

**2024-2025**



OAKLAND UNIVERSITY WILLIAM BEAUMONT  
School of Medicine

# **COURSE DESCRIPTION CATALOG**

## **M1 Courses**

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[MDM1 9105 Biomedical Foundations of Clinical Practice 2](#)  
[MDM1 9110 Anatomical Foundations of Clinical Practice 1](#)  
[MDM1 9111 Anatomical Foundations of Clinical Practice 2](#)  
[MDM1 9120 Neuroscience 1](#)  
[MDM1 9121 Cardiovascular](#)  
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[MDM1 9123 Hematology and Lymphoid](#)  
[MDM1 9140 Art and Practice of Medicine 1](#)  
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## **M2 Courses**

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[MDM2 9400 Promoting Reflection and Individual growth through Support and Mentoring 3 \(PRISM 3\)](#)  
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[MDM3 9520 Obstetrics and Gynecology](#)  
[MDM3 9522 Neurology](#)  
[MDM3 9524 Ophthalmology](#)  
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### **M4 Courses**

[MDM4 9712 Emergency Medicine Clerkship](#)  
[MDM4 9714 Anesthesiology and Pain Medicine Clerkship](#)  
[MDM4 9717 Diagnostic Medicine 2](#)  
[MDM4 9730 Family Medicine Sub-Internship Clerkship](#)  
[MDM4 9732 Internal Medicine Sub-Internship Clerkship](#)  
[MDM4 9734 Pediatrics Sub-Internship Clerkship](#)  
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[MDM4 9800 Promoting Reflection and Individual Growth through Support and Mentoring 7 \(PRISM 7\)](#)  
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### **Electives**

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[MDM3 9626 Interventional Radiology CEE](#)  
[MDM3 9627 Radiation Oncology CEE](#)  
[MDM3 9628 Neurosurgery CEE](#)  
[MDM3 9629 PH&R CEE](#)  
[MDM3 9630 Dermatology CEE](#)  
[MDM3 9631 Anatomic and Clinical Pathology CEE](#)  
[MDM3 9632 Nutrition and Preventive Medicine/Weight Control Center](#)  
[MDM4 9715 Anesthesiology and Pain Medicine Elective](#)  
[MDM4 9820 Directed Independent Clinical Elective](#)  
[MDM4 9850 Allergy and Clinical Immunology](#)  
[MDM4 9856 Cardiology](#)  
[MDM4 9858 Cardiovascular Surgery](#)  
[MDM4 9860 Colon and Rectal Surgery](#)  
[MDM4 9862 Diagnostic Radiology](#)  
[MDM4 9870 Endocrinology/Metabolism](#)  
[MDM4 9872 Gastroenterology/Hepatology](#)  
[MDM4 9874 Geriatric Medicine](#)  
[MDM4 9876 Hematology/Oncology](#)  
[MDM4 9878 Infectious Diseases](#)  
[MDM4 9880 Ophthalmology Elective](#)  
[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 9908 Pediatric Gastroenterology](#)  
[MDM4 9910 Pediatric Hematology/Oncology](#)  
[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 9932 Urology](#)  
[MDM4 9933 Adv. Community Emergency Med](#)  
[MDM4 9934 Surgery, Vascular](#)  
[MDM4 9935 Lifestyle Medicine](#)  
[MDM4 9936 Surgical ICU](#)

[MDM4 9937 Organ System Course Teaching-Assistant Educator](#)  
[MDM4 9939 Advanced Addiction Medicine](#)  
[MDM4 9940 Integrated Clinical Anatomy](#)  
[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 9954 Medical Genetics/Genomic Medicine](#)  
[MDM4 9955 General Otolaryngology](#)  
[MDM4 9956 Ambulatory Endocrinology & Metabolism](#)  
[MDM4 9958 Medical Intensive Care Unit](#)  
[MDM4 9960 Pulmonary Sleep Medicine Outpatient Elective](#)  
[MDM4 9961 Integrative Medicine](#)  
[MDM4 9963 Trauma Surgery](#)  
[MDM4 9964 Breast Disease and Surgery](#)  
[MDM4 9967 Pediatric Surgery](#)  
[MDM4 9968 Interventional Radiology](#)  
[MDM4 9971 Art and Practice of Medicine Clinical Skills Education](#)  
[MDM4 9972 Basic Neuroscience for Clinical Specialties](#)  
[MDM4 9973 Plastic and Reconstructive Surgery](#)  
[MDM4 9978 Sports Medicine Elective](#)  
[MDM4 9980 2-week Hematology/Oncology](#)  
[MDM4 9981 2-Week Infectious Diseases](#)  
[MDM4 9982 Ambulatory Urology](#)  
[MDM4 9984 Directed Independent Non-Clinical Elective](#)  
[MDM4 9986 2-week Cardiology](#)  
[MDM4 9990 Psychiatry](#)  
[MDM4 9992 General Surgery Bootcamp Elective](#)  
[MDM4 9993 Introduction to Patient Safety and Quality Improvement](#)  
[MDM4 9994 Advanced Patient Safety and Quality Improvement](#)  
[MDM4 9995 Addiction Medicine](#)  
[MDM4 9996 Public Health](#)  
[MDM4 9997 Competent Care of the LGBTQ+ Patient](#)  
[MDM4 9998 2-week Ophthalmology Elective](#)

## M1 (First Year) Courses

### **MDM1 9100 BFCP 1 - Biomedical Foundations of Clinical Practice 1**

Biomedical Foundations of Clinical Practice 1 (BFCP 1) is the first of two interdisciplinary courses for first-year medical students that will provide an introduction to basic biomedical science topics and establish a foundation of essential principles required for the study of human medicine. The course provides aligned/integrated content in biochemistry, cell and molecular biology, genetics, immunology, microbiology, pharmacology, and physiology. 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. (12 Credits)

### **MDM1 9105 BFCP 2 - Biomedical Foundations of Clinical Practice 2**

Biomedical Foundations of Clinical Practice 2 (BFCP 2) is the second of two interdisciplinary courses for first-year medical students that will provide an introduction to basic biomedical science topics and establish a foundation of essential principles required for the study of human medicine. The course provides aligned/integrated content in biochemistry, cell and molecular biology, genetics, immunology, microbiology, pharmacology, physiology, and pathology. 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. (12 Credits)

