

MD Program With Pre-Clinical Sciences

BIMS SOM-HP

FOUR-YEAR MD PROGRAM

BIMS SOM-HP is over 100,000 Sq ft of newly built campus offers an energetic, welcoming and an igniting environment that both supports and challenges the students during medical school.

This campus is the prelude to our 65 acres new campus coming up at our proposed **GRAND MED CITY** township currently being developed by the parent entity BIOPRIST GROUP.

EDUCATIONAL PROGRAMS

School of Medicine & Health Professions: **Graduate Degree Program**

Title of Degree: **MD – Doctor of Medicine**

Pre-Clinical Sciences

The BIMS – SOM-HP aims to provide:

An integrated and flexible curriculum that promotes the skill and art of medicine, critical thinking, and lifelong learning needed to succeed as a practicing physician.

BIMS SOM-HP'S educational program utilises the most innovative and current methods for delivery of a medical education leading to the MD – Doctor of Medicine (MD) degree after Four (4) years of study:

BASIC SCIENCES – CURRICULUM

(PRECLINICAL)

- Two years
- 78 weeks
- 80 Credits



- 240 credit hours of study at BIMS SOM-HP campus in Montego Bay, Jamaica.

OVERVIEW – BASIC MEDICAL SCIENCES CURRICULUM

The year 1 and 2 curriculum focus mainly on the basic (foundational) medical sciences delivered in an **integrated in an organ system – based manner**.

Courses offered are:

- Cell biology and Molecular biology/Genetics.
- Musculoskeletal system and Skin
- Neuroscience,
- Gastroenterology
- Respiration
- Cardiovascular System
- Basic Haematology and Immunology
- Endocrinology and Reproduction

The emphasis is on normal structure and function i.e.:

1. Normal Anatomy (gross anatomy, histology, embryology) and
2. Physiology,
3. Human Behaviour in Medicine, and
4. Biochemistry

EXPOSURE TO CLINICAL EXPERIENCE: The students have early exposure to pathological clinical experience within the Introduction to Clinical Medicine courses offered each semester during the Preclinical years. The students will be exposed to medical imaging in anatomy, activity in the Simulated lab area and case-based discussions in lectures and small groups.

INTRODUCTION TO CLINICAL MEDICINE: In, Introduction to Clinical Medicine, students begin to learn the art of interviewing patients in groups, and progress to learning physical exam skills and having individual sessions where they practice interviewing and physical exam skills under the direct supervision of attending physicians.



YEAR 1

YEAR 1 – SEMESTER 1

(18 Weeks = 17 Credits = 51 Credit hours):

1. Cell Biology	(3 credits)
2. Human development (Embryology & Histology)	(4 credits)
3. Molecular Medicine	(3 credits)
4. Musculoskeletal system & Skin	(3 credits)
5. Introduction to Clinical Medicine 1	(2 credits)
6. Introduction to Clinical Medicine 2	(2 credits)

YEAR 1 – SEMESTER 2

(18 Weeks = 18 Credits = 54 Credit hours)

1. Haematology	(3 credits)
2. Respiratory system	(4 credits)
3. Neuroscience 1	(3 credits)
4. Cardiovascular system	(4 credits)
5. Introduction to Clinical Medicine 3	(4 credits)

YEAR 1- SEMESTER 3 (6 Weeks = 7 Credits = 21 Credit hours)

