU
MDM4 9938 Family Medicine Sub-Internship Elective
MDM4 9940 Integrated Clinical Anatomy
MDM4 9941 General Dermatology Office Clinical Rotation
MDM4 9943 Orthopaedic Surgery – Foot and Ankle
MDM4 9944 Orthopaedic Surgery – Sports Medicine
MDM4 9945 Orthopaedic Surgery – Spine
MDM4 9946 Introduction to Clinical Ethics Consultation
MDM4 9947 Transplant Surgery
MDM4 9948 Directed Independent Research in Medicine
MDM4 9949 Away Elective Study
MDM4 9950 International Away Elective Study
MDM4 9951 Pathology and Laboratory Medicine Elective
MDM4 9952 Medical Education
MDM4 9953 Emergency Medicine Point-Of-Care and Procedural Ultrasound
MDM4 9954 Medical Genetics/Genomic Medicine
MDM4 9955 General Otolaryngology
MDM4 9957 Holistic Admissions Review
MDM4 9958 Medical Intensive Care
MDM4 9959 Pulmonary and Critical Care Elective
MDM4 9960 Pulmonary Sleep Medicine Outpatient Elective
MDM4 9961 Integrative Medicine
MDM4 9962 Emergency Medicine Sub-I
MDM4 9963 Trauma Surgery
MDM4 9964 Breast Disease and Surgery
MDM4 9965 Colon and Rectal Surgery
MDM4 9966 Otolaryngology-Head and Neck Surgery
MDM4 9967 Pediatric Surgery
MDM4 9968 Interventional Radiology
MDM4 9969 Clinical Endocrinology
MDM4 9970 Introduction to Pediatric Radiology
MDM4 9971 Art and Practice of Medicine Clinical Skills Education
MDM4 9972 Basic Neuroscience for Clinical Specialties
MDM4 9973 Plastic and Reconstructive Surgery
M1 (First Year) Courses

MDM1 9100 Biomedical Foundations of Clinical Medicine 1
This interdisciplinary course provides an introduction to basic biomedical science topics, establishing a foundation of the essential principles required for the study of human medicine. The course provides integrated content in gross anatomy, radiology, embryology, histology, biochemistry, cell biology, molecular biology, genetics, immunology, microbiology, pathology, physiology, and pharmacology and signal transduction. The course emphasizes basic concepts while encouraging students to develop problem-solving skills. The topic areas covered in this course will be revisited, expanded and reinforced in the subsequent organ systems course of the preclinical curriculum. (11 Credits)

MDM1 9105 Biomedical Foundations of Clinical Medicine 2
This interdisciplinary course provides a continuation of the introduction to basic biomedical science topics covered in Biomedical Foundations of Clinical Medicine 1. (12 Credits)

MDM1 9106 Biomedical Foundations of Clinical Practice 2a
This course concludes the introduction to basic biomedical science topics for first-year medical students, establishing a foundation of the essential principles required for the study of human medicine. The 2-week course will integrate content in biochemistry, cell biology, genetics, immunology, microbiology, pathology, physiology, and pharmacology. The course emphasizes basic concepts while encouraging students to develop problem-solving skills. The topic areas covered in this course, will be revisited, expanded and reinforced in the subsequent organ system courses of the pre-clerkship curriculum. (2 Credits)

MDM1 9110 Anatomical Foundations of Clinical Practice 1
Part one of a two-part sequence for first-year medical students that presents the foundations of clinical anatomy. The 10-week course covers the anatomy of the back, upper limb, thorax, and abdomen using a series of integrated lectures and cadaveric dissection laboratories. The application of foundational knowledge to clinical scenarios, and the introduction of radiologic imaging of the body will be emphasized. (10 Credits)

MDM1 9111 Anatomical Foundations of Clinical Practice 2
The second part of a sequence of courses for first-year medical students that presents the foundations of clinical anatomy. The 8-week course covers the anatomy of the, pelvis, perineum, and lower limb using a series of integrated lectures and cadaveric dissection laboratories. The application of foundational knowledge to clinical scenarios, and the introduction to radiologic imaging of the body will be emphasized. (8 Credits)

MDM1 9112 Anatomical Foundations of Clinical Practice 2a
Conclusion to the two-part sequence for first-year medical students that presents the foundations of clinical anatomy. The 2-week course covers the anatomy of the head and neck using a series of integrated lectures and cadaveric dissection laboratories.
The application of foundational knowledge to clinical scenarios, and the introduction to radiologic imaging of the body will be emphasized. (2 Credits)

**MDM1 9120 Neuroscience**
This interdisciplinary course provides an integrated approach to the study of the central nervous system, including the fundamental concepts of neuroanatomy, neurochemistry, neurophysiology and clinical neurology. The course covers the structural, biochemical and developmental aspects of the brain and spinal cord, as well as the major sensory and motor systems and higher neural function. The importance of major neurobiological principles in the clinical setting will be emphasized. (3 Credits)

**MDM1 9121 Cardiovascular**
This course focuses on the assimilation of foundational basic science concepts that act to maintain the cardiovascular system and how disruptions in cardiovascular homeostasis lead to common clinical disorders of the heart and vascular structures. Methods of instruction will include team-based learning, case-based learning, lecture and laboratory exercises that apply key concepts to the interpretation of common diagnostic tools such as, electrocardiograms, heart auscultation and echocardiograms. (7 Credits)

**MDM1 9122 Respiratory**
This interdisciplinary course surveys normal and abnormal function of the respiratory system, in conjunction with a discussion of the embryology, histology and pulmonary physiology of the upper and lower respiratory tract. The course covers the pathology and pathophysiology of common disorders of the respiratory system, including allergy, environmental respiratory diseases, obstructive and restrictive pulmonary diseases and pulmonary oncology. The course also introduces the pharmacology and therapeutic principles of the common agents used in pulmonary medicine. Clinical instruction includes administration and interpretation of pulmonary function tests. (6 Credits)

**MDM1 9140 Art and Practice of Medicine 1**
This course introduces students to the concepts of patient-centered care, effective communication, interviewing, taking a social and medical history, physical examination, clinical reasoning and decision-making, diagnosis and the humane and ethical care of patients. The skills of history taking and the art of communication will be taught during encounters with standardized patients and actual patients under the supervision of clinical faculty in the clinical skills training laboratory and during hospital and clinic visits. Students will be introduced to important concepts of culturally competent care, medical ethics, HIPAA guidelines and blood borne pathogen and respiratory pathogen prevention and safety guidelines. (6 Credits)
MDM1 9141 Art and Practice of Medicine 2
This course continues with clinical skills instruction with further development of history-taking skills and introduction to the physical examination using an organ system approach. Students will continue to gain experience in obtaining patient histories as they initiate their practice of the general and focused physical examination. Skills in interviewing and physical examination techniques will be developed under the mentorship of clinical faculty. The course concludes with an OSCE (Objective Structured Clinical Examination) examination. (7 Credits)

MDM1 9160 Medical Humanities and Clinical Bioethics 1
This course introduces students to the thoughtful practice of medicine and care of patients and their families in a compassionate, ethical and professional manner. The course examines the social, ethical and legal issues that accompany physicians’ interactions with patients and contribute to their effectiveness as healers and professionals. The course covers the basic constraints and methods of ethical analysis and moral reasoning in the healthcare setting, with an emphasis on their application to key ethical issues in health care practice and policy. This course considers what it means to be a physician and what is expected in terms of personal deportment, professionalism, appearance and cultural awareness. (3 Credits)

MDM1 9161 Medical Humanities and Clinical Bioethics 2
This course continues student introduction to the thoughtful practice of medicine and care of patients and their families in compassionate, ethical and professional manner begun in Medical Humanities and Clinical Bioethics 1. (3 Credits)

MDM1 9180 Promotion and Maintenance of Health 1
This course focuses on disease prevention, health promotion and population health, as well as on the integration of each in the practice of medicine. The content will provide the basic framework for understanding disease mechanisms from the perspective of preventing illness and remaining healthy. The evidence base of practice, community aspects of practice and clinical preventive services and health promotion will be emphasized. The fundamentals of epidemiology as the study of the distribution and determinants of disease will be covered throughout the course. Basic biostatistics will be taught to ensure competence with measurements of disease and health along with exposures and associated factors that are subject to hypothesis testing. Critical thinking and evaluative skills will be developed through critique of published studies. The complex overlay of psychosocial aspects of human disease will be probed. Practical behavioral assessment and intervention approaches will be taught including motivational interviewing, social cognitive theory, readiness for change, behavioral modification and crisis intervention. Key components of the achievement and maintenance of health such as the principles of human nutrition, exercise science, environmental health and safety will be discussed. (3 Credits)
MDM1 9181 Promotion and Maintenance of Health 2
This course continues the discussion of disease prevention, health promotion and population health and their integration into the practice of medicine begun in Promotion and Maintenance of Health 1. The content will provide the basic framework for understanding disease mechanisms from the perspective of preventing illness and remaining healthy. (3 Credits)

MDM1 9190 Capstone 1
This course provides structured content supporting student participation in the required four year Capstone project program. The course includes development of medical information literacy and skills in medical informatics including clinical informatics, imaging informatics and bioinformatics. The process of clinical trials including hypothesis development and protocol design will also be covered. Compliance training in the ethical use of human subjects and animals in basic science and clinical research and Institutional Review Board requirements will be discussed. (3 Credits)

MDM1 9191 Capstone 2
This course continues the presentation of structured content supporting student participation in the required four year Capstone project program. Course content covers an introduction to translational research resources such as bio banking, tissue culture, advanced microscopy, genomics and proteomics. Students will learn to outline and research scholarly initiatives in bench, clinical, or translational research, education, or service through a mentored process requiring students to identify a field of interest and develop a project proposal. (3 Credits)

MDM1 9200 Promoting Reflection and Individual growth through Support and Mentoring 1 (PRISM 1)
This course provides a safe environment that encourages and fosters personal reflection; promotes self-care and wellness; guides professional development; provides a resource for students seeking guidance and advice; enhances team building and problem-solving skills; and assists in career exploration. (1 Credit)

MDM1 9201 Promoting Reflection and Individual growth through Support and Mentoring 2 (PRISM 2)
This course provides a safe environment that encourages and fosters personal reflection; promotes self-care and wellness; guides professional development; provides a resource for students seeking guidance and advice; enhances team building and problem-solving skills; and assists in career exploration. (1 Credit)
M2 (2nd Year) Courses