### **MDM1 9110 AFCP 1 - Anatomical Foundations of Clinical Practice 1**

Anatomical Foundations of Clinical Practice 1 (AFCP 1) is the first of two interdisciplinary courses for first-year medical students that presents the foundations of clinical anatomy. The 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 AFCP2 - Anatomical Foundations of Clinical Practice 2**

Anatomical Foundations of Clinical Practice 2 (AFCP 2) is the second of two interdisciplinary courses for first-year medical students that presents the foundations of clinical anatomy. The 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. (10 Credits)

### **MDM1 9120 Neuroscience 1**

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 is designed to focus on the fundamental basic sciences that explain cardiovascular homeostasis in integration with clinical sciences that introduce common cardiovascular disorders. Both basic and clinical disciplines will be delivered at a level suitable for first-year medical students. Our expectation is that each student will acquire a solid comprehension of basic principles and gain clinical knowledge of the common clinical disorders of the heart and vascular structures. (7 Credits)

### **MDM1 9122 Respiratory**

This interdisciplinary course surveys normal and abnormal functions 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 the administration and interpretation of pulmonary function tests. (6 Credits)

### **MDM1 9123 Hematology and Lymphoid**

This interdisciplinary course focuses on the roles of the blood, bone marrow, and lymphoid organs in normal body function as well as the ways in which the tissues and organs of the hematopoietic-lymphoid system are affected in acute and chronic diseases. In addition, the basic foundations of oncology will be covered. Methods of instruction will include interactive lectures, case studies and clinical problem solving, team-based learning, and laboratory exercises that apply key concepts covered in the course. (5 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 under the supervision of clinical faculty in the Clinical Skills Training and Simulation Center. Students will also be introduced to important concepts of culturally competent care. (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 an 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 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). (7 Credits)

### **MDM1 9160 Medical Humanities and Clinical Bioethics 1**

This course covers standard methods of ethical analysis with an emphasis on their application to key moral issues in health care practice and policy, such as principles of bioethics, issues of clinical power, dilemmas of justice and scarcity, professionalism, and conscientious objection. Ultimately, the threshold concepts explore issues of clinical ethics and humanities with a focus on fostering ethical awareness, good ethical analysis skills, a commitment to professionalism, as well as empathy and cultural humility. (3 Credits)

### **MDM1 9161 Medical Humanities and Clinical Bioethics 2**

This course extends the learning objectives of MHCB 1 by illustrating advanced methods of ethical analysis and their application to more complex moral issues in health care practice and policy. This includes issues related to social factors and health, global health ethics, understanding the illness experience of patients and families, dilemmas of otherness, and the like. The course concludes with multiple sessions that synthesize concepts from the entirety of the first year of the medical school program in order to competently approach complex patient cases that have challenging ethical and humanistic dimensions. (3 Credits)

### **MDM1 9180 Promotion and Maintenance of Health 1**

This course focuses on disease prevention, health promotion, and population health, as well as the integration of each in the practice of medicine and includes four themes: Health Promotion & Disease Prevention, Population Health & Community, Cultural Humility & Communication, and Systems-Based Practice. The content will provide the basic framework for understanding disease mechanisms from the perspective of preventing illness and remaining healthy. The evidence basis of practice, community aspects of practice, and clinical preventive services and health promotion will be emphasized. Critical thinking and evaluative skills will be developed through critique of published studies and experiential learning activities. The complex overlay of psychosocial aspects of human disease and behavior will be probed. (3 Credits)

### **MDM1 9181 Promotion and Maintenance of Health 2**

This course builds on the topics covered in Promotion and Maintenance of Health 1, exploring disease prevention and population health integration in medical practice. The content will provide the basic framework for understanding health promotion, maintenance, and illness prevention through evidence-based research and clinical scenarios. (3 Credits)

### **MDM1 9190 Embark 1: Research Design and Compliance Training**

This course provides structured research design content that supports students in their independent research projects as part of the Embark Program. This course includes development of medical information literacy, skills in research design, compliance training in the ethical use of human subjects in basic science and clinical research and Institutional Review Board requirements. The course is a combination of didactic



sessions and asynchronous modules and protected independent time with which to complete the modules. (3 Credits)

### **MDM1 9191 Embark 2: Research Proposal Development and Project Management**

This course supports successful identification of faculty mentors, development of research questions, and an introduction to writing a research project proposal. This course continues the structured research design content that supports students in implementation and project management of their independent research projects as part of the Embark Program. Additionally, students receive introductions to statistics, data security issues, and seeking funding for research. Students continue to develop their own research projects through creation and approval of a project proposal, meet with mentors and work on individual research projects. (3 Credits)

### **MDM1 9200 Promoting Reflection and Individual growth through Support and Mentoring 1 (PRISM 1)**

This course encourages and fosters personal reflection as a tool for developing students' sense of professional identity; promotes a culture of personal and learner community well-being; provides resource for students seeking mentorship and guidance; and enhances team building and problem-solving skills. (1 Credit)

### **MDM1 9201 Promoting Reflection and Individual growth through Support and Mentoring 2 (PRISM 2)**

This course encourages and fosters personal reflection as a tool for developing students' sense of professional identity; promotes a culture of personal and learner community well-being; provides resource for students seeking mentorship and guidance; and enhances team building and problem-solving skills. (1 Credit)

### **MDM1 9210 Clinical Integration 1**

This course is the first in a series of two courses that expose students, in a purposeful and enhancing manner, to the concepts of patient-centered care, effective and culturally competent communication, interviewing, physical examination, and the humane and ethical care of patients. Students can apply concepts learned throughout the Art and Practice of Medicine (APM) courses in actual clinical environments. Students participate in direct patient care in physicians' offices and in multidisciplinary settings under the supervision of clinical faculty members. (1 Credit)