1. Introduction to Clinical Medicine 4	(3 credits)
2. Biostatistics & Epidemiology	(4 credits)

YEAR 2

YEAR 2 – SEMESTER 1

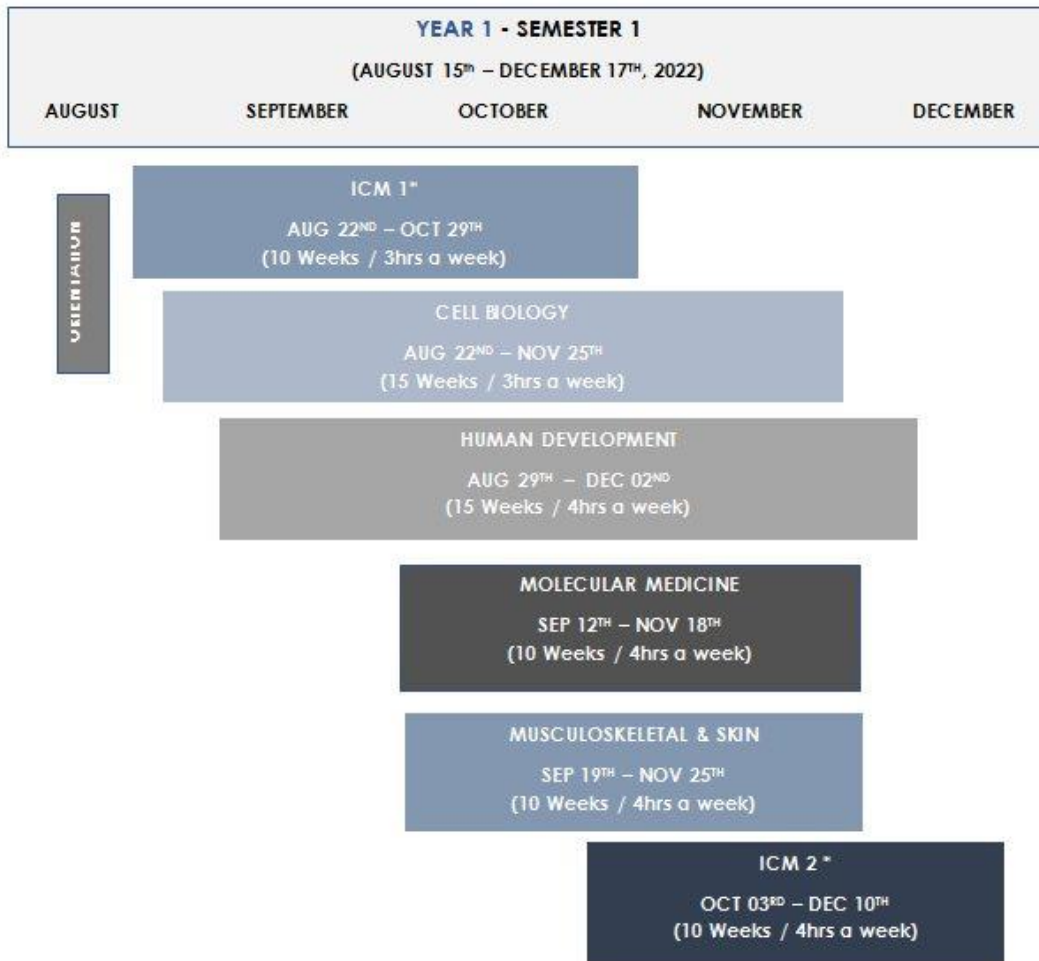
(18weeks = 19 Credits = 57 Credit hours):

1. Neuroscience 2	(5 credits)
2. Gastrointestinal system	(4 credits)
3. Renal System	(4 credits)
4. Introduction to Clinical Medicine 5	(6 credits)

YEAR 2 – SEMESTER 2

(18weeks = 19 Credits = 57 Credit hours):

1. Endocrine & Reproduction	(6 credits)
2. Principles of Clinical Medicine	(6 credits)
3. Integrated Systems Review/ USMLE Prep	(7 credits)



*ICM = Introduction to Clinical Medicine

Year 1 – Semester 1:

Cell Biology (3 credits)

This block will form the foundation for the preclinical medical sciences as well as for all the systems that will follow. This block will lay the groundwork for preclinical medical sciences, in general, and for all of the systems that will follow.

It will explore the structure and function of organelles continuing into tissues showing the continuum from the relevant basics of molecules to the system level and include considerations for evidence-based decision making.

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The course material will be presented via a combination of interactive live lectures and active small group discussions guided by facilitators.

