

# MD program Curriculum

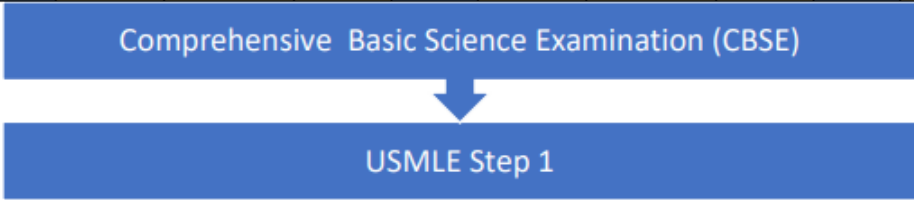
Xavier University School of Medicine has adopted a modern, innovative and dynamic curriculum aimed at providing highly qualified physicians to US health care system and worldwide. The curriculum of XUSOM is prepared in alignment with its Mission, Vision and Educational Objectives.

The students learn Medicine via a well-organized system- based –curriculum, which closely correlates to the way the medicine is being practiced in the hospital. Innovative feature of XUSOM lies in its Curricular integration with well-organized Vertical (Collaboration between Basic and Clinical Sciences) and Horizontal integration (Collaboration between different disciplines of Basic Sciences). Vertically integrated Curriculum ensures that the students learn Basic Science from a clinical perspective from the first day of their medical school.

The total duration of the MD program is 4 years of which student spends first 2 years in the Aruba campus to learn the basic sciences and then proceeds to US for his clinical clerkships. During the Basic science program students are exposed to 9 organ systems. Each organ system is Integration of all the basic science subjects around the concepts of ICMPD (Integrated Clinical Medicine and Physical Diagnosis) and Objective structures Clinical Examination (OSCE) program. The curriculum ensures that, the students learn and theory and relevant clinical examination always in parallel to make learning complete and appropriate.

The students are also dealt with ethics of clinical practice, career counseling, Medical Humanities and professionalism for their holistic development. Teaching learning sessions like Clinical Case presentation, Team Based Learning and Problem Based learning help them to be an independent learner and imbibe the art of lifelong learning in them.

YEAR 1	Course	MD1				MD2				MD3				
		Course	Duration (weeks)	Credit Hours		Course	Duration (weeks)	Credit Hours		Course	Duration (weeks)	Credit Hours		
YEAR 1	Organ system	FC*	15	21	→	MSK*	8	13	→	Renal	4	6		
						ERS*	7	15			NS*	11	16	
	PDS	PDS 1	15	3			PDS 2	15		3		PDS 3	15	4
	HQI	HQI 1	15	-			HQI 2	15		-		HQI 3	15	-
YEAR 2	Course	MD4				MD5				MD6				
		Course	Duration (weeks)	Credit Hours		Course	Duration (weeks)	Credit Hours		Comprehensive Integration of Clinical Judgement				
	Organ system	RS*	7	10	→	CVS*	10	14	→	Kaplan Course				
		GIS*	8	12			HS*	5		8	CCSA - 1			
	PDS	PDS 4	15	4			PDS 5	15		3	NBME			
HQI	HQI 4	15	-			HQI 5	15	-		Kaplan Exit Exam				
										BLS / HIPAA				



YEAR 3 & YEAR 4	Clerkship	Preclinical Clerkship (12 Weeks)		Core Rotation (48 Weeks)					
		Introduction to Clinical Research	Introduction to US Clinical Health system	Surgery	Internal medicine	Family medicine	Pediatrics	Psychiatry	Obstetrics & Gynecology
	Duration (Weeks)	8	4	12	12	6	6	6	6
Comprehensive Clinical Science Exam (CCSE) + USMLE STEP 2									
↓									
Elective Rotations - 24 WEEKS									
↓									
Comprehensive Clinical Skills Assessment – 2 (CCSA 2)									
GRADUATION									

\* Organ systems and Courses

FC – Fundamental Concepts

MSK – Musculo-Skeletal System

ERS – Endocrine and Reproductive System

NS – Nervous System

RS – Respiratory System

GIS – Gastro Intestinal System

CVS – Cardio Vascular System

HS – Hematopoietic System

BLS – Basic Life Support

HIPAA – Health Insurance Portability and Accountability Act

## MD1

**Fundamental concepts:** This 15 week's course involves the study of foundation sciences in medicine, which enables the student to prime himself to understand the concepts and functioning of various organ systems in the body. The students learn topics relating to basic concepts of each medical subject beginning from physiology to pathology. These preliminary topics include the cellular functions, homeostasis and the consequences of derangements, feedback mechanisms, and terminologies in human body. The students will be familiarized on basic concepts of Homeostasis and its maintenance, Infection, Immunology, Cancer biology and treatment, Nutrition and metabolism, Embryology, in this course. From a clinical examination perspective, students are taught the basics of History taking and General examination with recording of vitals towards the end of the organ system.