## **M2 (2<sup>nd</sup> 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 interdisciplinary course focuses on the role of the renal and urinary systems in maintaining homeostasis and how its function is impacted by acute and chronic disease. Basic sciences and pathology 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 9323 Behavioral Medicine and Psychopathology**

This course uses the patient-centered care model as a framework for patient care and introduces principles of human development through the lifespan to help students better prepare for clinical work. Students also explore human personality, stress coping,

emotional regulation, treatment adherence strategies, interpersonal violence, and begin to develop communication strategies. Furthermore, it presents the central concepts of contemporary mental health diagnosis. Emphasis is placed on descriptive psychopathology, including etiology, phenomenology, symptom profiles, and course of disease. Pharmacology of the various classes of psychotropic medications used to treat these disorders will also be a part of this course. (5 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 students will be 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 with an organ system approach using Standardized Patients. 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. Students will refine their skills in history taking, physical examination, documentation, and clinical reasoning, in order to prepare them for the M3 and M4 clinical clerkships. The course continues to incorporate professionalism and ethical practice, interpersonal and team communication skills, fundamentals of patient safety, patient privacy, and functioning in a team setting. (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 objectives are 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. (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**

Utilizing the core concepts and methods of moral reasoning introduced in Medical Humanities and Clinical Bioethics 1&2, this course offers students the opportunity for focused study in a small seminar format on two topics of their choosing. Common topics include disability studies, medicine at the opera, pediatric ethics, film and bioethics, conscientious objection, death and dying, creative writing and fiction, and narrative medicine. (3 Credits)

### **MDM2 9361 Medical Humanities and Clinical Bioethics 4**

This course utilizes team-based, and case-based approaches in order to address advanced issues in clinical ethics. Building on concepts from previous courses, this course explores specific issues in clinical practice in greater detail, such as determination of decision-making capacity, problems that can arise with surrogate decision-makers, ambiguities in defining which treatments are in a patient's best interest, and questions about ethics and professional obligations. In each session, students work in teams to address questions that emerge in complex clinical cases. (2 Credits)

### **MDM2 9380 Promotion and Maintenance of Health 3**

This course builds on the topics covered in Promotion and Maintenance of Health 1 and 2, exploring disease prevention and population health integration in medical practice. The content will provide the basic framework for understanding health promotion, maintenance, and illness prevention through evidence-based research and clinical scenarios. (3 Credits)

### **MDM2 9381 Promotion and Maintenance of Health 4**

This course builds on the topics covered in Promotion and Maintenance of Health 1, 2, and 3, exploring disease prevention and population health integration in medical practice. The content will provide the basic framework for understanding health promotion, maintenance, and illness prevention through evidence-based research and clinical scenarios. (2 Credits)

### **MDM2 9390 Embark 3: Techniques in Research Communication & Effective Scholarly Presentation**

This course continues the structured research design content that supports students in their independent research projects as part of the Embark Program, with an emphasis

on dissemination of findings. This course focuses on the development of best practices in data visualization, academic writing and abstract writing skills, and the development of skills required to present a research project, including best practices for oral presentations. This course is a combination of didactic sessions, asynchronous modules, and protected independent time to meet with mentors and work on individual research projects. The course culminates in the presentation of each student's research project progress to date. Students present their research project in the form of an oral presentation utilizing best practices, and provide peer feedback to other students. (3 Credits)

### **MDMD2 9391 Embark 4: Focused Research I**

This course is a continuation of Embark 3, continuing the structured research design content that supports students in their independent research projects as part of the Embark Program, with an emphasis on dissemination of findings. The course consists of a series of topic specific workshops and protected independent time to meet with mentors and work on individual research projects. (2 Credits)

### **MDM2 9392 Embark 5: Focused Research II**

This course is the culmination of the structured research design content of the Embark program that supports students in their independent research projects. Depending on project progress, there may be meetings required with the Embark Program leadership during this course. Required office visits are communicated to students following required progress report submissions. Students have focused research time in which to meet with mentors and work on individual research projects. (2 Credits)

### **MDM2 9400 Promoting Reflection and Individual growth through Support and Mentoring 3 (PRISM 3)**

This course encourages and fosters personal reflection as a tool for developing students' sense of professional identity; promotes a culture of personal and learner community well-being; provides resource for students seeking mentorship and guidance; and enhances team building and problem-solving skills. (1 Credit)

### **MDM2 9401 Promoting Reflection and Individual growth through Support and Mentoring 4 (PRISM 4)**

This course encourages and fosters personal reflection as a tool for developing students' sense of professional identity; promotes a culture of personal and learner community well-being; provides resource for students seeking mentorship and guidance; and enhances team building and problem-solving skills. (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. (4 Credits)

## **MDM2 9416 Diagnostic Medicine 1**

This course is an introduction to diagnostic medicine prior to the start of clinical clerkships. It includes one day in pathology and one day in radiology. The pathology day is focused on getting students familiar with the pathology service and all the laboratories that fall under their domain. The practice of pathology is introduced including the differences between anatomic and clinical pathology. Students are introduced to core concepts in pathology including the laboratory test directory (and how to use it), critical values, STAT testing, specimen collection and submission, pre-analytic variables, Bayes' theorem and reference ranges. Students are also introduced to various laboratories in the hospital including clinical chemistry, phlebotomy (including blood tubes and order of draw), point of care testing, send out testing, hematology, coagulation and flow cytometry, blood bank, molecular pathology, microbiology and anatomic pathology. The day may include in person or virtual tours of laboratory areas. Radiology sessions will introduce students to a variety of imaging topics including thoracic, abdominal, neurological, and pediatric imaging and image guided interventions. Students will learn methods of selecting optimal imaging studies for common clinical scenarios. (1 Credit)

## **MDM2 9420 Clinical Integration 2**

This course is the second in a series of two courses that expose students, in a purposeful and enhancing manner, to the concepts of patient-centered care, effective and culturally competent communication, interviewing, physical examination, and the humane and ethical care of patients. Students can apply concepts learned throughout the Art and Practice of Medicine (APM) courses in actual clinical environments. Students participate in direct patient care in physicians' offices and in multidisciplinary settings under the supervision of clinical faculty members. (1 Credit)