Human Development (Embryology & Histology) (4 credits)

This course provides an introduction to embryology, gametogenesis, fertilization, and the development of the embryo from zygote to neural tube formation continuing to the development of organ systems (nervous, respiratory, cardiovascular, urogenital, and digestive systems). The course also outlines the development of sensory organs (eyes and ears). The laboratory exercises are integrated into the lectures to ensure an excellent hands-on experience for the students. The students will also study the microscopic structure (histology) and function of human cells and tissues that make up the organ systems. The organization of cells and tissues are correlated with diagnostic imaging (e.g., electron microscopy and immunohistochemistry) of normal and pathologic tissues. At the end of the course the students will have an understanding of the fundamental concepts of the development of and the microscopic anatomy of the human body. Congenital malformations associated with given organ systems will also be discussed.

Molecular Medicine – Foundation course (3 credits)

The course will discuss the organisation and major features of the human genome, including replication, gene expression, epigenetics and the role of non-coding RNA. It will also explain the consequences of mutations and polymorphisms, inherited diseases and molecular aspects of major common diseases, such as cancer, diabetes, vascular and coronary disease. Infectious diseases and treatment, applied bioinformatics, drug development and use of stem cells and organoids will also be addressed as well as the impact of genes, inheritance and environment on disease.

Musculoskeletal System/Skin (3 credits)

The Musculoskeletal system will commence the students' study in this organ system-based curriculum. This 3-week course brings together the basic science principles of the muscular, skeletal and integumentary systems, their blood and nerve supply allowing students to gain knowledge of the locomotor system as support, stability and movement to the human body along with the application of this knowledge.

The course covers the gross anatomy and radiology disciplines with clinical correlations as they relate to the: head, neck, the vertebral column, upper & lower limb, and back.

Introduction to Clinical Medicine 1 (2 credits)

In this course students (in groups) learn how to interview patients, do physical examinations on patients. The students will learn these skills in the Simulated patient Lab where they are taught with standardized patients. They will then progress to individual sessions under supervision from attending physicians where they practice patient interviewing and physical examinations.

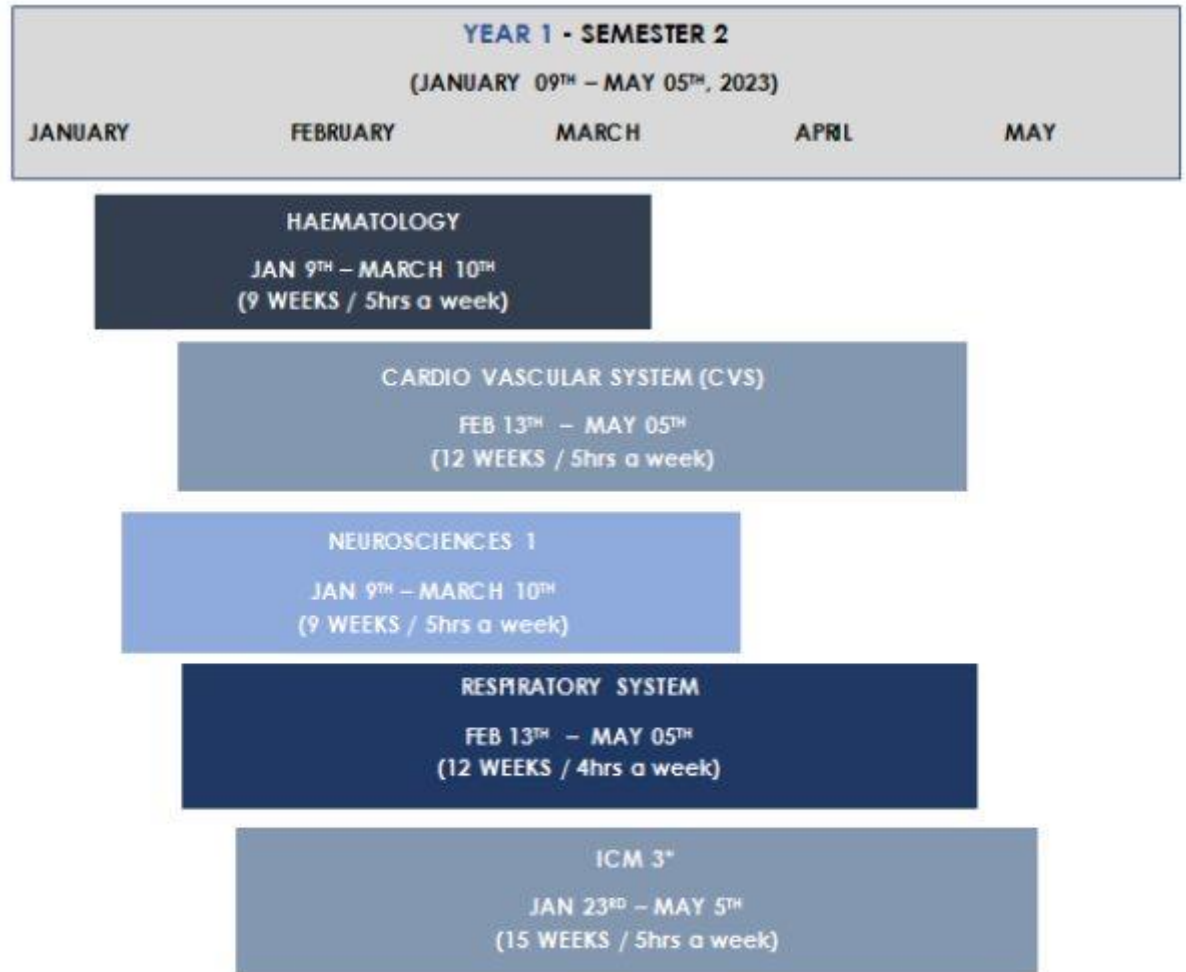
Introduction to Clinical Medicine 2 (2 credits)