MDM2 9310 Gastroenterology and Hepatology
This interdisciplinary course surveys the anatomy, histology, physiology and biochemistry of the gastrointestinal tract and the associated pancreatic, liver and biliary tract systems. Gross and microscopic pathology and the clinical aspects of gastroenterological diseases are presented, with emphasis on integrating the molecular, cellular and pathophysiological aspects of disease processes to their related symptoms and signs. Clinical case presentations will be used to illustrate how the basic and clinical sciences of gastroenterology are utilized for diagnostic and therapeutic decisions. (6 Credits)

MDM2 9312 Renal and Urinary
This course focuses on the role of the renal/urinary system in maintaining homeostasis and how its function is impacted by acute and chronic disease. Basic sciences will be integrated with clinical medicine relevant to the kidneys and urinary system. Methods of instruction will include team-based learning, case-based learning, lecture and laboratory exercises that apply key concepts that are covered during coursework. (5 Credits)

MDM2 9314 Endocrinology
This interdisciplinary course surveys normal and abnormal function of the endocrine system. The course covers normal structure and function of the endocrine glands and their control. Discussion of each glandular system includes basic science coverage that is integrated with pathology, pathophysiology and clinical approach to diagnosis and treatment of disorders of the endocrine systems. The course includes clinical cases illustrating the pathophysiology and treatment of endocrine disease. (4 Credits)

MDM2 9316 Male and Female Reproductive
This interdisciplinary course covers the physiologic principles of both the male and female reproductive systems including the acute and chronic diseases of the reproductive organs and introduces the important aspects of perinatal medicine. The mechanism of sexual determination, differentiation and development towards reproductive competence will be examined. The course surveys normal and abnormal function of the female reproductive system, including the menstrual cycle, fertilization, implantation, ovum growth development, differentiation and associated abnormalities. Disorders of fetal development and the mechanism of normal and abnormal parturition will be covered, as well as ethical issues in reproductive science. Medical issues affecting pregnant women such as pre-eclampsia and diabetes will be presented. In addition, the conclusion of the reproductive cycle, menopause and the use of hormone replacement will be covered. The course will cover male reproductive function and spermatogenesis. (6 Credits)

MDM2 9318 Musculoskeletal, Connective Tissue and Skin
This interdisciplinary course covers the basic histology, physiology, pathology and pharmacology of integument and skeletal muscle and introduces the clinical disciplines
of dermatology and musculoskeletal medicine. This course presents the common diseases and illnesses affecting the skin and musculoskeletal systems, including infectious, neoplastic, environmental and immunologic factors. (6 Credits)

**MDM2 9320 Hematology**

This multidisciplinary course covers the biology, physiology and pathophysiology of blood and the blood forming organs, with systematic consideration of hematopoiesis, blood cells, blood coagulation, blood groups, hematological malignancies, bone marrow transplantation, immunoglobulins and other plasma proteins. The course also covers the etiology, pathology, clinical features, diagnosis and pharmacological and non-pharmacological treatment of anemia, clonal hematopoietic and thrombotic disorders as well as the coagulation system. A general introduction to blood banking/transfusion medicine and oncology is also provided. (4 Credits)

**MDM2 9322 Behavioral Science**

This course introduces the bio-psycho-social paradigm of medicine, providing a foundation the delivery of patient care from a behavioral perspective. This model is then applied to the life-cycle from conception to death with emphasis on the psychological, social and cultural determinants of health. The course covers sexual development and function, cognition and its assessment, personality and stress and coping. The course introduces normal developmental milestones from birth through adolescence and a description of the developmental processes of growth and changes during adulthood and aging. Common behavioral concerns and disorders of childhood and adolescence will be discussed. The impact of violence, child abuse and neglect on patient health will also be presented. The course will also cover the common concerns of family and adulthood including stress, family discord, caregiving and end of life issues. (3 Credits)

**MDM2 9324 Psychopathology**

This course utilizes the bio-psycho-social paradigm to present the neurobiological, psychological and social factors that contribute to the onset and development of psychiatric disorders. The course provides students an introduction to the clinical features, scientific understanding and most effective treatments of the major mental health disorders that characterize medical practice. Major psychiatric disorders such as mood disorders, schizophrenia, anxiety disorders, trauma and personality disorders and the basis of their treatment will be discussed in depth. Students will gain knowledge and skills necessary to assess and diagnose persons with psychiatric illness, common childhood psychiatric illnesses and neuropsychiatric-neurodegenerative disorders. (3 Credits)

**MDM2 9326 Integrative Evidence Based Medicine**

This course will help students develop skills to deal with the complexities and integrative dimensions of clinical judgment. Students will study a series of clinical cases, gaining experience developing a differential diagnosis and management plan using the fundamental principles of evidence-based medicine. Clinical reasoning skills will be developed using clinical cases involving selected content-rich topics such as syndromes, aging, disability, substance abuse and death and dying, requiring students
to utilize principles of pain management, critical thinking, ethics and professionalism and situational awareness. The student will encouraged to appreciate the complex dimensions of clinical judgment including: complexities of interactions, involvement of multiple organ systems, examples of major syndromes and diseases, life stages, patient’s perspective and incorporation of basic science knowledge. (3 Credits)

**MDM2 9328 Neuroscience 2**
This interdisciplinary course continues to provide an integrated approach to the study of the central nervous system, including the fundamental concepts of neuroanatomy, neurochemistry, neurophysiology and clinical neurology. (3 credits)

**MDM2 9340 Art and Practice of Medicine 3**
This course continues the development of history taking skills and physical examination skills using an organ system approach. The course will emphasize the use of the student’s developing knowledge of the basic sciences for clinical reasoning and decision-making in a clinically relevant setting. This course allows for further mastery of history and physical examination skills using standardized patients and supervised rotations in a clinical setting. Students will be introduced to a variety of healthcare settings and under the guidance of a faculty preceptor, further develop history-taking and physical exam skills, assessment and plan formulation and the documentation of these skills in an acceptable format. (6 Credits)

**MDM2 9341 Art and Practice of Medicine 4**
This course continues practice of clinical skills using an organ systems approach with standardized patients, bedside case presentations and discussion of differential diagnosis both in the clinical and classroom setting. The course objective is to help students further develop clinical skills including; history-taking and physical exam skills, clinical assessment and plan formulation, diagnosis, medical communication and the documentation of these efforts in an acceptable format. The course concludes with an OSCE examination. (5 Credits)

**MDM2 9342 Art and Practice of Medicine 5**
This course is the final clinical skills preparation for students prior to entering clerkships in the M3 and M4 years. The course is an introduction to the general routine of health care delivery in the clinic or hospital setting and the responsibilities and expectations of medical students in those settings. The course also presents and reviews areas of immediate importance to the student including; routine hospital and outpatient clinic operations and procedures, maintenance of patient records, patient safety responsibilities and medico-legal considerations. (3 Credits)

**MDM2 9360 Medical Humanities and Clinical Bioethics 3**
This course continues student introduction to the thoughtful practice of medicine and care of patients and their families in compassionate, ethical and professional manner from Medical Humanities and Clinical Bioethics 2. (3 Credits)
MDM2 9361 Medical Humanities and Clinical Bioethics 4
This course continues student introduction to the thoughtful practice of medicine and care of patients and their families in compassionate, ethical and professional manner from Medical Humanities and Clinical Bioethics 3. (2 Credits)

MDM2 9380 Promotion and Maintenance of Health 3
This course continues the discussion of disease prevention, health promotion and population health and their integration into the practice of medicine begun in Promotion and Maintenance of Health 2. The content will provide the basic framework for understanding disease mechanisms from the perspective of preventing illness and remaining healthy. (3 Credits)

MDM2 9381 Promotion and Maintenance of Health 4
This course continues the discussion of disease prevention, health promotion and population health and their integration into the practice of medicine begun in Promotion and Maintenance of Health 3. The content will provide the basic framework for understanding disease mechanisms from the perspective of preventing illness and remaining healthy. (2 Credits)

MDM2 9390 Capstone 3
This course provides an opportunity for students to explore an area of medicine at a greater depth than is presented in the usual classroom setting. The Capstone Project, a mentored experience, is designed to facilitate an in-depth exploration of a topic of significance to the art and science of medicine. Students will be required to work on a scholarly project in an area of their interest under the supervision of a faculty research mentor. Students will also be required to meet periodically with classmates with similar scholarly interests in small group settings for discussion, sharing and feedback. (3 Credits)

MDMD2 9391 Capstone 4
Students continue work on a scholarly capstone project under the supervision of a faculty research mentor. Students will also be required to meet periodically with classmates with similar scholarly interests in small group settings for discussion, sharing and feedback. (2 Credits)

MDM2 9392 Capstone 5
Students continue work on a scholarly capstone project under the supervision of a faculty research mentor. Students will also be required to meet periodically with classmates with similar scholarly interests in small group settings for discussion, sharing and feedback. (2 Credits)

MDM2 9400 Promoting Reflection and Individual growth through Support and Mentoring 3 (PRISM 3)
This course provides a safe environment that encourages and fosters personal reflection; promotes self-care and wellness; guides professional development; provides a resource for students seeking guidance and advice; enhances team building and
problem-solving skills; and assists in career exploration. (1 Credit)

**MDM2 9401 Promoting Reflection and Individual growth through Support and Mentoring 4 (PRISM 4)**
This course provides a safe environment that encourages and fosters personal reflection; promotes self-care and wellness; guides professional development; provides a resource for students seeking guidance and advice; enhances team building and problem-solving skills; and assists in career exploration. (1 Credit)

**MDM2 9410 U.S. Medical Licensure Examination Review**
This interdisciplinary course provides the students with an opportunity to systematically review the knowledge and skills they have acquired during the M1 and M2 years in preparation for taking the United States Medical Licensure Examination Step 1. The course includes formal review sessions in addition to guided independent study. (4 Credits)

**MDM4 9716 Diagnostic Medicine 1**
Description: This is an introduction of diagnostic medicine “boot camp” to medical students at the end of M2 before they start clinical clerkships in M3. It includes one day on pathology, one day on radiology and a half day of laboratory tour. The purpose of this portion of clerkship in pathology is focused on getting students familiar with pathology and radiology practice. The pathology topics include the orientation to pathology department, test directory & order entry, send-out tes, point of care testing, specimen collection, stat test, critical value, TAT, test panel, pre-analytical variability, reference interval, choose wisely, communication and the process of diagnostic workup. The radiology topics will include the orientation to radiology department, different kinds of image studies, imaging in pregnancy and breast-feeding patients, entering orders, radiation safety and risks. (3 Credits)

Objectives: Student will gain a better understanding of the various imaging modalities that are available and how to use them. Students will build on the radiographic knowledge, and learn essential principles.