## **M3 (Third Year) Courses**

### **MDM3 9510 Family Medicine**

In this six-week required clerkship, 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**

In this eight-week required clerkship, students will spend four weeks in the hospital wards rotating with a team consisting of an attending physician, senior resident, and intern resident; two weeks rotating on a subspecialty of internal medicine (gastroenterology, infectious disease, cardiology, pulmonary, geriatrics, and hospital medicine); and two weeks rotating in the ambulatory setting with a primary care physician. (12 Credits)

### **MDM3 9514 Surgery**

In this eight-week required clerkship, students will spend eight weeks in the inpatient setting within the Surgery department at Corewell Health William Beaumont University Hospital in Royal Oak. Students will be involved under supervision with the pre-operative evaluation, the intra-operative management and the post-operative care of the surgical patients. (12 credits)

### **MDM3 9516 Pediatrics**

In this 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**

In this five-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. (9 Credits)

### **MDM3 9520 Obstetrics and Gynecology**

In this five-week required clerkship, students will articulate the key concepts of the discipline of obstetrics and gynecology. This will include key concepts in general practice obstetrics and gynecology. (9 Credits)

### **MDM3 9522 Neurology**

In this four-week required clerkship, students will spend one week working with a private neurologist; one 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 required clerkship, students 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 longitudinal humanities curriculum, the students will meet to discuss selected topics in clinical ethics. The course is case-based and will be led by teams of students, who will meet with the Course Director 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 longitudinal humanities curriculum, the students will meet to discuss selected topics in clinical ethics. The course is case-based and will be led by teams of students, who will meet with the Course Director one month in advance of each session to discuss an approach to the topic and case selection. (5 Credits)

### **MDM3 9590 Embark 6: Directed Embark Research I**

This course requires students to complete a portion of their research project in an independent manner, including finalizing data collection and data analysis. Depending on project progress, there may be meetings required with the Embark Program leadership during this course. Required office visits are communicated to students following required progress report submissions. Students are expected to work on their Embark project during any available time throughout the semester. (2 Credits)

### **MDM3 9591 Embark 7: Directed Embark Research II**

This course is a continuation of Embark 6, requiring students to complete a portion of their research project in an independent manner, including finalizing data collection and data analysis. Depending on project progress, there may be meetings required with the Embark Program leadership during this course. Required office visits are communicated to students following the required progress report submissions. Students are expected to work on their Embark project during any available time throughout the semester. (2 Credits)

### **MDM3 9592 Embark 8: Focused Research III**

This course provides dedicated time for students to complete a portion of their Embark project. Throughout this focused research time, the student is expected to move their project progress forward appropriately for their individual project stage and to schedule meetings with their mentor, and other research advisors and resources, including statisticians, medical librarians, and Embark Program leadership. Students are required to set individual focused research goals prior to the beginning course, as well as submit documentation of their progress during this time at the conclusion of the focused research week. Depending on project progress, there may be meetings required with the Embark Program leadership during this focused research week. Required office visits are communicated to students following required submissions. (3 Credits)

### **MDM3 9600 Promoting Reflection and Individual growth through Support and Mentoring 5 (PRISM 5)**

This course builds on the concepts introduced during the preclinical years with an emphasis on applying them in clinical settings. PRISM's focus on professional identity development through intentional reflection and mentorship continues through monthly meetings as a class and with their PRISM Mentor Groups. Topics include personal resilience in the face of loss, group dynamics on the medical team, disillusionment and burnout, planning for M4 year, financial literacy, global health, leadership, and preparing for a successful residency match. (1 Credit)

### **MDM3 9601 Promoting Reflection and Individual growth through Support and Mentoring 6 (PRISM 6)**

This course builds on the concepts introduced during the preclinical years with an emphasis on applying them in clinical settings. PRISM's focus on professional identity development through intentional reflection and mentorship continues through monthly meetings as a class and with their PRISM Mentor Groups. Topics include personal



resilience in the face of loss, group dynamics on the medical team, disillusionment and burnout, planning for M4 year, financial literacy, global health, leadership, and preparing for a successful residency match. (1 Credit)

### **MDM3 9603 USMLE Step 2CK Review**

This interdisciplinary course provides students with an opportunity to systematically review the knowledge and skills they have acquired throughout M1, M2, and M3 years in preparation for taking the United States Medical Licensure Examination Step 2CK exam. (4 Credits)

### **MDM3 9610 Interdisciplinary Studies 1**

The course provides longitudinal curriculum including clinical and non-clinical topics that are relevant to a broad range of clinical practice disciplines and settings. 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. Students will actively apply concepts to case exemplars. (5 Credits)

### **MDM3 9612 Interdisciplinary Studies 2**

The course is a continuation of Interdisciplinary Studies 1, providing longitudinal curriculum including clinical and non-clinical topics that are relevant to a broad range of clinical practice disciplines and settings. 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. Students will actively apply concepts to case exemplars. (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 a curricular dean, as well as appropriate basic science and clinical faculty to implement the independent study plan. (3-12 Credits)

## **M4 (Fourth Year) Courses**

### **MDM4 9712 Emergency Medicine Clerkship**

In this four-week required clerkship, 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. 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. (6 Credits)

#### **MDM4 9714 Anesthesiology and Pain Medicine Clerkship**

In this two-week required clerkship, 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. Students will gain professional experience in perioperative care, airway management, principles of anesthesia, and pain management. (3 Credits)

#### **MDM4 9717 Diagnostic Medicine 2**

In this two-week required clerkship, students will acquire an 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. (3 Credits)

#### **MDM4 9730 Family Medicine Sub-Internship Clerkship**

In this four-week clerkship, students will spend 4 weeks in hospital with the Combined Inpatient Teaching Service at Corewell Health System, Troy, or Grosse Pointe. The students will be expected to be an integral part of the team in terms of patient care and educational rounds/conferences. 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. (6 Credits)

