

2018-2020



OAKLAND UNIVERSITY WILLIAM BEAUMONT
Records and Registration

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 9110 Anatomical Foundations of Clinical Practice 1](#)
[MDM1 9111 Anatomical Foundations of Clinical Practice 2](#)
[MDM1 9120 Neuroscience 1](#)
[MDM1 9121 Cardiovascular](#)
[MDM1 9122 Respiratory](#)
[MDM1 9123 Hematology and Lymphoid](#)
[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 Embark 1](#)
[MDM1 9191 Embark 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 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 Embark 3](#)
[MDM2 9391 Embark 4](#)
[MDM2 9392 Embark 5](#)
[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](#)

[MDM3 9512 Internal Medicine](#)

[MDM3 9514 Surgery](#)

[MDM3 9516 Pediatrics](#)

[MDM3 9518 Psychiatry](#)

[MDM3 9520 Obstetrics and Gynecology](#)

[MDM3 9522 Neurology](#)

[MDM3 9524 Ophthalmology](#)

[MDM3 9560 Medical Humanities and Clinical Bioethics 5](#)

[MDM3 9561 Medical Humanities and Clinical Bioethics 6](#)

[MDM3 9590 Embark 6](#)

[MDM3 9591 Embark 7](#)

[MDM3 9592 Embark 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 9730 Family Medicine Sub-Internship Clerkship](#)

[MDM4 9732 Internal Medicine Sub-Internship Clerkship](#)

[MDM4 9734 Pediatric Sub-Internship Clerkship](#)

[MDM4 9736 Surgery Sub-Internship Clerkship](#)

[MDM4 9790 Embark 9](#)

[MDM4 9791 Embark 10](#)

[MDM4 9820 Directed Independent Study-Medicine 2](#)

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. (11 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 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 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 Embark 1: Research Design and Project Management

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, implementation and project management. This course also supports successful identification of faculty mentors, development of research questions, and an introduction to writing a research project proposal. The course is a combination of didactic sessions and workshops, a self-directed selection of research project design modules, and protected independent time with which to complete the modules, meet with mentors and work on individual research projects. (3 Credits)

MDM1 9191 Embark 2: Research Proposal Development and Compliance Training

This course continues the structured research design content that supports students in their independent research projects as part of the Embark Program. Compliance training in the ethical use of human subjects and animals in basic science and clinical research and Institutional Review Board requirements are discussed. 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. (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 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 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 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 Embark 3: Techniques in Research Communication

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 scientific writing skills, including critical thinking skill development, academic writing and abstract writing skills. Students practice developing visualizations/graphics of their research projects and provide peer feedback, as well as write a scientific abstract describing their research project. This course is a combination of didactic sessions and workshops, and protected independent time to meet with mentors and work on individual research projects, culminating in the reporting of each student's research project progress to date, in the form of an abstract. (3 Credits)

MDMD2 9391 Embark 4: Techniques in Effective Scholarly Presentation

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. This course focuses on the development of skills required to present a research project, including best practices for poster and oral presentations. The course is a combination of didactic sessions and workshops, and protected independent time to meet with mentors and work on individual research projects, culminating in the presentation of each student's research project progress to date, in the form of an oral presentation. Student present their research project in the form of an oral presentation, and provides peer feedback to other students. Top student oral presentations are invited to present at the Embark Research Colloquium during the Embark 5 course. (2 Credits)

MDM2 9392 Embark 5: Focused Research and Embark Research Colloquium

This course is the culmination of the structured research design content of the Embark program that supports students in their independent research projects. Students have focused research time in which to meet with mentors and work on individual research projects. Students also participate in the top student oral presentations at the Embark Research Colloquium. Students provide peer feedback to the student presenters, using the skills attained in the Embark 4 course. (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 test, 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

This course offers credit to students participating in a department-approved internship in a clinical setting, providing 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

This course offers credit to students participating in a department-approved internship in a community setting, providing 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

This course offers credit to students participating in a department-approved internship in an education training setting, providing 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

In this four-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 in patient setting within the Surgery department at Beaumont Hospital. 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 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. (9 Credits)

MDM3 9520 Obstetrics and Gynecology

In this six-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 Interdisciplinary Studies 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 Interdisciplinary Studies 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 Capstone Research

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 capstone project during any available time throughout the semester. (2 Credits)

MDM3 9591 Embark 7: Directed Capstone Research

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 capstone project during any available time throughout the semester. (2 Credits)

MDM3 9592 Embark 8: Focused Research

This course provides dedicated time for students to complete a portion of their Embark Capstone 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, 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)

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 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 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 course provides longitudinal curriculum including Infectious Disease and 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. (5 Credits)

MDM3 9612 Interdisciplinary Studies 2

The course is a continuation of Interdisciplinary Studies 1, providing longitudinal curriculum including Infectious Disease and 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. (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 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

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 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 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 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. 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 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. 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. Students will be assigned to a pediatric-ward team which includes senior level residents, interns, and 3rd year medical students. The student will participate 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. (6 Credits)

MDM4 9736 Surgery Sub-Internship Clerkship

Description: 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 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)