**MDM2 9411 Clinical Internship**
Offers credit to students participating in a department-approved internship in a clinical setting. Provides the student with a valuable experiential learning opportunity. Departmental approval required prior to registration. (2-12 credits) *Does not count toward graduation

**MDM2 9412 Community-based Internship**
Offers credit to students participating in a department-approved internship in a community setting. Provides the student with a valuable experiential learning opportunity. Departmental approval required prior to registration. (2-12 credits) *Does not count toward graduation
MDM2 9413 Education Training Internship
Offers credit to students participating in a department-approved internship in an education training setting. Provides the student with a valuable experiential learning opportunity. Departmental approval required prior to registration. (2-12 credits) *Does not count toward graduation

M3 (Third Year) Courses

MDM3 9510 Family Medicine 1
Four-week required clerkship. In this course students will discuss the principles of Family Medicine, gather information, formulate differential diagnoses, and propose plans for the initial evaluation and management of patients with presentations. Students will discuss principles of common chronic diseases, develop evidence-based health promotion/disease prevention plans, demonstrate competency in advanced elicitation of history, communication, physical examination and critical thinking skills. Students will discuss the critical role of family physicians within a health care system. (9 credits)

MDM3 9512 Internal Medicine
Eight-week required clerkship. Students will spend 4 weeks in the hospital wards rotating with a team consisting of an attending physician, senior resident, and intern resident; 2 weeks rotating on a subspecialty of internal medicine (gastroenterology, infectious disease, cardiology, pulmonary, geriatrics, and hospital medicine); and 2 weeks rotating in the ambulatory setting with a primary care physician. (5 Credits)

MDM3 9514 Surgery
Eight-week required clerkship within the Surgery department at Beaumont Hospital. (5 Credits)

MDM3 9516 Pediatrics
Eight-week required clerkship. Students will spend time in the following areas: Pediatrics, Pediatrics outpatient clinic or office, Pediatrics newborn nursery, and a Pediatrics subspecialty clinic. (12 Credits)

MDM3 9518 Psychiatry
Six-week required clerkship. Students will be assigned patients; learn to take appropriate histories for consultations; rotate within the emergency center; spend time in the Psychiatric Assessment Center; and attend lectures. (5 Credits)

MDM3 9520 Obstetrics and Gynecology
Six-week required clerkship. In this course students will be able to articulate the key concepts of the discipline of obstetrics and gynecology. This will include key concepts in general practice obstetrics and gynecology. (5 Credits)
MDM3 9522 Neurology
Four-week required clerkship. Each student will spend 1 week working with a private neurologist; 1 week in the hospital doing staff neurology consults; rotate with specialty Neurology units; and attend lectures. (6 Credits)

MDM3 9524 Ophthalmology Clerkship
In this one week course student will begin to understand the basic anatomy of the visual system, become adept at performing a basic screening eye examination, be able to recognize red flag physical findings, become familiar with ophthalmic manifestations of the systemic disease and their surveillance schedule, and recognize the need for evaluation by an ophthalmologist of patients with common eye symptoms/signs and eye trauma. (2 Credits)

MDM3 9560 Medical Humanities and Clinical Bioethics 5
Each month, as a part of the Interdisciplinary Studies curriculum, the M3 class will meet to discuss selected topics in clinical ethics. The course is case-based and will be led by teams of M3 students, who will meet with Dr. Krug one month in advance of each session to discuss an approach to the topic and case selection. (5 Credits)

MDM3 9561 Medical Humanities and Clinical Bioethics 6
Each month, as a part of the Interdisciplinary Studies curriculum, the M3 class will meet to discuss selected topics in clinical ethics. The course is case-based and will be led by teams of M3 students, who will meet with Dr. Krug one month in advance of each session to discuss an approach to the topic and case selection. (5 Credits)

MDM3 9590 Capstone 6
This is the first instance of a three semester course that is part of the Capstone Research Program. The students will continue to work closely with their mentor to conduct their defined research protocol. Throughout this course, the student will be expected to collect and analyze data and schedule frequent, periodic meetings with their mentor. Mandatory assignments will include written project progress reports submitted to their project and course director at the end of each semester. At the end of the course, the expectation is that the students have completed data collection and analysis for their Capstone project. The student should have the necessary information to develop a detailed summary of their project in the form of a brief research paper, poster and/or an oral presentation. (2 Credits)

MDM3 9591 Capstone 7
This is the second instance of a three semester course that is part of the Capstone Research Program. The students will continue to work closely with their mentor to conduct their defined research protocol. Throughout this course, the student will be expected to collect and analyze data and schedule frequent, periodic meetings with their mentor. Mandatory assignments will include written project progress reports submitted to their project and course director at the end of each semester. At the end of the course, the expectation is that the students have completed data collection and analysis for their Capstone project. The student should have the necessary information
to develop a detailed summary of their project in the form of a brief research paper, poster and/or an oral presentation. (2 Credits)

**MDM3 9592 Capstone 8**
This is the third instance of a three semester course that is part of the Capstone Research Program. The students will continue to work closely with their mentor to conduct their defined research protocol. Throughout this course, the student will be expected to collect and analyze data and schedule frequent, periodic meetings with their mentor. Mandatory assignments will include written project progress reports submitted to their project and course director at the end of each semester. At the end of the course, the expectation is that the students have completed data collection and analysis for their Capstone project. The student should have the necessary information to develop a detailed summary of their project in the form of a brief research paper, poster and/or an oral presentation. (2 Credits)

**MDM3 9600 Promoting Reflection and Individual Growth through Support and Mentoring 5 (PRISM 5)**
PRISM is a course designed to highlight the importance of self-care and wellness and to promote the reflective process. Whereas much of medical education focuses on the development student into physicians, PRISM focuses on the individual development of each student. Mentoring is a key component of PRISM so students will continue to meet monthly with their PRISM mentors and small group. The topics covered in PRISM 5 and 6 will include wellness, financial literacy, group dynamics on the medical team, disillusionment, specialty career choice, preparing a personal statement and CV, planning the M4 year, and the residency application process. (1 Credit)

**MDM3 9601 Promoting Reflection and Individual Growth through Support and Mentoring 6 (PRISM 6)**
PRISM is a course designed to highlight the importance of self-care and wellness and to promote the reflective process. Whereas much of medical education focuses on the development student into physicians, PRISM focuses on the individual development of each student. Mentoring is a key component of PRISM so students will continue to meet monthly with their PRISM mentors and small group. The topics covered in PRISM 5 and 6 will include wellness, financial literacy, group dynamics on the medical team, disillusionment, specialty career choice, preparing a personal statement and CV, planning the M4 year, and the residency application process. (1 Credit)

**MDM3 9610 Interdisciplinary Studies 1**
The Interdisciplinary Studies course provides an opportunity to bring all students together monthly during the M3 clinical year for longitudinal curriculum in Infectious Disease, Medical Humanities and Clinical Bioethics and the PRISM along with single session topics. The instructional sessions will be presented using several different instructional formats such as interactive lecture, small group discussion and team-based learning depending on the content and the instructor. Although the course is broken
down into modules, each module is longitudinal, so that each month they will have Infectious Disease, Medical Humanities and Clinical Bioethics, PRISM and other content on the same day. This scheduling ensures that these important topics with content which will impact their performance in all clerkships is presented in a timely manner. (5 Credits)

**MDM3 9611 Interdisciplinary Studies 2**

The Interdisciplinary Studies course provides an opportunity to bring all students together monthly during the M3 clinical year for longitudinal curriculum in Infectious Disease, Medical Humanities and Clinical Bioethics and the PRISM along with single session topics. The instructional sessions will be presented using several different instructional formats such as interactive lecture, small group discussion and team-based learning depending on the content and the instructor. Although the course is broken down into modules, each module is longitudinal, so that each month they will have Infectious Disease, Medical Humanities and Clinical Bioethics, PRISM and other content on the same day. This scheduling ensures that these important topics with content which will impact their performance in all clerkships is presented in a timely manner. (5 Credits)

**MDM3 9620 Directed Independent Study – Medicine 1**

The focus of this course is to provide structured study time and educational resources to assist students in improving their basic science and/or clinical knowledge, skills and attitudes while developing frameworks for enhanced understanding of the practice of medicine. Students will create a structured study plan in consultation with the Associate Dean for Medical Education, Associate Dean for Undergraduate Clinical Education and the Assistant Dean for Student Affairs and work with appropriate basic science and clinical faculty to implement the independent study plan. (3-12 Credits)

**M4 (Fourth Year) Courses**

**MDM4 9712 Emergency Medicine Clerkship**

Description: In this course students will become familiar with the initial evaluation and therapy of a broad variety of adult and pediatric emergencies; formulate a differential diagnosis and initial diagnostic and management plan for the undifferentiated patient. Students will develop or improve technical skills in wound care, lumbar puncture, central venous access, eye examination, suturing, splinting, and EKG interpretation (6 Credits)

Objectives: Students will learn to recognize an acutely ill patient, become familiar with the initial evaluation and therapy of a broad variety of adult and pediatric emergencies, formulate a differential diagnosis and management plan for the undifferentiated patient, become familiar with potential life threatening causes of various presenting chief complaints, and gain an understanding of disposition for acutely ill patients and how age and co-morbidities alter these indications.

Duration: 4 weeks
Location: Royal Oak
Month(s) Offered: July-November, January-April
Minimum enrollment: 1 student
Maximum Enrollment: 8 students

**MDM4 9714 Anesthesiology and Pain Medicine Clerkship**
Description: Students will gain an understanding of the fundamentals of providing local and regional anesthesia for interventional and surgical procedures, acute and chronic pain states, and pain associated with labor and delivery. (6 Credits)

Objective: Students will gain professional experience in perioperative care, airway management, principles of anesthesia, and pain management.