Students will also be introduced to the study of community and public health, primary health care, epidemiology and treatment of diseases (non-communicable and communicable) on a global basis. They will study the social determinants of health, health equity, social justice, and governmental policy and their impact on the distribution of health services and health outcomes in low-resource settings within their and internationally.

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Year 1 – Semester 2

Haematology (3 credits)

The students will learn the basics of haematopoiesis including the requirements for haemoglobin production with respect to dietary needs and enzymes. The structural features of the blood cells and their role in the maintenance of blood cell integrity. The processes required to stop bleeding including the formation and dissolution of clots. Blood typing and transfusion processes and how they impact disease processes. The structure and roles of the white blood cells.

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Respiratory System (4 credits)

The structure and function of the Respiratory system will be covered in this course which will also focus on the biomedical significance of haemoglobin and the primary function of respiratory system to obtain transport and supply oxygen to the cells, and to remove carbon dioxide from these cells. The students will learn the functions and anatomy of the muscles of respiration, the functions of the various parts of this system as they relate to alveolar ventilation, mechanics of respiration, gas diffusion and transport, lung perfusion, combined ventilation and perfusion, acid-base balance and the non-respiratory functions of the lung. The control of breathing and the changes that occur in respiration during physiologic stress, high altitudes, diving, and during sleep will also be studied

Neurosciences 1 (3 credits)

This course will cover the structure and function of the Peripheral nervous system including the Autonomic Nervous System

This course forms the foundation for the Neuroscience 2 course offered in year 2 of the programme which will delve into the Central Nervous System and its neuropathology and psychopathology.

Cardiovascular System (4 credits)

In this course students will study the structure and function of the human cardiovascular system. They will learn about the heart as the driving force for blood flow and delivery of nutrients to the body, macro-circulation and a micro-circulation of blood, lymph within the blood and lymphatic vessels: anatomic and physiologic considerations, interactions between the cardiovascular and other organ systems in the integration of functioning of the body as a whole (gastrointestinal, nervous, endocrine systems) to understand the delivery of nutrients to all organs, the coupling blood flow and neural signaling, cardiovascular changes to body stresses and heart failure.