#### **MDM4 9732 Internal Medicine Sub-Internship Clerkship**

In this four-week clerkship, students will spend 4 weeks in hospital with the Combined Inpatient Teaching Service at Corewell Health System, Troy, or Grosse Pointe. The students will be expected to be an integral part of the team in terms of patient care and educational rounds/conferences. 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. (6 Credits)

#### **MDM4 9734 Pediatric Sub-Internship Clerkship**

In this four-week clerkship, 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. Students will be able to provide patient care that is compassionate, appropriate, and effective for the treatment of health problems. (6 Credits)

#### **MDM4 9736 Surgery Sub-Internship Clerkship**

In this four-week clerkship, students will participate in the capacity of an intern, evaluating new patients and following patients during hospitalization. Students will be assigned to a surgical-ward team that includes senior level residents, interns, and 3<sup>rd</sup> year medical students. The students will take part in daily bedside rounds and teaching rounds with the Staff Service surgeon during the week. The students will attend and participate in the surgical morning report and surgical noon conferences. (6 Credits)

### **MDM4 9790 Embark 9: Directed Embark Research III**

This course is for students to continue work on their Embark projects, completing a portion of their project in an independent manner, finalizing data collection and data analysis and preparing their final project abstract and Embark Capstone Colloquium research poster. Depending on project progress, there may be meetings required with the Embark Program leadership during this course. Required office visits are communicated to students following required progress report submissions. Students are expected to work on their Embark project during any available time throughout the semester. (2 Credits)

### **MDM4 9791 Embark 10: Embark Capstone Colloquium**

This course requires students to complete a portion of their project in an independent manner. Depending on project progress, there may be required meetings with the Embark Program leadership. Students are required to complete and submit their final research project abstracts and posters to the Embark Capstone Colloquium utilizing the skills they acquired through their research design courses, as well as present their work to their peers, mentors, administration and staff at the Embark Capstone Colloquium. (2 Credits)

### **MDM4 9800 Promoting Reflection and Individual Growth through Support and Mentoring 7 (PRISM 7)**

This course will build on the themes of personal and professional development, focusing on remaining reflective throughout the residency preparation 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 9801 Promoting Reflection and Individual Growth through Support and Mentoring 8 (PRISM 8)**

This course will build on the themes of personal and professional development, focusing on remaining reflective throughout the residency preparation 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)

## **Electives**

### **MDM3 9625 Diagnostic Radiology CEE**

Under the supervision of faculty, students will be introduced to the scope of the field of Radiology including plain film, ultrasound (US), computed tomography (CT), magnetic resonance imaging (MRI), nuclear medicine (NM) mammography (M), and

interventional radiology (IR). Students are also required to attend scheduled conferences and related educational activities. (3 Credits)

### **MDM3 9626 Interventional Radiology CEE**

The Interventional Radiology and Interventional Oncology (IR/IO) rotation is focused on minimally invasive image-guided interventions, patient care, and teamwork in a clinical research-intensive setting. Direct participation in patient care is required and encompasses daily procedures, workup of consults, and pre/post-procedural care. (3 Credits)

### **MDM3 9627 Radiation Oncology CEE**

The goal of this elective is to expose interested medical students to the specialty of radiation oncology and the role of radiation therapy in the management of cancer. (3 Credits)

### **MDM3 9628 Neurosurgery CEE**

This elective is designed to provide third-year students exposure to the field of neurological surgery. Students will have the opportunity to rotate through the inpatient consult service, operating room, and outpatient practice. They will be expected to attend conferences. Students are required to have completed their general surgery or ob-gyn clerkship prior to the start of this rotation. (3 Credits)

### **MDM3 9629 PH&R CEE**

This course is designed as an overview of Physical Medicine and Rehabilitation Medicine. The effects of neuromuscular, musculoskeletal, and cardiopulmonary disorders on function are covered. The use of special techniques and the prescription of physical modalities and therapeutic exercise in chronic conditions are outlined. Also discussed are the roles of physical, occupational, and speech therapists; psychologists; and social workers. (3 Credits)

### **MDM3 9630 Dermatology CEE**

The goal of this elective is to expose interested medical students to a career in Dermatology. During this elective, students will have the opportunity to work closely with the dermatology residents and/or faculty who provide a broad perspective of the field of Dermatology. (3 Credits)

### **MDM3 9631 Anatomic and Clinical Pathology CEE**

This elective is designed to provide third-year students exposure to the field of pathology (both anatomic and clinical pathology). Students will spend their rotation time in the laboratories with pathologists, pathology residents, pathology assistants, and pathology technologists and will have the opportunity to observe subspecialty departments. (3 Credits)

### **MDM3 9632 Nutrition and Preventive Medicine/Weight Control Center**

The Nutrition and Preventive Medicine/Weight Control Center rotation will educate students on the evaluation and treatment of overweight and obese patients. This rotation will help students develop the skills required to prevent, evaluate, and manage

obesity and obesity comorbidities. (3 Credits)

### **MDM4 9715 Anesthesiology and Pain Medicine Elective**

In this four-week 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)

### **MDM4 9820 Directed Independent Clinical Elective (DICE)**

This course provides 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. (3-6 Credits)

*\*\*[Directed Independent Clinical Elective Scheduling Form](#) must be completed and submitted to [medreg@oakland.edu](mailto:medreg@oakland.edu) \*\**

### **MDM4 9850 Allergy and Clinical Immunology**

In this four-week elective, 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. (6 Credits)

### **MDM4 9856 Cardiology**

In this four-week elective, students will join the Inpatient Cardiology Consult team. Students will attend daily rounds with the attending physician, cardiology fellow and residents and learn about many acute cardiovascular conditions. Students will gain proficiency in history taking, physical examination, and ECG interpretation, and also learn about diagnostic studies such as echocardiograms, cardiac CT and MRI. Students will also have the opportunity to observe procedures in the cardiac catheterization, structural heart, and electrophysiology labs. Students will attend daily noon conferences and chalk talks given by the attending physician. (6 credits)

### **MDM4 9858 Cardiovascular Surgery**

In this four-week elective, 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 post-operative care. (6 credits)

### **MDM4 9860 Colon and Rectal Surgery**

In this four-week elective, 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 the management of inflammatory bowel disease (nutritional, medical, and surgical). (6 credits)