Duration: 2 weeks
Month(s) Offered: August-May
Minimum enrollment: 1 student
Maximum Enrollment: 10 students

**MDM4 9717 Diagnostic Medicine 2**
Description: In this elective, students will gain a better understanding of the various imaging modalities that are available and how to use them. Students will build on the radiographic knowledge, and learn essential principles. (6 Credits)

Duration: 2 weeks
Month(s) Offered: September-April
Minimum enrollment: 4 students
Maximum Enrollment: 15 students

**MDM4 9715 Anesthesiology and Pain Medicine Elective**
Description: In this elective students will gain an understanding of the fundamentals of providing local and regional anesthesia for interventional and surgical procedures, acute and chronic pain states, and pain associated with labor and delivery. (6 Credits)

Duration: 4 weeks
Month(s) Offered: July-November, January-April
Minimum enrollment: 1 student
Maximum Enrollment: 2 students

**MDM4 9730 Family Medicine Sub-Internship Clerkship**
Description: In this clerkship, students will spend 4 weeks in hospital with the Combined Inpatient Teaching Service at Beaumont Health System, Troy or Grosse Pointe. The student will be expected to be an integral part of the team in terms of patient care and educational rounds/conferences. (6 Credits)

Objectives: Students will be able to gather information, formulate different diagnoses, and develop plans for the initial evaluation and management of patients admitted from the Emergency Department.
MDM4 9732 Internal Medicine Sub-Internship Clerkship
Description: In this course, students will develop and apply the data gathering and data synthesis processes used in Internal Medicine with special emphasis on history taking and physical diagnostic skills, time management and resource utilization. Students will apply the principles of medical decision-making, and an understanding of the rational, cost-effective use of diagnostic laboratory and imaging tests. (6 Credits)

Objectives: This course will increase students knowledge of national ethical and legal guidelines governing patient confidentiality, communicating effectively with patient’s and a patient’s family members, as well as non-physician members of the health care team and consultants. Sub-interns will be able to describe the indications, contraindications of venipuncture, intravenous catheter insertion, arterial blood sampling, nasogastric tube insertions, lumbar puncture, and urethral catheter insertion. Students will participate in rounds and are expected to maintain a log of encounters which will be used to assess their clerkship performance, among other factors.

Location: Royal Oak
Duration: 1 month; Days/Week: 6; Hours/Week: 80; Night Calls/Month: 6.
Month(s) Offered: July-April
Minimum enrollment: 1 student
Maximum Enrollment: 9 students

Location: Troy
Duration: 1 month; Days/Week: 6; Hours/Week: 80; Night Calls/Month: 6.
Month(s) Offered: September, October, January, February
Minimum enrollment: 1 student
Maximum Enrollment: 1 student

MDM4 9734 Pediatric Sub-Internship Clerkship
Description: Students will develop skills in interviewing and examining infants and children. Students will acquire diagnostic skills through history, physical examination and proper use of laboratory testing. Students will also learn how to maintain medical records and how to give a clinical case presentation. (6 Credits)

Objectives: Students will be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems. Students will be assigned to a pediatric-ward team which includes senior level residents, interns, and 3rd year medical students. The student will partcipate in the capacity of an intern evaluating new patients and following these patients during hospitalization. The student will take part in daily bedside rounds and teaching rounds with the Staff
Service pediatrician during the week. The student will attend and participate in pediatric morning report and pediatric noon conferences. The majority of shifts will be during the day Mon-Sun (7a-5p or 7a-7p) with the option of night shifts (7p-7a) during the month as well. The students will have 4-5 weekend days off during the one month rotation. In general, one Sub-Intern will be assigned to the pediatric floor per month. Recommended reading material includes *Current Diagnosis and Treatment Pediatrics* (most recent edition) Hay, Levin, Deterding, Sondheimer as well as any of the standard pediatrics

Location: Royal Oak  
Duration: 1 month  
Month(s) Offered: July-November, January-April  
Minimum enrollment: 1  
Maximum Enrollment: 2

**MDM4 9736 Surgery Sub-Internship Clerkship**

Description: The student will be assigned to a surgical-ward team that includes senior level residents, interns, and 3rd year medical students. The student will take part in daily bedside rounds and teaching rounds with the Staff Service surgeon during the week. The student will attend and participate in the surgical morning report and surgical noon conferences. The majority of shifts will be during the day, Mon-Sun (7a-5p or 7a-7p) with the option of night shifts (7p-7a) during the month as well. The students will have 4-5 weekend days off during the one month rotation. In general, one Sub-Intern will be assigned to the surgical floor per month. (6 Credits)

Objective: Students will participate in the capacity of an intern, evaluating new patients and following patients during hospitalization.

Location: Royal Oak  
Duration: 1 month  
Month(s) Offered: July-April  
Minimum enrollment: 1 student  
Maximum Enrollment: 4 students ** (3 student max –August)

**MDM4 9962 Emergency Medicine Sub-I**

The EM Sub-I provides further training in the acute evaluations and management of the undifferentiated patient. Students have the opportunity to be the primary provider for their patients under the supervision of the EM staff. (6 credits)

Pre-requisites: Successful completion of all required M3 clerkships, as well as a core EM clerkship.  
Enrollment: Must be a 4th year medical student.  
Duration: 4 weeks  
Month(s): July-November & January-April.  
Minimum Enrollment: 1  
Maximum Enrollment: 2  
Grading: Honors/Pass/Fail
Director: Amy Smark, MD
Coordinator: Takesha Shelton

**MDM4 9790 Capstone 9**
Description: The students will be expected to complete analysis of data collected from their Capstone research project. Periodic meetings with their mentor, project director and course director will continue throughout the semester. A mandatory Capstone "mini-manuscript" will be due at the end of the semester that has been edited and approved by the mentor. The students will be required to submit the mini-manuscript to the course Director in a prescribed format. (2 Credits)

**MDM4 9791 Capstone 10**
Description: The students will be expected to finalize their mini-manuscript and submit it in the appropriate format for publication in a Capstone annual publication. Students will be selected to present their Capstone research project as either a poster or an oral presentation during this final semester. Presentations on a specified date and time will be mandatory for successful completion of the course. (2 Credits)

**MDM4 9800 PRISM 7**
Description: This course will build on the themes of personal and professional development with a focus on the residency application process. Content will include advanced interviewing techniques and initial review of the match process. Sessions throughout the semester will be available on the student portal for students who are attending away electives. Mentors are encouraged to hold a team activity during the semester. (1 Credit)

**MDM4 9800 PRISM 8**
This course will build on the themes of personal and professional development with a focus on the match process. Content will include review of the match process and strategies for making a rank order list. Sessions throughout the semester will be available on the student portal for students who are attending away electives. Mentors are encouraged to hold a team activity during the semester. (1 Credit)

**Electives**

**MDM4 9820 Directed Independent Study-Medicine 2**
Description: The focus of this course is to provide structured study time and educational resources to assist students in improving their basic science and/or clinical knowledge, skills and attitudes while developing frameworks for enhanced understanding of the practice of medicine. Students will create a structured study plan in consultation with the Associate Dean for Undergraduate Clinical Education and work with appropriate basic science and clinical faculty to implement the independent study plan. (2-6 Credits)

**Directed Independent Study Scheduling form must be completed and submitted to OUWBelectives@oakland.edu**
MDM4 9850 Allergy and Clinical Immunology
In this course, students will become familiar with the indications, use and interpretation of the common lab and x-ray studies for allergy/immunology patients. Students will learn and understand the treatment approaches in allergy and immunology, including avoidance, medications and immunotherapy, as well as to become familiar with controversial/unproven therapies that abound in the field.

Prerequisites: Successful completion of M3 required clerkships
Enrollment: 4th year medical students
Duration: 4 weeks
Location: Royal Oak
Month(s) Offered: July-May
Minimum enrollment: 1
Maximum Enrollment: 1
Director: Carl B. Lauter, MD
Coordinator: Monica Demres

MDM4 9856 Cardiology
In this course, students will provide in-patient experience in treating patients with chronic heart disease, and other heart conditions. Students will gain proficiency in physical examination, ECG interpretation and use of noninvasive laboratory tests.

Prerequisites: Successful completion of M3 required clerkships
Enrollment: 4th year medical students
Duration: 4 weeks
Location: Royal Oak
Month(s) Offered: July-May
Minimum enrollment: 1
Maximum Enrollment: 1
Director: James Goldstein, MD
Coordinator: Monica Demres

MDM4 9858 Cardiovascular Surgery
In this course, students will become acquainted with cardiovascular disease as presented for surgical treatment. The student will acquire experience in the pre-operative evaluation of a cardiovascular surgery patient, acquaint himself with the surgery and become familiar with the post-operative care.

Prerequisites: Successful completion of M3 required clerkships
Enrollment: 4th year medical students
Duration: 4 weeks
Location: Royal Oak
Month(s) Offered: July-May
Minimum enrollment: 1
Maximum Enrollment: 1
Director: Mark Sakwa, MD
Coordinator: Monica Demres

MDM4 9860 Colon and Rectal Surgery
In this course, students will be introduced to the specialty of colon and rectal surgery; investigate and manage diseases of the anus and rectum; learn a comprehensive approach to management of inflammatory bowel disease (nutritional, medical, and surgical)

Prerequisites: Successful completion of M3 required clerkships
Enrollment: 4th year medical students
Duration: 4 weeks
Location: Royal Oak
Month(s) Offered: July-May
Minimum enrollment: 1
Maximum Enrollment: 1
Director: Donald Barkel, MD
Coordinator: Monica Demres

MDM4 9862 Diagnostic Radiology
In this course, students will be introduced to the medical specialty of diagnostic radiology and be familiarized with the range of imaging modalities and procedures available within the field of radiology.

Prerequisites: Successful completion of M3 required clerkships
Enrollment: 4th year medical students
Duration: 4 weeks
Location: Royal Oak
Month(s) Offered: September-November and February-May
Minimum enrollment: 1
Maximum Enrollment: 4
Director: Rachel VanHulle, MD
Coordinator: Judi Kriselmeir

MDM4 9864 Core Emergency Medicine Rotation (EM1)
In this course, students will learn to recognize the acutely ill patient; become familiar with the initial evaluation and therapy of a broad variety of adult and pediatric emergencies; formulate a differential diagnosis and initial diagnostic and management plan for the undifferentiated patient; and become familiar with potential life threatening causes of various presenting chief complaints

Prerequisites: Successful completion of M3 required clerkships
Enrollment: 4th year medical students
Duration: 4 weeks
Location: Royal Oak
Month(s) Offered: July-May
Minimum enrollment: 1
Maximum Enrollment: TBD
MDM4 9866 Advanced Emergency Medicine Rotation (EM2)
In this course, students will learn to become proficient with initial evaluation and management of evidence-based Emergency medicine and trauma care in both the adult and pediatric populations. Students will learn to be the primary provider for patients while in the Emergency Department, from initial evaluation to completion of disposition.