Introduction to Clinical Medicine 3 (4 credits)

This system integrates the disciplines of Pathology, Pharmacology and Microbiology building on the foundational knowledge acquired in the disciplines of Physiology, Histology and Immunology for the Haematology, Respiratory, Neuroscience 1 and Cardiovascular systems.

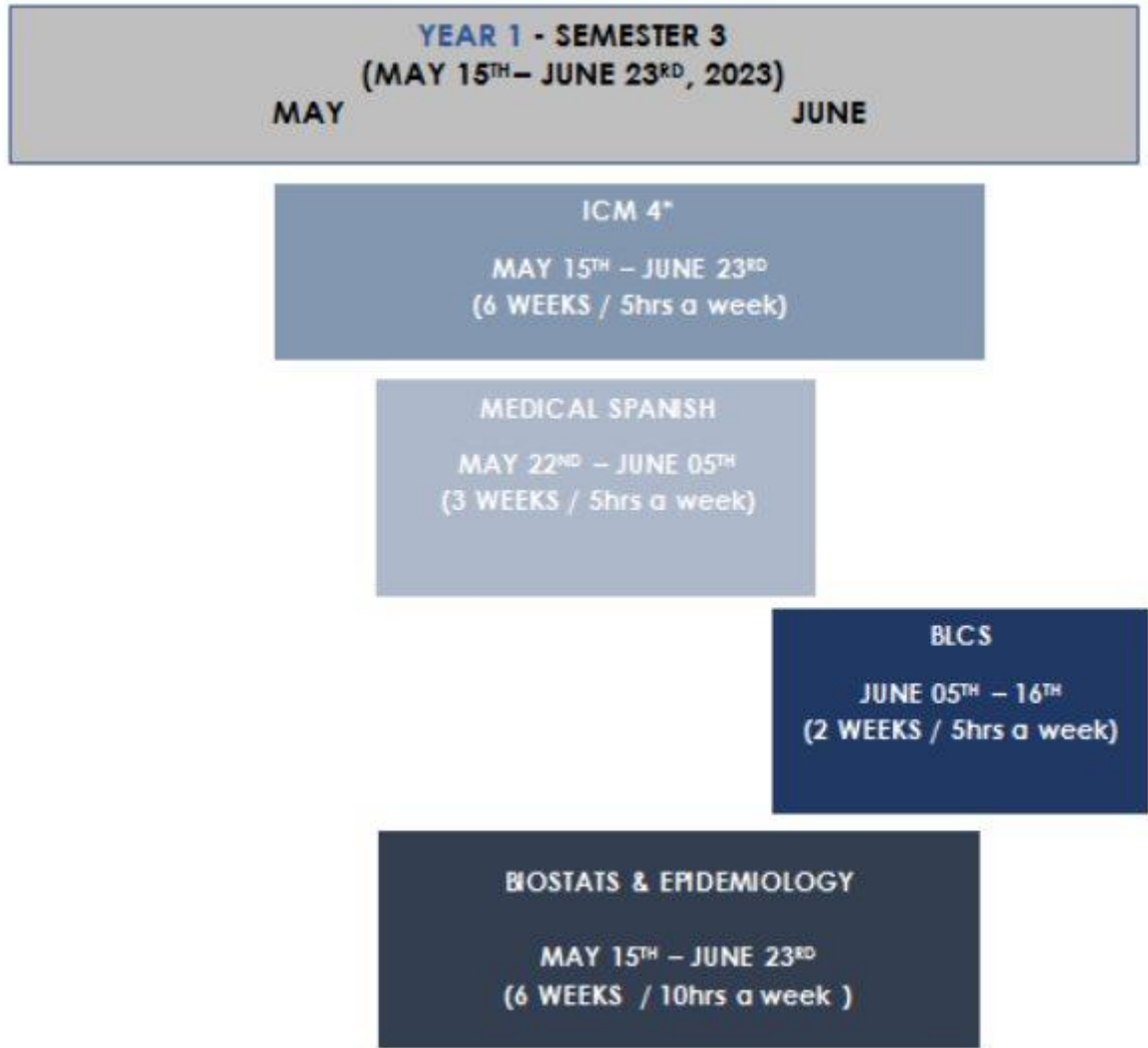
It will include a study of red blood cell disorders with a focus on anaemias as well as platelet and bleeding disorders. This will be integrated with therapeutic approaches to anemias and the role of hematinics and hematopoietic growth

factors. The emphasis then shifts to non-neoplastic and neoplastic disorders involving white blood cells followed by disorders of the thymus and spleen. It also introduces the principles of neoplasia and anti-cancer drugs.