### **MDM4 9862 Diagnostic Radiology**

In this four-week elective, 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. (6 credits)

### **MDM4 9870 Endocrinology/Metabolism**

In this four-week elective, students will be introduced 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. (6 credits)

### **MDM4 9872 Gastroenterology/Hepatology**

This four-week elective 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)

### **MDM4 9874 Geriatric Medicine**

In this four-week elective, 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 presentations in the elderly. (6 credits)

### **MDM4 9876 Hematology/Oncology**

In this four-week elective, students will become familiar with the approach to hematological and oncological disorders and the diagnostic workup of these illnesses. (6 credits)

### **MDM4 9878 Infectious Diseases**

In this four-week elective, 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 disease 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)

### **MDM4 9880 Ophthalmology Elective**

In this four-week elective, students will begin to understand the basic anatomy of the visual system, become adept at performing basic screening eye examinations, 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)

### **MDM4 9882 Maternal Fetal Medicine**

In this four-week elective, students will actively participate in clinical consultation and care of high-risk pregnancies on a busy obstetric service. (6 credits)

### **MDM4 9884 Medicine/Pediatrics**

In this four-week elective, students will be introduced 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)

### **MDM4 9886 Neonatal Medicine**

In this four-week elective, the student 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. (6 credits)

### **MDM4 9888 Nephrology**

In this four-week elective, students will learn of disorders, failures, and treatments through inpatient consultations with supervising nephrologists during daily rounds. (6 credits)

### **MDM4 9890 Neurology**

This four-week 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. (6 credits)

### **MDM4 9892 Neurosurgery**

In this four-week elective, the student will work alongside the neurosurgical team and be expected to attend morning rounds, assist in the operating room, and attend neuroscience rounds and perform brain cutting. (6 credits)

### **MDM4 9894 Nuclear Medicine**

In this four-week elective, the student will participate in the performance and interpretation of all types of diagnostic studies performed in the Nuclear Medicine Department. (6 credits)

### **MDM4 9896 Obstetrics/Gynecology**

In this four-week elective, 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. (6 credits)

### **MDM4 9898 Orthopaedic Surgery**

This four-week elective is designed to give students a broad-based orthopaedic

education. The elective 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. (6 credits)

#### **MDM4 9900 Pediatric, Acute Care Clinic**

In this four-week elective, 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. (6 credits)

#### **MDM4 9902 Pediatrics, Adolescent**

In this four-week elective, 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. (6 credits)

#### **MDM4 9904 Pediatric Cardiology**

In this four-week elective, 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. Students will learn how to interpret ECGs and will acquire a basic understanding of echocardiography. (6 credits)

#### **MDM4 9908 Pediatric Gastroenterology**

In this four-week elective, 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. (6 credits)

#### **MDM4 9910 Pediatric Hematology/Oncology**

In this four-week elective, 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 a complete history, and perform a physical examination on pediatric hematology and oncology patients. (6 credits)

#### **MDM4 9916 Pediatric Infectious Disease**

In this four-week elective, students will learn to recognize the evaluation and management of common pediatric infections. Students will also come to understand antimicrobial and antiviral therapy and prophylaxis. Students will learn to recognize and evaluate immune deficiency disorders. (6 credits)

#### **MDM4 9918 Pediatrics Intensive Care**

In this four-week elective, students will become familiar with pediatric system failures



and traumas. (6 credits)

#### **MDM4 9920 Pediatric Neurology**

In this four-week elective, students will learn to perform complete neurological history examinations, perform appropriate lab tests and correlate with clinical findings and learn to evaluate common neurological problems. (6 credits)

#### **MDM4 9922 Physical Medicine and Rehabilitation**

In this four-week elective, students are provided 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. (6 credits)

#### **MDM4 9924 Pulmonary Medicine**

In this four-week elective, 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. (6 credits)

#### **MDM4 9926 Radiation Oncology**

In this four-week elective, students will become familiar with the role of radiation therapy in the multi-modality management of a wide variety of adult and pediatric malignancies. Students will be acquainted with the external beam and sealed source radiation therapy, as with the immediate and delayed effects. (6 credits)

#### **MDM4 9928 Rheumatology**

In this four-week elective, 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. (6 credits)

#### **MDM4 9932 Urology**

In this four-week elective, 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 their skills in urological diagnosis. (6 credits)

#### **MDM4 9933 Adv. Community Emergency Med**

In this four-week elective, students are exposed to a variety of adult and pediatric emergencies while working a variety of Community Emergency Department settings. Students will evaluate patients, formulate different diagnoses and develop initial diagnostic and management plans for undifferentiated patients. Students will develop or improve on technical skills in wound care, lumbar puncture, central venous access, eye examination, suturing, splinting, and EKG interpretation. Students will learn to recognize an acutely ill patient, become familiar with potential life-threatening causes of various

presenting chief complaints, gain an understanding of disposition for acutely ill patients, and describe how age and comorbidities alter these indications. (4 credits)

#### **MDM4 9934 Surgery, Vascular**

In this four-week elective, students will gain experience equivalent to that of a beginning house officer in 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. (6 credits)

#### **MDM4 9935 Lifestyle Medicine**

In this two-week elective, students will be provided with a framework from which to build a practice of Lifestyle Medicine or apply Lifestyle Medicine in any specialty of medical practice. This elective will serve as an introduction and overview of Lifestyle Medicine as an evidence-based approach to the prevention of disease, treatment of disease states, and reversing disease progress. Students will discuss the effects of chronic disease states on individual patients and critically review the financial cost burden of chronic diseases such as diabetes, obesity, cardiac disease, hypertension, and metabolic disorders to the patient and the healthcare system. The concepts of how to evoke behavioral change will be explored. (2 credits)

#### **MDM4 9936 Surgical ICU**

In this four-week elective, students are provided with the opportunity to care directly for critically ill patients with various surgical disease processes. Students will gain insight into the stress response and other aspects of surgical pathophysiology. (6 credits)