Prerequisites: Successful completion of M3 required clerkships
Enrollment: 4th year medical students
Duration: 4 weeks
Location: Royal Oak
Month(s) Offered: July-May
Minimum enrollment: 1
Maximum Enrollment: TBD
Director: Amy Smark, MD
Coordinator: Melody Cikalo, Jennifer Walker

MDM4 9868 Advanced Pediatric Emergency Medicine Rotation (EM3)
In this course, students will learn to recognize the acutely ill pediatric patient; become familiar with the initial evaluation and therapy of a broad variety of pediatric emergencies; and become proficient with initial evaluation and management of evidence-based pediatric emergency medicine and trauma care. Students will participate in pediatric residency lectures, high fidelity pediatric simulation and dedicated faculty mentorship.

Prerequisites: Successful completion of M3 required clerkships
Enrollment: 4th year medical students
Duration: 4 weeks
Location: Royal Oak
Month(s) Offered: July-May
Minimum enrollment: 1
Maximum Enrollment: TBD
Director: Amy Smark, MD
Coordinator: Melody Cikalo, Jennifer Walker

MDM4 9870 Endocrinology/Metabolism
In this course, students will become exposed to common clinical endocrine problems; understand and manage endocrine emergencies; develop a rational approach to endocrine testing procedures; and become familiar with the process of subspecialty consultation.

Prerequisites: Successful completion of M3 required clerkships
Enrollment: 4th year medical students
Duration: 4 weeks  
Location: Royal Oak  
Month(s) Offered: July-May  
Minimum enrollment: 1  
Maximum Enrollment: 2  
Director: Luis Ospina, MD  
Coordinator: Monica Demres

**MDM4 9872 Gastroenterology/Hepatology**

This course emphasizes the diagnostic recognition and practical management of common gastrointestinal diseases and disorders. An active endoscopy unit exposes the students to modern approaches to the diagnosis and treatment of many of these diseases. Particular emphasis is placed on clinical gastroenterology. (6 credits)

Prerequisites: Successful completion of M3 required clerkships  
Enrollment: 4th year medical students  
Duration: 4 weeks  
Location: Royal Oak  
Month(s) Offered: July-April  
Minimum enrollment: 1  
Maximum Enrollment: 2  
Director: Mitchell Cappell, M.D.  
Coordinator: Monica Demres

**MDM4 9874 Geriatric Medicine**

In this course students will learn to describe: the normal physiological changes of aging; the various theories that have been proposed to explain the aging process; and identify commonly altered disease presentation in the elderly.

Prerequisites: Successful completion of M3 required clerkships  
Enrollment: 4th year medical students  
Duration: 4 weeks  
Location: Royal Oak  
Month(s) Offered: August-October and December-May  
Minimum enrollment: 1  
Maximum Enrollment: 1  
Director: Khaled Imam, M.D.  
Coordinator: Monica Demres

**MDM4 9876 Hematology/Oncology**

In this course students will become familiar with the approach to hematological and oncological disorders and the diagnostic workup of these illnesses.

Prerequisites: Successful completion of M3 required clerkships  
Enrollment: 4th year medical students  
Duration: 4 weeks  
Location: Royal Oak
Month(s) Offered: July-May
Minimum enrollment: 1
Maximum Enrollment: 1
Director: Ishmael Jaiyesimi, D.O.
Coordinator: Monica Demres

MDM4 9878 Infectious Diseases
In this course students will gain experience diagnosing and treating patients with acute and chronic infectious diseases. Student will learn a practical yet systematic approach to patients presenting with unexplained fever, leukocytosis, or common infectious diseases clinical syndromes. Students will also gain insight into the interpretation of laboratory reports that relates the microbiology, serology and immunology of infectious diseases. (6 credits)

Prerequisites: M3 Internal Medicine Clerkship, Successful completion of M3 required clerkships
Enrollment: 4th year medical students
Duration: 4 weeks
Location: Troy
Month(s) Offered: July-November, January-June
Minimum enrollment: 1
Maximum Enrollment: 1
Director: Michel Hanna, MD
Coordinator: Lyndsey Schroeder

Location: Grosse Pointe
Month(s) Offered: July-December, January-May
Minimum enrollment: 1
Maximum Enrollment: 1
Director: Nicholas Gilpin, MD
Coordinator:

MDM4 9880 Ophthalmology
In this course students will begin to understand the basic anatomy of the visual system, become adept at performing basic screening eye examination, be able to recognize red flag physical findings, become familiar with ophthalmic manifestations of systemic disease and their surveillance schedule, and recognize the need for evaluation by an ophthalmologist of patients with common eye symptoms/signs and eye trauma. (6 credits)

Pre-requisites: Successful completion of M3 required clerkships
Enrollment: 4th year medical students
Duration: 4 weeks
Location: Royal Oak
Month(s) Offered: August-October, January, March-June
Minimum enrollment: 1
Maximum Enrollment: 1
Director: Lori Stec, MD
Coordinator: Sharon Dion

MDM4 9882 Maternal Fetal Medicine
In this course students will actively participate in clinical consultation and care of high-risk pregnancies on a busy obstetric service. (6 credits)

Pre-requisites: Successful completion of M3 required clerkships
Enrollment: 4th year medical students
Duration: 4 weeks
Location: Royal Oak
Month(s) Offered: July-May
Minimum enrollment: 1
Maximum Enrollment: 1
Director: Mark Redman, M.D.
Coordinator: Monica Demres

MDM4 9884 Medicine/Pediatrics
In this course students will be exposed to the aspects of Medicine/Pediatrics that would be most beneficial to their studies. Each Medicine/Pediatrics elective is custom designed to meet the educational needs and interests of the individual student. (6 credits)

Pre-requisites: Successful completion of M3 required clerkships
Enrollment: 4th year medical students
Duration: 4 weeks
Location: Royal Oak
Month(s) Offered: July-October and February-June
Minimum enrollment: TBD
Maximum Enrollment: TBD
Director: Jeffrey Haller, M.D.
Coordinator: Jeff Anderson

MDM4 9886 Neonatal Medicine
In this course students will function as an intern in the NICU. The student will be assigned a primary patient load, attend deliveries, participate in procedures and work closely with the neonatologist and resident team.

Pre-requisites: Successful completion of M3 required clerkships
Enrollment: 4th year medical students
Duration: 4 weeks
Location: Royal Oak
Month(s) Offered: July-May
Minimum enrollment: 1
Maximum Enrollment: 2
Director: Cynthia Pryce, M.D.
Coordinator: Monica Demres

**MDM4 9888 Nephrology**
In this course students will learn of disorders, failures, and treatments through Inpatient consultations with supervising nephrologists during daily rounds.

Pre-requisites: Successful completion of M3 required clerkships
Enrollment: 4th year medical students
Duration: 4 weeks
Location: Royal Oak
Month(s) Offered: July-May
Minimum enrollment: 1
Maximum Enrollment: 1
Director: Francis Dumler, M.D.
Coordinator: Monica Demres

**MDM4 9890 Neurology**
The senior elective aims to familiarize individuals with common problems encountered in the practice of neurology particularly with those problems, which may be seen in the office of a family medicine physician or internist. Students will learn to demonstrate a neurological examination, which is thorough, understandable and effective in practice.

Pre-requisites: Successful completion of M3 required clerkships
Enrollment: 4th year medical students
Duration: 4 weeks
Location: Royal Oak
Month(s) Offered:
Minimum enrollment:
Maximum Enrollment:
Director: Lynda Misra, D.O.
Coordinator: Monica Demres

**MDM4 9892 Neurosurgery**
The student will work alongside of the neurosurgical team and be expected to attend morning rounds, assist in the operating room, and attend neuroscience rounds and brain cutting.

Pre-requisites: Successful completion of M3 required clerkships
Enrollment: 4th year medical students
Duration: 4 weeks
Location: Royal Oak
Month(s) Offered: July-May
Minimum enrollment: 1
Maximum Enrollment: 1
Director: Rick Olson, M.D.
Coordinator: Monica Demres

**MDM4 9894 Nuclear Medicine**

The student will participate in the performance and interpretation of all types of diagnostic studies performed in the Nuclear Medicine Department.

Pre-requisites: Successful completion of M3 required clerkships
Enrollment: 4\textsuperscript{th} year medical students
Duration: 4 weeks
Location: Royal Oak
Month(s) Offered: July-May
Minimum enrollment: 1
Maximum Enrollment: 1
Director: Paresh Mahajan, M.D.
Coordinator: Monica Demres

**MDM4 9896 Obstetrics/Gynecology**

Students will participate in outpatient resident continuity clinics and work rounds with house staff. The student will also become familiar with the use of ancillary obstetric procedures.

Pre-requisites: Successful completion of M3 required clerkships
Enrollment: 4\textsuperscript{th} year medical students
Duration: 4 weeks
Location: Royal Oak
Month(s) Offered: July-May
Minimum enrollment: 1
Maximum Enrollment: 2
Director: Ty Kwaiser, M.D.
Coordinator: Monica Demres

**MDM4 9898 Orthopaedic Surgery**

Description: This rotation is designed to give students a broad-based orthopaedic education. The four-week rotation is divided into weekly rotations on the various orthopaedic subspecialties. These include Foot and Ankle, Spine, Hand, Sports, Adult Reconstruction, Trauma, Pediatrics, and Musculoskeletal Oncology. Students are treated as integral members of the orthopaedic team.

Pre-requisites: Successful completion of M3 required clerkships
Enrollment: 4\textsuperscript{th} year medical students
Duration: 4 weeks
Location: Royal Oak
Month(s) Offered: July-June
Minimum Enrollment: 1
Maximum Enrollment: 4  
Director: Zachary Vaupel, M.D.  
Coordinator: Monica Demres  

**MDM4 9900 Pediatric, Acute Care Clinic**  
Students will evaluate and manage patients in the Pediatric Acute Care Clinic under the direct supervision of the senior resident and attending pediatricians. Students will perform a history and physical examination on each patient evaluated, and will formulate an assessment, differential diagnosis, recommendations for further evaluation/testing, and a tentative diagnosis and plan.  

Pre-requisites: Successful completion of M3 required clerkships  
Enrollment: 4th year medical students  
Duration: 4 weeks  
Location: Royal Oak  
Month(s) Offered: July-June  
Minimum Enrollment: 1  
Maximum Enrollment: 1  
Director: Mary E. Smyth, M.D.  
Coordinator: Monica Demres  

**MDM4 9902 Pediatrics, Adolescent**  
Students will gain experience with the interview and examination of adolescents, including issues of confidentiality and legal rights. Students will become familiar with adolescent growth and physical development as well as gain an understanding of adolescent cognitive and emotional/social development.  