MDM4 9962 Emergency Medicine Sub-Internship Clerkship

In this four-week clerkship, students are provided 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)

MDM4 9790 Embark 9: Directed Capstone Research

This course for students to continue work on their Capstone projects, completing a portion of their project in an independent manner semester, 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 capstone 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 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 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. (2-6 Credits)

***[Directed Independent Clinical Elective](mailto:medeg@oakland.edu) form must be completed and submitted to medeg@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 be provided 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. (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 the 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 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 9864 Emergency Medicine Rotation (EM1)

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

MDM4 9866 Advanced Emergency Medicine Rotation (EM2)

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

MDM4 9868 Advanced Pediatric Emergency Medicine Rotation (EM3)

In this four-week elective, 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. (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 presentation 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 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)

MDM4 9880 Ophthalmology

In this four-week elective, 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)

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, 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. (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

The 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 of the neurosurgical team and

be expected to attend morning rounds, assist in the operating room, and attend neuroscience rounds and 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. Student will learn how to interpret ECG's and will acquire a basic understanding of echocardiography. (6 credits)

MDM4 9906 Pediatrics, Developmental and Behavioral

In this four-week elective, students will learn to distinguish normal from abnormal development and how to approach the assessment of disorders of learning and development. (6 credits)

MDM4 9908 Pediatrics 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 complete history, and perform a physical examination on pediatric hematology and oncology patients. (6 credits)

MDM4 9914 Pediatrics, General Sub-Internship

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. (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. Student will also come to understand antimicrobial and antiviral therapy and prophylaxis. Student 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 test 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 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 will 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 9930 Surgery, General

In this four-week elective, 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)

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 skills in urological diagnosis. (6 credits)

MDM4 9934 Surgery, Vascular

In this four-week elective, 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. (6 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. Student will gain insight into the stress response and other aspects of surgical pathophysiology. (6 credits)

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. (6 credits)

MDM4 9940 Integrated Clinical Anatomy

This four-week 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. 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. (6 credits)

MDM4 9941 General Dermatology Office Clinical Rotation

This four-week elective 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)

MDM4 9943 Orthopaedic Surgery – Foot and Ankle

This four-week elective 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. 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)

MDM4 9944 Orthopaedic Surgery – Sports Medicine

This four-week elective is dedicated to musculoskeletal pathology of the spine. Students work closely with the 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)

MDM4 9945 Orthopaedic Surgery – Spine

This four-week elective is dedicated to musculoskeletal pathology of the spine. Students work closely with the 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)

MDM4 9946 Introduction to Clinical Ethics Consultation

This four-week 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)

MDM4 9947 Transplant Surgery

In this four-week elective, 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)

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 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 elective is non-VSAS an affiliation agreement may need to be created. Contact OUWBelectives@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 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 four-week elective comprises two 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)

MDM4 9952 Medical Education

This four-week basic science elective 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)

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

In this four-week elective, 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. (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 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)

MDM4 9955 General Otolaryngology

This four-week elective 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)

MDM4 9957 Holistic Admissions Review

This (two or four week) 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)

Students must contact the Assistant Dean for Medical School Admissions, prior to adding course for check availability.

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 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)

MDM4 9959 Pulmonary and Critical Care Elective

This four-week 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)

MDM4 9960 Pulmonary Sleep Medicine Outpatient Elective

In this four-week elective, 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)

MDM4 9961 Integrative Medicine

This four-week elective 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)

MDM4 9963 Trauma Surgery

This four-week elective advanced surgical elective is 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)

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 9965 Colon and Rectal Surgery Elective

This two week elective requires students to rotate with five colon rectal surgeons and 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. (3 credits)

MDM4 9966 Otolaryngology – Head and Neck Surgery

This four-week 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. (6 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 9969 Clinical Endocrinology

This four-week elective 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. (6 credits)

MDM4 9970 Intro to Pediatric Radiology

In this four-week elective, 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. (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, and grading and Objective Structured Clinical Examination (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 9974 Cardiac Care Unit

This four-week elective provides an excellent training opportunity for M4 students to acquire experience in the diagnosis management of critically ill patients with cardiovascular diseases. (6 credits)

MDM4 9975 Inpatient and Outpatient Nephrology

The Nephrology Elective offers the students the opportunity to learn management of common clinical scenarios in Nephrology with both Outpatient and Inpatient care. This course demonstrates technique and primary procedure with inpatient consult service, management of electrolytes, acute kidney injury, hypertension, and management of diuretics. Inpatient services also focus on the introduction of Hemodialysis, and Continuous Renal Replacement Therapy. Required student participation in the Outpatient Clinic demonstrates focused teaching on the subjects of Hypertension, Chronic Kidney Disease management, Diabetic Kidney Disease management, and the work up and treatment of Glomerular Disease. (6 credits)

MDM4 9976 Advanced Experimental Design and Data Analysis

This elective is directed toward students interested in doing research during their residency, and who want to acquire advanced statistical knowledge while gaining hands-on experience with the collection and analysis of data. (6 credits)