**Patient, Doctor, and Society I:** This is the first course in a five-part series which includes Epidemiology, Biostatistics, Critical Appraisal of Scientific Literature (CASL), medical professionalism & humanities, Early Clinical Exposure, and classroom activities. Students visit local general practitioners for their early clinical exposure during this semester. In the local clinics they observe the interaction between the patient and the doctor and get firsthand information on patient communication.

**Healthcare Quality Improvement I:** This is the first course in a five-part series which includes the online Institute for Healthcare Improvement (IHI) module and medical ethics.

## MD2

**Musculoskeletal system:** Students get to learn about the various organs of locomotion and internal. The internal movements are involuntary movements involving the muscles. The locomotion involves skeletal muscles, bones. Students learn basics on organization of locomotor structures, molecular mechanism of such movements and the possible key areas for the disorders and related pharmacotherapy for the same. All these core subjects are integrated and discussed under ICMPPD. Relevant clinical examination of integumentary system would be discussed and the same would be evaluated through OSCE program.

**Endocrine and Reproductive System:** Student learns the basic concepts of hormones, their source, functions and normal values. Students get to learn the principles of human growth, control of food intake,

physiological management of stress, maintenance of mineral metabolism. They also get to understand the concepts of human reproduction, fertilization, contraception. This module Introduces students to the normal functioning, diseases, and therapeutics of the endocrine and reproductive system. The presentation of Endocrine and reproductive system disorders along with clinical features with reasoning would be dealt in ICMPD. Thyroid and Breast clinical examination along with appropriate history taking would be discussed and evaluated through OSCE program.

**Patient, Doctor, and Society II:** Using the foundation from the first part of this course, students move on to more advanced components. The students again learn Critical Analysis of Scientific Literature, participate in discussions involving Medical Humanities and professionalism. They also learn concepts of Biostatistics and Epidemiology in this course.

**Healthcare Quality Improvement II:** More advanced issues in medical ethics will be discussed, using the foundation from the first part of this course.

### **MD3**

**Renal and Metabolic System:** The Renal and metabolic system introduces the students to the basic understanding of the normal structure and functions of the kidneys along with the principles involving the renal handling of salt and water. Students also get to learn about the various principles and latest methods of managing renal disorders along with relevant metabolic and electrolyte abnormalities associated with the renal system. Students will summarize and discuss the relevant clinical findings and presentation of renal diseases under ICMPD.

**Nervous System:** This system is considered as one of the most vital and challenging organ system during the Basic science study. In this course, the students are exposed to the basic concepts and principles of neurons, organization of central nervous system. Under Neuroscience the students will learn how the different parts of nervous system gets integrated in coordinating various activities like locomotion, sensory perceptions, maintenance of balance and equilibrium. They understand the circuits and pathways involved in the controlling the various autonomic internal systemic activities related to respiration, cardiovascular system, gastrointestinal system. They are taught the complex concepts through state of art teaching, animation as well as videos where necessary. Finally ICMPD integrates all the core subjects and gives a clinical touch to the brain and nerve related disorders with the reasoning for the same. Students learn to take a detailed history and perform an extensive neurological examination from the ICMPD subject experts. The student's clinical skills are assessed under OSCE.

**Patient, Doctor, and Society III:** After a review of the skills developed in Patient, Doctor, and Society I & II, students will begin to delve deeper into the aforementioned components. The students will critically review the scientific literature and have a movie screening activities as part of this course.

**Healthcare Quality Improvement III:** This course will provide a comprehensive study of the legal and ethical issues involved in the practice of medicine, after a review of the skills developed in Healthcare Quality Improvement I & II.

## **MD 4:**

**Gastrointestinal System:** The student learning in Gastro intestinal system is related to understanding mechanisms involved in digestion and absorption of food, thus ensuring to cater to the nutritional needs of the body. Contribution of various glands of gastro intestinal tract in digestion by secreting the appropriate digestive enzymes and consequences of its disease process is described in detail to all the students. The students learn presentation, pathogenesis, work up and treatment of all the Gastro intestinal diseases under ICMPD. Gastrointestinal clinical examination and history taking is discussed in ICMPD and these skills are assessed by OSCE.