Pre-requisites: Successful completion of M3 required clerkships  
Enrollment: 4th year medical students  
Duration: 4 weeks  
Location: Royal Oak  
Month(s) Offered: September-November and January-June  
Minimum Enrollment: 1  
Maximum Enrollment: 1  
Director: Kathleen Mammel, M.D.  
Coordinator: Monica Demres  

**MDM4 9904 Pediatric Cardiology**  
Students will acquire basic skills in the cardiac examination and will understand normal hemodynamics, the natural history of congenital and acquired heart disease, and the findings expected in specific cardiac defects. Student will learn how to interpret ECG's and will acquire a basic understanding of echocardiography.  

Pre-requisites: Successful completion of M3 required clerkships  
Enrollment: 4th year medical students  
Duration: 4 weeks
MDM4 9906 Pediatrics, Developmental and Behavioral
Students will learn to distinguish normal from abnormal development and how to approach the assessment of disorders of learning and development.

Pre-requisites: Successful completion of M3 required clerkships
Enrollment: 4th year medical students
Duration: 4 weeks
Location: Royal Oak
Month(s) Offered: Individual Arrangement Only
Minimum enrollment: Individual Arrangement Only
Maximum Enrollment: Individual Arrangement Only
Director: Stefani Hines, M.D.
Coordinator: Monica Demres

MDM4 9908 Pediatrics Gastroenterology
Students will obtain a general fund of knowledge of the common and rare disorders of the gastrointestinal tract and function in infants, children, and adolescents.

Pre-requisites: Successful completion of M3 required clerkships
Enrollment: 4th year medical students
Duration: 4 weeks
Location: Royal Oak
Month(s) Offered: August-May
Minimum enrollment: 1
Maximum Enrollment: 1
Director: Robert Truding, M.D.
Coordinator: Monica Demres

MDM4 9910 Pediatric Hematology/Oncology
Students will gain an understanding of hematological and oncological problems that are present in the pediatric age group and the management of these problems. Student will learn how to evaluate hematological and oncological lab studies, learn how to take complete history, and perform a physical examination on pediatric hematology and oncology patients.

Pre-requisites: Successful completion of M3 required clerkships
Enrollment: 4th year medical students
Duration: 4 weeks
Location: Royal Oak
Month(s) Offered: July-May
Minimum enrollment: 1
Maximum Enrollment: 1
Director: Charles Main, M.D.
Coordinator: Monica Demres

MDM4 9914 Pediatrics, General Sub-Internship
Students will develop skills in interviewing and examining infants and children. Students will acquire diagnostic skills through history, physical examination and proper use of laboratory testing. Students will also learn how to maintain medical records and how to give a clinical case presentation. (6 credits)

Pre-requisites: Successful completion of M3 required clerkships
Enrollment: 4th year medical students
Duration: 4 weeks
Location: Royal Oak
Month(s) Offered: July-June
Minimum enrollment: 1
Maximum Enrollment: 1
Director: Chris Bergsman, M.D.
Coordinator: Monica Demres

MDM4 9916 Pediatric Infectious Disease
Students will learn to recognize the evaluation and management of common pediatric infections. Student will also come to understand antimicrobial and antiviral therapy and prophylaxis. Student will learn to recognize and evaluate immune deficiency disorders. (6 credits)

Pre-requisites: Successful completion of M3 required clerkships
Enrollment: 4th year medical students
Duration: 4 weeks
Location: Royal Oak
Month(s) Offered: July-June
Minimum enrollment: 1
Maximum Enrollment: 1
Director: Bishara J. Freij, M.D. and Graham Krasan, M.D.
Coordinator: Monica Demres

MDM4 9918 Pediatrics Intensive Care
Students will become familiar with pediatric system failures and traumas. (6 credits)

Pre-requisites: Successful completion of M3 required clerkships
Enrollment: 4th year medical students
Duration: 4 weeks
Location: Royal Oak
Month(s) Offered: July-May
Minimum enrollment: 1
Maximum Enrollment: 1  
Director: Bassam Gebara, M.D.  
Coordinator: Monica Demres

**MDM4 9920 Pediatric Neurology**  
Students will learn to perform complete neurological history examinations, perform appropriate lab test and correlate with clinical findings and learn to evaluate common neurological problems.

Pre-requisites: Successful completion of M3 required clerkships  
Enrollment: 4th year medical students  
Duration: 4 weeks  
Location: Royal Oak  
Month(s) Offered: July-May  
Minimum enrollment: 1  
Maximum Enrollment: 1  
Director: Gary Trock, M.D.  
Coordinator: Monica Demres

**MDM4 9922 Physical Medicine and Rehabilitation**  
This rotation provides a well-rounded exposure to the clinical practice of Physical medicine and Rehabilitation in adults. Students will gain a greater understanding of neuromuscular and musculoskeletal problems along with their management.

Pre-requisites: Successful completion of M3 required clerkships  
Enrollment: 4th year medical students  
Duration: 4 weeks  
Location: Royal Oak  
Month(s) Offered: July-June  
Minimum enrollment: 1  
Maximum Enrollment: 4  
Director: Justina Riutta, M.D.  
Coordinator: Monica Demres

**MDM4 9924 Pulmonary Medicine**  
Students will gain expertise in the fundamentals of the respiratory system and physical examination; understand the physiology of gas exchange and analysis of arterial blood gases; and understand the pathophysiology of pulmonary diseases.

Pre-requisites: Successful completion of M3 required clerkships  
Enrollment: 4th year medical students  
Duration: 4 weeks  
Location: Royal Oak  
Month(s) Offered: July-May  
Minimum enrollment: 1  
Maximum Enrollment: 3  
Director: K. P. Ravikrishnan, M.D., FACP, FCCP
Coordinator: Monica Demres

**MDM4 9926 Radiation Oncology**
Students will become familiar with the role of radiation therapy in multi-modality management of a wide variety of adult and pediatric malignancies. Student will be acquainted with the external beam and sealed source radiation therapy, as well the immediate and delayed effects.

Pre-requisites: Successful completion of M3 required clerkships
Enrollment: 4th year medical students
Duration: 4 weeks
Location: Royal Oak
Month(s) Offered: July-May
Minimum enrollment: 1
Maximum Enrollment: 2
Director: Inga Grills. MD
Coordinator: Monica Demres

**MDM4 9928 Rheumatology**
Students will develop skills in the diagnosis and management of rheumatic diseases. Basic history taking and physical examination techniques are stressed and integrated with the use and interpretation of appropriate laboratory tests and x-rays.

Pre-requisites: Successful completion of M3 required clerkships
Enrollment: 4th year OUWB medical students
Duration: 4 weeks
Location: Royal Oak
Month(s) Offered: July-May
Minimum enrollment: 1
Maximum Enrollment: 1
Director: Joseph Skender, MD
Coordinator: Monica Demres

Location: Troy
Enrollment: 4th year OUWB and Wayne State medical students
Month(s) Offered: August-November, January-April
Minimum enrollment: 1
Maximum Enrollment: 1
Director: Roman Czubatyj, MD
Coordinator: Lyndsey Schroeder

**MDM4 9930 Surgery, General**
Senior medical students are provided with an experience equivalent to that of a beginning general surgical house officer on a large active general surgical service. Students will become familiar with a large number and wide variety of major general
surgical situations. (6 credits)

Pre-requisites: Successful completion of M3 required clerkships
Enrollment: 4th year medical student
Duration: 4 weeks
Location: Royal Oak
Month(s) Offered: July-May
Minimum enrollment: 1
Maximum Enrollment: 6
Director: James Robbins, MD
Coordinator: Monica Demres

Location: Troy
Month(s) Offered: July-May
Minimum enrollment: 1
Maximum Enrollment: 1
Director: Shanna Jones, MD
Coordinator: Lyndsey Schroeder

**MDM4 9932 Urology**

Students will gain knowledge of the basic pathophysiology of urological disease in combination with clinical urology. Students will increase their knowledge of the more frequently encountered urological conditions and improve skills in urological diagnosis. (6 credits)

Pre-requisites: Successful completion of M3 required clerkships
Enrollment: 4th year medical student
Duration: 4 weeks
Location: Royal Oak
Month(s) Offered: July-May
Minimum enrollment: 1
Maximum Enrollment: 2
Director: Jay Hollander, MD
Coordinator: Monica Demres

**MDM4 9934 Surgery, Vascular**

Students will gain experience equivalent to that of a beginning house officer on a vascular surgical service. They will be expected to increase their general knowledge, improve their diagnostic skills, and learn the principles of reconstructive vascular surgery.

Pre-requisites: Successful completion of M3 required clerkships
Enrollment: 4th year medical student
Duration: 4 weeks
Location: Royal Oak
Month(s) Offered: July-May
Minimum enrollment: 1
Maximum Enrollment: 2
Director: O. W. Brown, MD
Coordinator: Monica Demres

**MDM4 9936 Surgical ICU**
Students are provided with the opportunity to care directly for critically ill patients with various surgical disease processes. Student will gain insight into the stress response and other aspects of surgical pathophysiology.

Pre-requisites: Successful completion of M3 required clerkships
Enrollment: 4th year medical student
Duration: 4 weeks
Location: Royal Oak
Month(s) Offered: August-June
Minimum enrollment: 1
Maximum Enrollment: 2
Director: James Robbins, MD
Coordinator: Monica Demres

**MDM4 9938 Family Medicine Sub-Internship Elective**
In this elective internship, students will spend 4 weeks in the hospital with the Combined Inpatient Teaching Service at Beaumont Health System, Troy or Grosse Pointe. The student will be expected to be an integral part of the team in terms of patient care and educational rounds/conferences.

Pre-requisites: Successful completion of M3 required clerkships.
Enrollment: 4th year medical student
Troy
Duration: 4 weeks
Month(s) Offered: March-May, August, October
Minimum enrollment: 1
Maximum Enrollment: 1
Director: David Rodgers, MD
Coordinator: Rose Childers

Grosse Pointe
Duration: 4 weeks
Minimum enrollment: 1
Maximum Enrollment: 2
Director: Family Medicine Residency Faculty
Coordinator: Janis Fleck

**MDM4 9940 Integrated Clinical Anatomy**
Description: This basic science elective prepares students for residency by providing an integrative understanding of anatomy, physiology, pharmacology, and pathology as applied to a chosen area of medicine. The course applies daily clinical cases to student-
directed, cadaveric dissection combined with interdisciplinary conferences. Daily presentations allow students to practice communicating effectively with patients and colleagues. (6 credits)

Objectives: Students will review, extend and refine their knowledge of basic anatomy, the anatomic basis of clinical procedures, conditions and diseases relevant to a chosen area of medicine, as well as explain the basic physiology of the tissues and organs relevant to a chosen area of medicine. Students will be able to explain the rationale for pharmacologic and/or surgical treatments aimed at correcting or ameliorating the effects of injury or diseases states related to the tissues and structures relevant to a chosen area of medicine.