#### **MDM4 9937 Organ Systems Courses Teaching-Assistant Educator**

This highly personalized elective experience is designed for students that want to review the basic science and clinical topics in one of the preclinical organ system courses. Students will learn about medical education theory and practice. In this elective, students will be expected to attend sessions during the organ systems course, perform educational tasks assigned by the organ systems course directors, (e.g., answering students' questions and reviewing/developing assessment questions), and develop and deliver one or more review sessions for the preclinical class. Elective faculty will provide instruction on adult learning theory, course development and best practices in assessment. (3 or 6 credits)

#### **MDM4 9939 Advanced Addiction Medicine**

The overall goal of this course is to introduce students to the fundamentals of Addiction Medicine. In addition, the course aims to increase knowledge and awareness of substance use disorders (SUDs) along with the basics of diagnosis and medical care of persons with SUDs and substance-related health conditions. This course will provide an overview of the pharmacology and subsequent changes in neurobiology for multiple substances that are frequently misused, as well as symptoms of intoxication and withdraw from these substances. The course will also provide an overview of medication for opioid use disorders (MOU), safer medication prescribing for pain management, and prevention and treatment of overuse of multiple substances.

This course covers substance use disorder in more detail than the Addiction Medicine Online Elective (MDM4 9995) with embedded questions in the modules, up-to-date and improved cases, and interviews. It is designed to be completed primarily through independent learning via asynchronous, online learning modules developed by MI Cares, covering the following substances: Opioids, Alcohol, Stimulants, Nicotine, Cannabis, Sedatives, and Club Drugs. Learners are expected to engage in Online modules and Scope of Pain supplemental trainings. (3 credits)

### **MDM4 9940 Integrated Clinical Anatomy**

This four-week basic science elective prepares students for their residency by providing an immersive and focused environment for integrating advanced anatomy into the participant's chosen area of medicine. This course aims to apply student-directed cadaveric dissections with interdisciplinary discussions and clinical scenarios. Enrolled students will practice communicating effectively with faculty and colleagues formally, twice, during the four-week elective. Presentations will be a reflection of detailed dissections and clinical findings. Participating students will work within their own schedule to extend and refine their knowledge of human anatomy and explore the anatomical basis of clinical procedures, conditions and diseases relevant to their chosen area of medicine. (6 credits)

### **MDM4 9947 Transplant Surgery**

In this four-week elective, students are required to attend tumor board conferences, 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)

### **MDM4 9948 Directed Independent Research Elective**

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 a curricular dean.

Duration: variable

Month(s) Offered: July-April

**\*\*[Directed Independent Research Elective Scheduling Form](#) must be completed and submitted to [medreg@oakland.edu](mailto:medreg@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

*\*\*[Extramural Away Elective Application](#) must be completed. If the elective is non-VSAS, an affiliation agreement may need to be created. Contact [medreg@oakland.edu](mailto:medreg@oakland.edu) with any questions.\*\**

### **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. (6 credits)

Duration: 4 weeks

Month(s) Offered: July-April

*\*\*[International Clinical Elective Application](#) must be submitted to [medreg@oakland.edu](mailto:medreg@oakland.edu) for approval.\*\**

### **MDM4 9951 Pathology and Laboratory Medicine Elective**

This four-week elective will serve as an introduction and deep dive into the practice of pathology. The elective is divided equally between the departments of Anatomic Pathology and Clinical Pathology. Students will spend one-on-one time with pathologists, pathology assistants, pathology residents, and medical technologists, among others in the laboratory. In Anatomic Pathology they will sit with pathologists from various subspecialty areas, observe gross examination with pathology assistants and pathology residents, and observe frozen sections and autopsies. In Clinical Pathology, among other responsibilities, students will spend time in various laboratory areas and sit with hematopathologists. (6 credits)

### **MDM4 9954 Medical Genetics/Genomic Medicine**

This four-week elective 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 are reshaping the practice of medicine. In addition, an introduction to diagnostic genetics laboratory services (Cytogenetics, Molecular Pathology, and Surgical Molecular Pathology) will be provided so that students will experience how the diagnostic studies that are driving this era of Molecular Medicine are performed and communicated to clinicians. (6 credits)

### **MDM4 9955 General Otolaryngology**

This four-week elective takes place in both physician offices and Corewell Health William Beaumont University Hospital in 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)

### **MDM4 9956 Ambulatory Endocrinology & Metabolism**

In this elective, students evaluate patients in an outpatient endocrinology clinic and document their assessment and plan in the patient's electronic medical record. Students have the opportunity to observe thyroid ultrasound, ultrasound-guided thyroid biopsies,

thyroid and parathyroid scans, DEXA scans, and other endocrinology tests/procedures. Frequent discussion sessions with the attending are held to amplify the clinical material and to touch on important but less commonly encountered endocrine problems. Students may participate in student-initiated or ongoing endocrine research projects by special arrangement with one of the faculty. Students will be expected to attend the monthly Corewell Health Multidisciplinary Endocrinology Case Conference held at Royal Oak. (6 credits)

#### **MDM4 9958 Medical Intensive Care Unit**

This four-week elective is designed to provide the senior student with exposure to medical critical care. This rotation fosters team-based practice through a multidisciplinary approach to the care of critically ill medical patients through interactions with professionals 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 to 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)

#### **MDM4 9960 Pulmonary Sleep Medicine Outpatient Elective**

In this four-week elective, students will have the opportunity to learn about outpatient pulmonary and sleep diseases such as asthma, COPD, sleep apnea, and other complex pulmonary and sleep disorders. (6 credits)

#### **MDM4 9961 Integrative Medicine**

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

#### **MDM4 9963 Trauma Surgery**

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

#### **MDM4 9964 Breast Disease and Surgery**

This two-week advanced surgical elective is 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 imaging modalities, and diagnosis and treatment of breast cancer. (3 credits)

### **MDM4 9967 Pediatric Surgery**

This four-week 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. (6 credits)

### **MDM4 9968 Interventional Radiology**

In this four-week elective, students 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. (6 credits)

### **MDM4 9971 Art and Practice of Medicine Clinical Skills Education**

This four-week 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, grading and Objective Structured Clinical Examinations (OSCE). (6 credits)