**Respiratory System:** Respiration is a process which occurs throughout life and we see respiratory regulations happening constantly in various health and disease states. In this course the students will be enlightened on the normal respiratory functions, mechanisms of gas exchange and how these processes get disrupted in diseased state. They also learn body adaption to high altitude, high pressure and environmental changes. In ICMPD students will learn the presentation, workup and appropriate treatment. In addition the students will have focused study on the ventilator assisted breathing, its impact on the gas exchange process. Respiratory system clinical examination will be assessed by OSCE.

**Patient, Doctor, and Society IV:** After a quick review of the first three parts of this course, students will be moving into the more advanced components including movie screening with discussion post movie. The students will also review and analyse a scientific literature during this course.

**Healthcare Quality Improvement IV:** Students will explore the advanced legal and ethical issues that arise in the practice of medicine, after a quick review of the first three parts of this course.

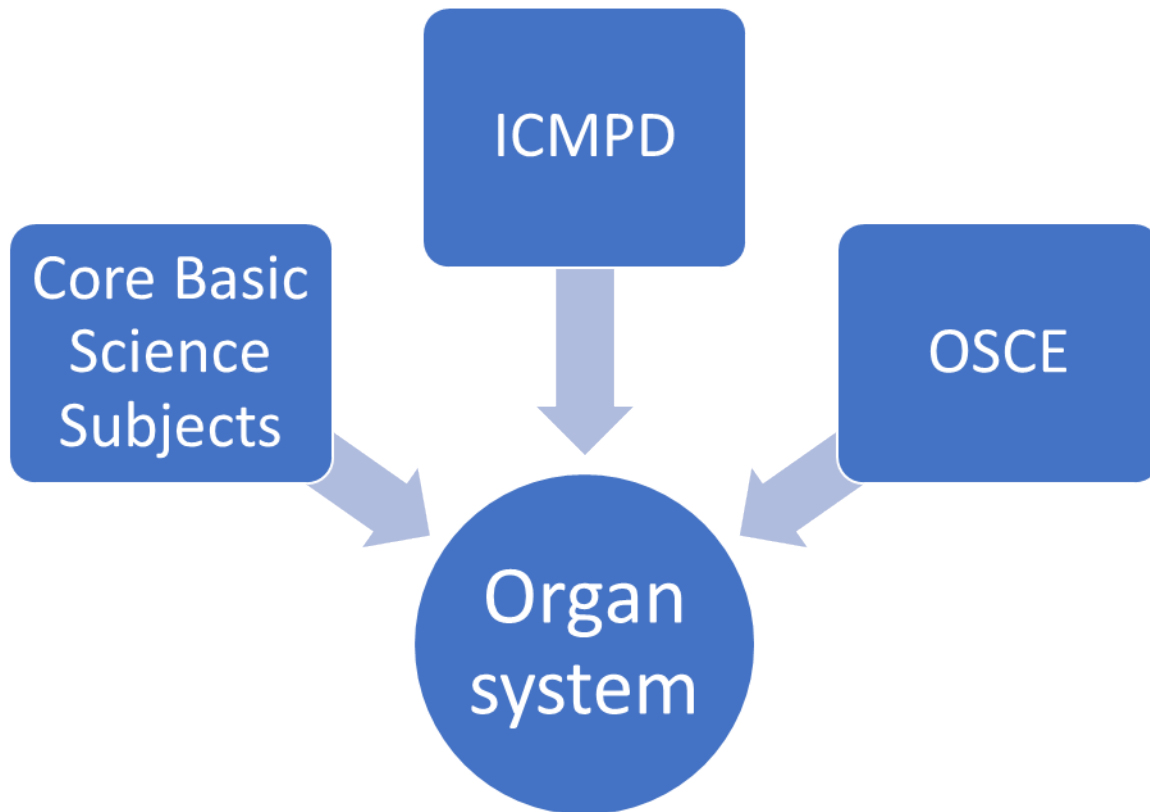
## **MD 5**

**Cardiovascular System:** Student learns the basic concepts to understand the structure of the heart, electrical and mechanical events in the heart. Students also learns about the normal values of vitals like pulse, blood pressure. Students learn about the cause -consequences of altered normal functioning of heart, the measurement of such alterations and also the management. The Students learn about the functioning of the cardiovascular system in health and disease and therapeutics and use of drugs to treat and manage disorders of this important system.