Pre-requisites: Successful completion of M3 required clerkships.  
Enrollment: 4th year OUWB medical student  
Duration: 4 weeks  
Location: Oakland University  
Month(s) Offered: January, February, March  
Minimum enrollment: 4  
Maximum Enrollment: 8  
Director: Mallikarjuna Barremkala  
Coordinator: Tammy Tollon

MDM4 9941 General Dermatology Office Clinical Rotation
Description: This rotation is designed to provide students exposure to a variety of primary and referral dermatology services that treat inflammatory and neoplastic skin diseases. Students are provided teachings that center on clinical diagnosis of dermatological diseases, treating and creating management plans on common skin diseases, as well as recognizing skin disorders associated with systemic diseases.  (6 credits)

Pre-requisites: Successful completion of M3 required clerkships.
Enrollment: 4th year OUWB or Wayne State medical student
Duration: 4 weeks
Location: Troy (Rochester Dermatology Clinic, 405 Barclay Circle, Rochester Hills, MI 48307)
Month(s) Offered: February, March
Minimum enrollment: 1
Maximum Enrollment: 1
Director: Dr. Julie Byrd, MD
Coordinator: Lyndsey Schroeder

MDM4 9943 Orthopaedic Surgery – Foot and Ankle
Description: This four-week rotation is dedicated to musculoskeletal pathology of the foot and ankle. Students work closely with the OUWB School of Medicine orthopaedic surgery foot and ankle faculty and the residents on this service. Students are treated as integral members of the orthopaedic team. Students are expected to participate fully on
all aspects of patient care and educational opportunities.

Objectives: Students will be able to apply the musculoskeletal education obtained in the first two years of classroom education to the clinical setting, obtain a pertinent orthopaedic history, perform a complete lower extremity musculoskeletal exam, perform an initial evaluation and develop a management plan for an orthopaedic patient with foot and/or ankle pathology, perform basic casting and splinting skills, perform basic OR skills (scrubbing, prepping, draping, retracting, suturing, cutting, dressing, etc.) and understand the most common foot and ankle pathologies including diagnosis and treatment options. (6 credits)

Pre-requisites: Successful completion of M3 required clerkships.
Enrollment: 4th year OUWB medical student
Duration: 4 weeks
Location: Royal Oak
Month(s) Offered: July through June
Minimum Enrollment: 1
Maximum Enrollment: 1
Director: Zachary Vaupel, MD
Coordinator: Lisa Thompson

**MDM4 9944 Orthopaedic Surgery – Sports Medicine**

Description: This four-week rotation is dedicated to musculoskeletal pathology of the spine. Students work closely with the OUWB School of Medicine orthopaedic surgery spine faculty and the residents on this service. Students are treated as integral members of the orthopaedic team. Students are expected to participate fully on all aspects of patient care and educational opportunities. (6 credits)

Pre-requisites: Successful completion of M3 required clerkships.
Enrollment: 4th year OUWB medical student
Duration: 4 weeks
Location: Royal Oak
Month(s) Offered: July through May
Minimum enrollment: 1
Maximum Enrollment: 1
Director: Zachary Vaupel, MD
Coordinator: Lisa Thompson

**MDM4 9945 Orthopaedic Surgery – Spine**

This four-week rotation is dedicated to musculoskeletal pathology of the spine. Students work closely with the OUWB School of Medicine orthopaedic surgery spine faculty and the residents on this service. Students are treated as integral members of the orthopaedic team. Students are expected to participate fully on all aspects of patient care and educational opportunities. (6 credits)

Pre-requisites: Successful completion of M3 required clerkships.
Enrollment: 4th year OUWB medical student
MDM4 9946 Introduction to Clinical Ethics Consultation

This elective provides each student with a basic knowledge of applicable clinical ethics concepts and case law, as well as an understanding of how clinical ethics consultation works in a hospital setting. (6 credits)

Pre-requisite: recommended completion of the M2 seminar “Law and bioethics”
Enrollment: 4th year medical student
Duration: 4 weeks
Location: Royal Oak
Month(s) Offered: September, October, November
Minimum enrollment: 1
Maximum Enrollment: 1
Director: Jason Wasserman, PhD; Amy DaBaets, PhD
Coordinator: Christine Schwartz

MDM4 9947 Transplant Surgery

Students are required to attend in tumor board conference, participate in the liver and kidney transplant clinics as well as the liver and pancreas cancer center clinic. Students will observe and scrub in on kidney and liver transplants as well as liver and pancreas resections. Students are required to read elective cases and understand basic pathology, anatomy, and outcomes. (6 credits)

Pre-requisite: successful completion of all 3rd year clerkships
Enrollment: 4th year medical student
Duration: 4 weeks
Location: Royal Oak
Month(s) Offered: contact director for availability
Minimum enrollment: 1
Maximum Enrollment: 2
Director: Vandad Raofi, MD
Coordinator:

MDM4 9948 Directed Independent Research in Medicine

The focus of this course is to provide structured research and educational resources to assist students in improving their basic science and/or clinical knowledge, skills, and attitudes while developing frameworks for enhanced understanding of the practice of medicine. Students will create a structured study plan in consultation with the Associate Dean for Undergraduate Clinical Education and work with appropriate basic science and clinical faculty to implement the independent study plan.
Duration: variable
Month(s) Offered: July-April

**Directed Independent Research Scheduling form must be completed and submitted to OUWBelectives@oakland.edu**

**MDM4 9949 Away Elective Study**
Students’ may enroll in this elective once an approved away elective has been accepted from an approved site/institution. (6 credits)
Duration: 4 weeks
Month(s) Offered: July-April

**Away rotation information form must be completed, and an affiliation must be created, contact OUWBelectives@oakland.edu for more information.**

**MDM4 9950 International Away Elective Study**
Students’ may enroll in this elective once an approved away elective has been accepted from an approved international site/institution Duration: 4 weeks
Month(s) Offered: July-April

**International elective application must be submitted to OUWBelectives@oakland.edu for approval**

**MDM4 9951 Pathology and Laboratory Medicine Elective**
This elective comprises 2 parts divided equally between the departments of Anatomic Pathology and Clinical Pathology. The elective will serve as an introduction to the practice of anatomic and clinical pathology, and will stress clinicopathologic correlation. (6 credits)

Pre-requisite: successful completion of all 3rd year clerkships
Enrollment: 4th year medical student
Duration: 4 weeks
Location: Royal Oak
Month(s) Offered: August-November, January-June
Minimum enrollment: 1
Maximum Enrollment: 2
Director: Michelle Young, MD (Anatomic Pathology) Elizabeth Sykes, MD (Clinical Pathology)
Dept Coordinator: Chantal Graham (Clinical Pathology)
Hospital Coordinator: Monica Demres

**MDM4 9952 Medical Education**
Introduces students to contemporary thinking on medical education and leadership. The activities involved are concentrated reading, face-to-face seminars, online discussions and a final presentation together with an essay. Learning activities include watching and evaluating recordings of teaching sessions in order to develop an ability to critique education. The culminating project will consist of a “microteaching experience,” in which students will teach their peers and instructors about a topic in medical education which they have researched. Students will plan their session using education principles discussed in the course and enact techniques shown to be effective for student learning
in medical education. As a component of this project, students will provide constructive critiques of their classmates' presentations and reflect upon the feedback they receive. (6 credits)

Pre-requisites: Successful completion of M3 required clerkships.
Enrollment: 4th year medical student
Duration: 4 weeks
Location: Oakland University
Month(s) Offered: February
Minimum enrollment: 1
Maximum Enrollment: 10
Director: Stephen Loftus, PhD
Coordinator: Monica Demres

**MDM4 9953 Emergency Medicine Point-Of-Care and Procedural Ultrasound**

Students will learn basic ultrasound skills and gain continued experience in the Emergency Center. Students will scan with faculty, fellows, residents, and on their own patients in the Emergency Center as well, as work shifts with the faculty/fellow to learn how to incorporate ultrasound into daily practice. Students can assist with residents in ultrasound guided procedures. Each week, the ultrasound images that were performed in the Emergency Center will be reviewed and the students will present an ultrasound related article during the last week of the rotation.

Pre-requisites: Emergency Medicine
Enrollment: 4th year OUWB medical students
Duration: 4 weeks
Location: Royal Oak
Month(s) Offered: September–October, February–May
Minimum Enrollment: 1
Maximum Enrollment: 1
Director: Abigail Brackney, MD, RDMS
Coordinator: Takesha Shelton

**MDM4 9954 Medical Genetics/Genomic Medicine**

This course will provide an overview of pediatric and adult genetics, prenatal (reproductive) genetics, and cancer genetics through both clinical and consultative services at the Royal Oak and Troy Hospitals. Through these experiences, it will become evident how genetics and genomics is reshaping the practice of medicine. In addition, an introduction to diagnostic genetics laboratory services (Cytogenomics, Molecular Pathology, and Surgical Molecular Pathology) will be provided so that students will experience how the diagnostic studies which are driving this era of Molecular Medicine are performed and communicated to clinicians. (6 credits)

Pre-requisites: Successful completion of M3 required clerkships.
Enrollment: 4th year OUWB medical student
Duration: 4 weeks
Location: Royal Oak
Month(s) Offered: contact Department of Pathology and Laboratory Medicine
248.898.4462
Minimum Enrollment: 1
Maximum Enrollment: 1
Director: Mark A. Micale, PhD., F.A.C.M.G.
Coordinator: Sandra Shearer

**MDM4 9955 General Otolaryngology**
This is a clinically based rotation that takes place in both physician offices and William Beaumont Hospital – Royal Oak. Otolaryngology is an outpatient specialty in large measure, so exposure to the private practice office is substantial. Operating Room experience includes bedside procedures like tracheostomy and nasal packing through major head and neck cancer excision and reconstruction. There is also exposure to the allied fields of audiology and speech and language pathology, including interpretation of test results. (6 credits)

Pre-requisites: Successful completion of M3 required clerkships.
Enrollment: 4th year OUWB medical student
Duration: 4 weeks
Location: Royal Oak
Month(s): July-June
Minimum Enrollment: 1
Maximum Enrollment: 2
Director: James Brooks, MD
Coordinator: Gretchen Hofmann

**MDM4 9957 Holistic Admissions Review**
This elective introduces students to a deeper understanding of the complex nature of a holistic admissions process. The students have the opportunity to participate in every step of the admissions process and give them the opportunity to observe the qualities of future colleagues. The activities involved are screening applications, attending Admission Committee meetings, participating in interviewing session, and other various roles that the Admissions Team handles every day. Participants can use what they learn during this rotation in mentoring future pre-medical students and being a part of a medical school in the future. (3-6 credits)