The module provides an overview of the abnormal processes and diseases that can affect the structure and function of the respiratory passage: upper and lower respiratory tract disorders, obstructive lung diseases, restrictive lung diseases, vascular diseases, pulmonary infections, lung neoplasia.

This course will discuss with impaired defences, introduction to microbes and microbial pathogenesis, the basic biology of pathogenic bacteria, viruses, fungi, and parasites, and how it relates to microbial pathogenesis, together with principles of antimicrobial therapy

Students will learn about the diseases of the cardiovascular system and will formulate a pathophysiological explanation for presenting symptoms and signs related to cardiovascular diseases, interpret electrocardiograms, develop a differential diagnosis, and make a plan for further diagnostic evaluation and/or management.



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Year 1 – Semester 3

Introduction to Clinical Medicine 4 (3 credits)

Students will learn to analyze the challenges facing the health and human rights issues specific to immigrant, migrant, internally displaced, and refugee populations. They will understand the specific needs of vulnerable populations including the medically underserved and uninsured, demonstrate knowledge of effective advocacy strategies for health systems improvement within the global context Governance (Health Systems, Economics, Ethics, etc.). They will learn about the burden of Disease (Child Health, Women Health and the health of

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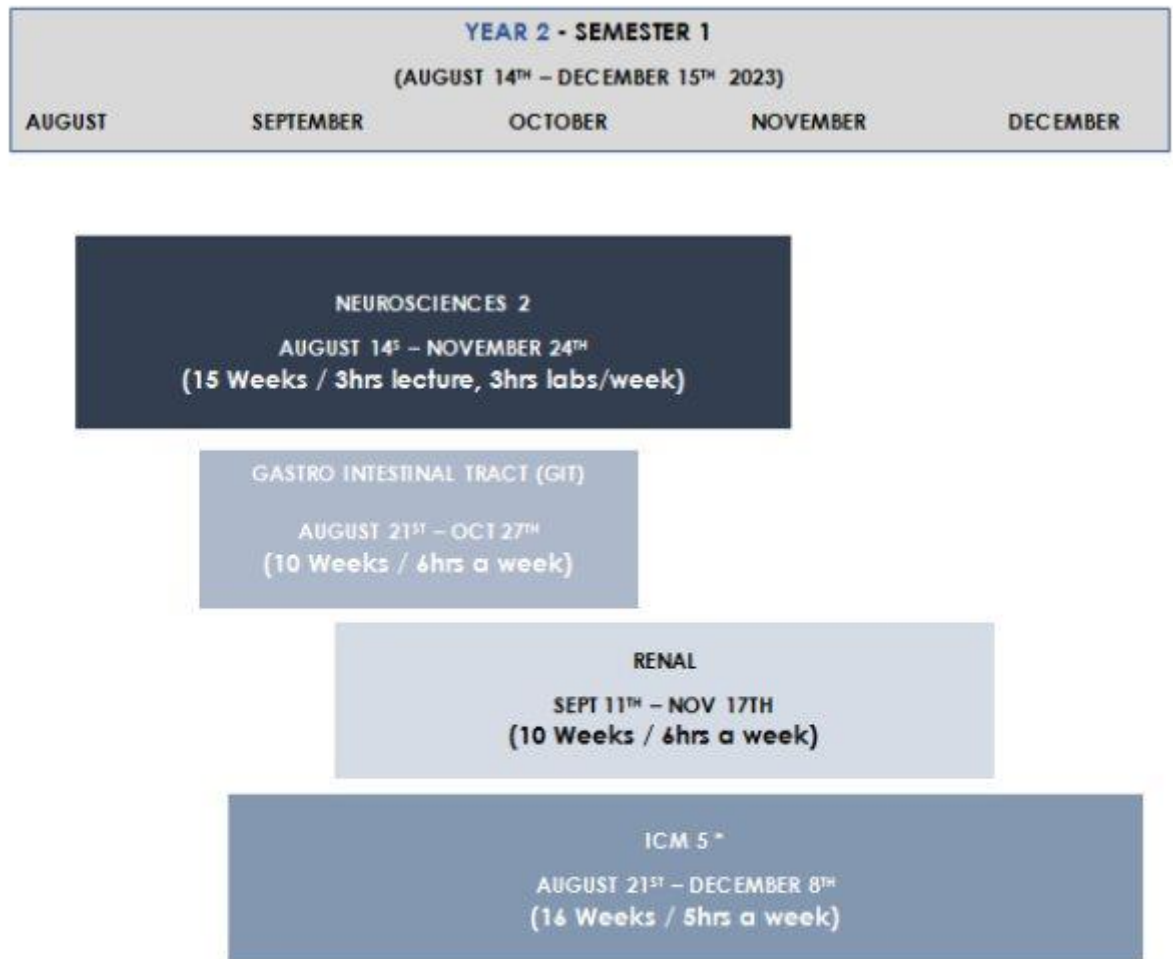
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other vulnerable populations, Communicable Diseases, Non-Communicable Diseases, etc.)