### **MDM4 9972 Basic Neuroscience for Clinical Specialties**

This two-week basic science elective provides students with 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. (3 credits)

### **MDM4 9973 Plastic and Reconstructive Surgery**

This four-week 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. (6 credits)

### **MDM4 9978 Sports Medicine Elective**

This four-week Sports Medicine elective provides students exposure to the evaluation and treatment of common sports medicine-related musculoskeletal injuries and conditions. The student is expected to work in the office of an orthopaedic surgeon specializing in Sports Medicine Orthopaedics to provide a broad field of study and patient care, with a specific focus on Sports Medicine. Students are expected to play an active role as a member of the orthopedic team, gaining significant exposure and assisting in the management of Sports Medicine inpatients as well as receive operating room experience. (6 credits)

### **MDM4 9980 2-Week Hematology/Oncology**

This two-week Hematology/Oncology elective introduces medical students to the field of medical oncology and clinical hematology with an emphasis on the broad areas of diagnosis and treatment of neoplastic disease. It provides experience as part of the Inpatient Hematology/Oncology team and exposure to ambulatory Hematology/Oncology patient care. The elective also provides students exposure to the multidisciplinary approach to the management of patients with neoplastic disease, consults, and integrating treatment plans with alternate disciplines and care teams. The Hematology/Oncology elective requires attendance at weekly multidisciplinary tumor boards to enhance patient care and diagnostic experiences. (3 credits)

### **MDM4 9981 2-Week Infectious Diseases**

This two-week Infectious Diseases elective exposes students to the inpatient consultative infectious diseases service. Students will participate in bedside teaching rounds, rounds with full-time attending staff, Infectious Disease fellows, and house staff. (3 Credits)

### **MDM4 9982 Ambulatory Urology**

This Ambulatory Urology elective exposes the student to an extensive experience managing general and complex urologic conditions and provides a live portrayal of what a career in urology entails. Students are expected to function as a direct member of the staff team and are assigned to assist in the operating room and cystoscopy suite on a rotational basis. (3 or 6 credits)

### **MDM4 9984 Directed independent Non-Clinical Education (DINCE) elective**

The Directed Independent Non-Clinical Education elective is designed to address an individual student's interest in a specific non-clinical content area. (3 or 6 Credits)

### **MDM4 9986 2-week Cardiology**

This elective rotation is designed to provide experience in managing a broad range of cardiac diseases under the supervision of a Cardiology attending. Variable amounts of time are available in ECG interpretation, and echocardiography interpretation with emphasis on basic cardiac anatomy, physiology, and pathophysiological correlation. Daily consults and service rounds are completed on cardiac patients and treatment plans are correlated for cardiac diagnoses such as STEMI, NSTEMI, congestive heart failure, and acute/chronic coronary diseases. (3 credits)

### **MDM4 9990 Psychiatry**

This four-week elective, shaped according to a student's specific clinical interests, is designed to develop advanced clinical skills, emphasize continuity of care, and promote leadership. Students will actively participate in the ongoing treatment of patients in the adult and adolescent inpatient units, consultation-liaison, or partial hospitalization/outpatient services. There will be daily supervision with the psychiatric inpatient/outpatient or clerkship directors to discuss diagnostic dilemmas, review psychopharmacologic interventions, and address communication/countertransference

challenges. Students can select available blocks to function as sub-interns, developing teaching/leadership/mentorship skills with M3 or PA students. (6 credits)

### **MDM4 9992 General Surgery Bootcamp Elective**

This two-week elective, offered to fourth-year OUWB medical students with intentions of entering the field of general surgery, seeks to prepare them for the emotional and physical challenges of the internship. This elective focuses on practical aspects of professional development, patient care, surgical technique, and other topics that are frequently not addressed in other clinical rotations but are imperative for preparation for residency. (3 credits)

### **MDM4 9993 Intro to Patient Safety and Quality Improvement**

During this two-week elective, students will complete quality improvement and patient safety modules through the Institute for Healthcare Improvement “open school.” At the end of the rotation, students will submit a written essay describing how they can apply their knowledge of quality and safety to their desired field of interest. (3 credits)

### **MDM4 9994 Advanced Patient Safety and Quality Improvement**

During the four-week elective students will complete quality improvement and patient safety modules through the Institute for Healthcare Improvement “open school.” They will be assigned 6 virtual cases through the Agency for Healthcare Research and Quality (AHRQ). If feasible, they will attend a Root Cause Analysis of a sentinel event/near miss at Corewell Health William Beaumont University Hospital in Royal Oak. At the end of the rotation, the students will submit a written essay describing how they can apply their knowledge of quality and safety to their desired field of interest. If feasible, students will be asked to review a mock case/safety event. (6 credits)

### **MDM4 9995 Addiction Medicine**

Utilizing modules from PCSS, Providers Clinical Support System, this elective will provide an overview of evidence-based practices in the prevention, identification, and treatment of substance use disorders and co-occurring mental disorders. This is structured as a two-week, online elective. (3 credits)

### **MDM4 9996 Public Health**

This two-week, online elective offers several modules for completion. Students are able to complete modules in their own time and at their own pace. Topics cover a broad range of basic public health, health disparities, emergency preparedness, and legal topics related to public health. (3 credits)

### **MDM4 9997 Competent Care of the LGBTQ+ Patient**

The goal of this two-week elective is to introduce and expand the medical student’s knowledge base of caring for members of LGBTQ+ communities through in an asynchronous, online format. Best practices and resources from leaders in LGBTQ+ health education will be utilized as instructional material. While this course is by no means all-inclusive of LGBTQ+ care practice and guidelines, it will introduce the student



to common scenarios, themes, and bring to light health inequities that may have been otherwise unknown. (3 credits)

### **MDM4 9998 2-week Ophthalmology Elective**

During this two-week elective, students will be exposed to Principal Conditions in Ophthalmology (common conditions every non-ophthalmologist should be aware of) as well as Emergencies in Ophthalmology (sight-threatening situations for which emergent referral to an ophthalmologist may be necessary). (3 credits)