Pre-requisites: Successful completion of M3 required clerkships.
Enrollment: 4th year OUWB medical student.
Duration: 2-4 weeks
Location: Oakland University
Month(s): October, November
Minimum Enrollment: 1
Maximum Enrollment: 2
Director: Dr. Angela Nuzzarello, MD/Dr. Christina Grabowski, PhD
Coordinator: Dr. Christina Grabowski, PhD
MDM4 9958 Medical Intensive Care
This elective is designed to provide the senior student with exposure to medical critical care. This rotation fosters team-based practice through a multi-disciplinary approach to care of critically ill medical patients through interaction with professions from nursing, pharmacy, respiratory therapy, physical therapy, nutrition and others. Under the direction of a rounding medical intensivist and resident team, the student actively participates in daily educational rounding. Teaching occurs on all patients in the medical ICU every day. There is exposure to a wide variety of pathophysiology. Learning opportunities include management of mechanical ventilation, management of shock, procedural exposure, ethical medical practice in the MICU, pharmacology, palliative care and comfort care at the end of life, and others. (6 credits)

Pre-requisites: Successful completion of all required M3 clerkships.
Enrollment: Must be a 4th year medical student.
Duration: 4 weeks
Location: Royal Oak
Month(s): August-June
Minimum Enrollment: 1
Maximum Enrollment: 1
Director: Paul Bozyk, MD
Coordinator: Barb Sommerfield

MDM4 9959 Pulmonary and Critical Care Elective
This elective is designed to provide the senior medical student with a broad exposure to both pulmonary and critical care medicine. The rotation allows the student to develop and apply critical thinking skills to help with the diagnosis and appropriate management of a variety of different disease processes. The student is exposed to critically ill patients in the CCU/MICU and SICU. The service is generally large enough that students can maximize exposure to a wide range of pulmonary and critical care pathology. (6 credits)

Pre-requisites: Successful completion of all required M3 clerkships.
Enrollment: 4th year medical student.
Duration: 4 weeks
Location: Troy
Month(s): September-May
Minimum Enrollment: 1
Maximum Enrollment: 1
Director: Matthew H. Trunsky, MD
Coordinator: Annette Bogos

MDM4 9960 Pulmonary Sleep Medicine Outpatient Elective
Medical students will have the opportunity to learn about outpatient pulmonary and sleep disease such as asthma, COPD, sleep apnea, and other complex pulmonary and sleep disorders. (6 credits)
Pre-requisites: Successful completion of all required M3 clerkships.
Enrollment: Must be a 4th year medical student.
Duration: 4 weeks
Location: Royal Oak
Month(s): July-May
Minimum Enrollment: 1
Maximum Enrollment: 3
Director: Dr. Bhavin Dalal
Coordinator: Barbara Sommerfield

**MDM4 9961 Integrative Medicine**

This course will provide the student with minimal exposure to integrative medicine and see the practical applications and integration into the primary care model. The course includes observation of patient care by licensed Integrative Clinicians. (6 credits)

Pre-requisites: Successful completion of all required M3 clerkships.
Enrollment: Must be a 4th year medical student.
Duration: 4 weeks
Location(s): Royal Oak, Troy
Month(s): July-November, January-June
Minimum Enrollment: 1
Maximum Enrollment: 4
Director: Maureen Anderson, MD
Coordinator:

**MDM4 9963 Trauma Surgery**

Advanced surgical clerkship designed to expose the senior medical student to the comprehensive care of the multiple trauma patient. The majority of the elective is based on non-surgical needs of trauma patients. (6 credits)

Pre-requisites: Successful completion of all required M3 clerkships
Enrollment: 4th year OUWB medical student.
Duration: 4 weeks
Location: Troy
Month(s): August-November, January-May
Minimum Enrollment: 1
Maximum Enrollment: 1
Director: Nichole A. Urban, MD, Shanna Jones
Coordinator: Lyndsey Schroeder

**MDM4 9964 Breast Disease and Surgery**

Advanced surgical elective designed to expose the senior medical student to the field of breast surgery and introduce an appreciation for the multidisciplinary aspects of breast care. The breast surgery elective offers training in the clinical breast examination, evaluation of patients with breast complaints, evaluation of breast cancer screening
protocols, proper use of breast imagining modalities, and diagnosis and treatment of breast cancer. (3 credits)

Pre-requisites: Successful completion of all M3 clerkships
Enrollment: 4th year medical student.
Duration: 2 weeks
Location: Troy
Month(s): July-June
Minimum Enrollment: 1
Maximum Enrollment: 2
Director: Eric Allen Brown, MD, FACS
Coordinator: Lyndsey Schroeder

**MDM4 9965 Colon and Rectal Surgery Elective**

This elective requires students to rotate with five colon rectal surgeons and the follow the daily schedule and patient care requirements. Students are provided exposure in an outpatient office, endoscopy, and operative settings as related to colon, rectal and anal diseases.

Pre-requisites: Successful completion of all M3 clerkships
Enrollment: 4th year OUWB medical student.
Duration: 2 weeks
Location: Troy
Month(s): July-June
Minimum Enrollment: 1
Maximum Enrollment: 1
Director: L.M. Mosed-Vogel, MD
Coordinator: Lyndsey Schroeder

**MDM4 9966 Otolaryngology – Head and Neck Surgery**

This elective exposes medical students to all facets of otolaryngology: clinical evaluation of the patient as well as medical and surgical management of common otolaryngologic disorders. Students are expected to participate in outpatient clinic and the operating room, as well as inpatient rounds and consultations.

Pre-requisites: Successful completion of all M3 clerkships
Enrollment: 4th year OUWB medical student.
Duration: 4 weeks
Location: Lakeshore Ear, Nose, & Throat Center
Month(s): July-June
Minimum Enrollment: 1
Maximum Enrollment: 2
Director: Adam D. Rubin
Coordinator: Jan Loudenback 586-445-6214
**MDM4 9967 Pediatric Surgery**
This elective is designed to expose fourth year medical students to the field of pediatric surgery. Students will be expected to work up straightforward pediatric surgical cases.

Pre-requisites: Successful completion of all M3 clerkships
Enrollment: 4th year medical student.
Duration: 1 month
Location: Royal Oak
Month(s): All months except December
Minimum Enrollment: 1
Maximum Enrollment: 1
Director: Nathan Novotny, MD
Coordinator: Monica Demres

**MDM4 9968 Interventional Radiology**
Student will learn to provide patient care that is compassionate, appropriate and effective for the treatment of health problems and for the promotion of health through Interventional Radiology techniques.

Pre-requisites: Successful completion of all M3 clerkships
Enrollment: 4th year OUWB medical student
Duration: 1 month
Location: Royal Oak
Month(s): Every month except July
Minimum Enrollment: 1
Maximum Enrollment: 2
Director: S. Andrew Vartanian, MD
Coordinator: Phyllis Washington

**MDM4 9969 Clinical Endocrinology**
This course provides exposure of senior medical students to patients with endocrine disorders as well as diabetes. Students will be making rounds in the hospital then head to the office. They will be exposed to a variety of common endocrine disorders including thyroid, adrenal and pituitary disorders.

Pre-requisites: Successful completion of all M3 clerkships
Enrollment: 4th year medical student
Duration: 4 weeks
Location: 2970 Crooks Road, Suite A, Rochester Hills, MI 48309
Month(s): March, September, January
Minimum Enrollment: 1
Maximum Enrollment: 2
Director: Dr. Abdul Al Kassab, MD
MDM4 9970 Intro to Pediatric Radiology
Students are exposed to the imaging of a wide spectrum of disorders seen in the pediatric population by the department of pediatric imaging. Student learn about the different imaging modalities used in the evaluation of various pediatric diseases and are able to understand the specific indications and limitations of each of these modalities.

Pre-requisites: Successful completion of all M3 clerkships
Enrollment: 4th year medical student
Duration: 4 weeks
Location: Royal Oak
Month(s): December, January, March, April
Minimum Enrollment: 1
Maximum Enrollment: 1
Director: Dr. David A. Bloom, MD
Coordinator: Phyllis Washington

MDM4 9971 Art and Practice of Medicine Clinical Skills Education
This elective is designed to expose students to the clinical teaching pedagogy, clinical skills, and how their application in medical education could lead to improved teaching, learning, and preparation for clinical rotations. During this elective, students will be exposed to the role of the physician-as-teacher in undergraduate settings. The student will be actively involved in developing curriculum, facilitating small group sessions, teaching clinical skills, mentoring, providing feedback, and grading and Objective Structured Clinical Examination (OSCE).

Pre-requisites: Successful completion of all M3 clerkships
Enrollment: 4th year OUWB medical student
Duration: 4 weeks
Location: Clinical Skills Center, 44300 Dequindre Road, Sterling Heights, MI 48314
Month(s): October, February, March
Minimum Enrollment: 1
Maximum Enrollment: 1
Director: Dr. Nelia Afonso
Coordinator: Beth Ann Sutton

MDM4 9972 Basic Neuroscience for Clinical Specialties
A highly personalized non-clinical experience during which students going into clinical neuroscience specialties can further their knowledge of integrated molecular neuroscience, neuroanatomy, neuropathology, neuropharmacology, and semiology. Data analysis of experimental techniques used in diagnostic tests will be covered, taking advantage of publicly available datasets, with emphasis on techniques for which expertise is not widely available.

Pre-requisites: Successful completion of all M3 clerkships
Enrollment: 4th year OUWB medical student
Duration: 2 weeks
Location: Oakland University William Beaumont School of Medicine
Month(s): July-November, April-May
Minimum Enrollment: 1
Maximum Enrollment: 3
Director: Dr. Gustavo Patino, MD
Coordinator: Tammy Tollon

**MDM4 9973 Plastic and Reconstructive Surgery**
This elective is designed to broadly expose the student to the scope of plastic surgery. The student will actively participate in all aspects of patient care including the outpatient and inpatient setting (evaluating surgical candidates and developing logical approaches to difficult surgical problems), as well as actively participate in the operating room to develop basic surgical skills and techniques.

Pre-requisites: Successful completion of all M3 clerkships
Enrollment: 4th year medical student
Duration: 4 weeks
Location: Royal Oak
Month(s): July-December, February-June
Minimum Enrollment: 1
Maximum Enrollment: 2
Director: Dr. Matthew Chetta
Coordinator: Monica Demres