**Hematopoietic System:** Student learns the basic concepts of blood and constituents of blood, blood transfusion, diseases related to the blood. Students gets to learn about the immunity and immune disorders, and principles of management of the same. Introduces students to all aspects surrounding the functioning of the hematopoietic system (blood forming) in health and disease and therapeutics and use of drugs to treat and manage disorders of this important system.

**Patient, Doctor, and Society V:** After reviewing all the skills learned up to this point, students will focus on advanced appraisal of scientific literature. The students will also visit the Hospital and get experience of working with multiple different medical professionals including nurses. This course will also help them to apply their history taking skills on the live patients and review the basics of clinical examination.

**Healthcare Quality Improvement V:** Students will move on to the most advanced, medically relevant, ethical questions, after reviewing all the skills learned up to this point.



## **MD 6**

Xavier University offers students this unique semester to not only prepare them for the USMLE Step 1 Exam, but also for a smooth transition into clinical medicine in the United States. Students gain valuable knowledge during this time and a clear comprehension of the healthcare system and post-graduate medical training in the United States. During this semester students will cover:

Comprehensive Integration of Clinical Judgment

Foundations of Medicine

Basic Life Support (BLS)

Health Insurance Portability and Accountability Act (HIPAA)

Getting into Residency

## USMLE Step 1 Review Course

### OSCE Exam

USMLE Review Course- Xavier University School of Medicine and Kaplan have partnered to offer students with United States Medical Licensing Examination (USMLE) review programs and resources. Kaplan's USMLE review programs are tailored to meet the needs of MD6 students and help prepare them for USMLE success. Kaplan's live online review classes for Step 1 provide real-time, online virtual learning. Students receive over 275 hours of live online lectures, an additional 30 hours of live online integrated cases, access to Kaplan's interactive series of eBooks and question bank, NBME exam assessments, as well as diagnostic and simulated exams. This course is completed on campus in Aruba.

Objective Structured Clinical Examination (OSCE) examination- The student's history taking and clinical examination skills are assessed through OSCE examination. OSCE aims to hone the clinical skills of the student that was learnt from MD1 to MD5 semester, assimilate new methods and sharpen the student's history taking skills, including all the aspects of chief complaint/presenting problem, history of present illness, past medical history, family and social history, review of systems, and mental status exam. OSCE also aims to assess the student's clinical examination skills that the students should possess for smooth transition from basic sciences to clinical science. It is mandatory for students to pass OSCE component separately for them to pass MD6.

### CARE Enrichment Experience

CARE stands for CATCH-UP; ASSIST; REACH-OUT; EMBRACE

CARE is a mandatory component of the XUSOM curriculum to provide the medical students with both the opportunity and the responsibility to look beyond the limits of catering to only their patients' needs and extend themselves into the horizons of preventing disease and promoting health in the community. CARE is aimed at providing medical students with skills in assessing health needs and resources, planning and organizing, intercultural competence, qualitative and quantitative data collection. The aim is to foster meaningful community service-based reflective learning among medical students to help them become community-responsible physicians and be better equipped to address societal determinants of disease. This component provides medical students with service-learning curricula that will inculcate in them the thoughtfulness to engage with community and societal health needs beyond academic requirements. It is mandatory for every student to complete 32 hours of CARE during their 2 years of basic science training.

### CLINICAL SCIENCES

Starting September 2021, any student entering clinical rotations at XUSOM as a new or transfer student will be required to complete a total of 84 weeks of rotations with an optional additional 12 weeks of sub-internships.

### **Clinical Medicine Year 3 (60 weeks)**

**Pre-Clinical Clerkship - 12 weeks**

**Core Clerkships – 48 weeks**

- Internal Medicine (12 weeks)
- Surgery (12 weeks)
- Family Practice (6 weeks)
- Obstetrics and Gynecology (6 weeks)
- Pediatrics (6 weeks)
- Psychiatry (6 weeks)

### **Clinical Medicine Year 4 (Elective Clerkships – 24 weeks)**

- The student will select from a variety of disciplines, including subspecialties of the core clerkships.
- The majority of elective rotations are 4 weeks.

### **Sub-internships (Optional additional hospital rotations / part of Elective Clerkships- 12 weeks)**

- These rotations are generally pursued in the field appropriate to career interest and they provide a greater amount of showcasing and networking experiences.
- A student will generally select an elective sub-internship, where they will perform the role of an intern or first-year medical graduate, under the supervision of senior staff and attending physicians.

Students are required to pass all six Core Clerkships and nine Elective Clerkships in order to graduate. In addition, students must pass USMLE-2CK and CCSA prior to graduation.

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