Biostatistics and Epidemiology (4 credits)

This course is designed to introduce students to basic concepts of epidemiology and biostatistics. They will learn to identify health-related problems or phenomena in communities and describe their epidemiological distribution and possible determinants, basic measures of morbidity and mortality and learn to calculate them. Students will learn and apply appropriate statistical methods in health data analysis; organize and present analysed data in logical and meaningful ways. The importance of basic concepts and principles of public health surveillance systems, including screening programs, in monitoring the health status of a population will be reviewed.

The course will describe and discuss the concept of disease outbreak and its detection, investigation and control and explain how epidemiological studies contribute towards the overall health and well-being of population groups and communities.



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Year 2 – Semester 1

Neurosciences 2 (5 credits)

The neuroscience module will study the structure and function of the CNS, the cranial and spinal nerves, and the neurophysiology of sleep and hearing, vision, speech.

The course emphasizes the relationship between the gross organization of the Central Nervous System (CNS), its subdivision into specialized regions and the corresponding perceptions of sensory information, intracranial fluids and

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pressure, neurotransmitter systems and the nervous system control of behavior, pain, touch, spatial distribution and memory. In this course the student will also learn about the anatomy and function of the Special senses i.e. vision, hearing, taste, smell and balance.

Gastrointestinal Tract / System 1 (4 credits)

This course looks at what happens to food from entry into the body to its transformation into energy, storage and building blocks needed for growth, renewal and daily functioning. It will also cover the elimination of undigested and unutilized food as waste.

The detailed relationship of structure to function of the various parts of the gastrointestinal tract, the innervation to effect motility, vascularity and the neurohormonal signals needed for the food transport, digestion into simpler and their absorption. The structure of the anterior abdominal wall, its divisions (quadrants etc) and the significance to the clinician with respect to several gastrointestinal ailments will be discussed.

The students will also study of the accessory organs of the GIT: the liver, gallbladder and pancreas and how they contribute to the digestive process and the conversion of food into energy or storage, including the regulation of energy stores in starvation and fasting

Renal System (4 credits)

The student will learn the basic structure and function of the renal system, including both the upper and lower urinary systems and the biochemical significance of kidney tubular processes and dynamics.

Students will learn the key functions of the Renal System: the production and storage of urine, the excretion of metabolic waste products, the maintenance of Blood Pressure (BP). The endocrine functions: regulation of calcium and phosphates, red blood cell formation through erythropoietin release will also be studied.

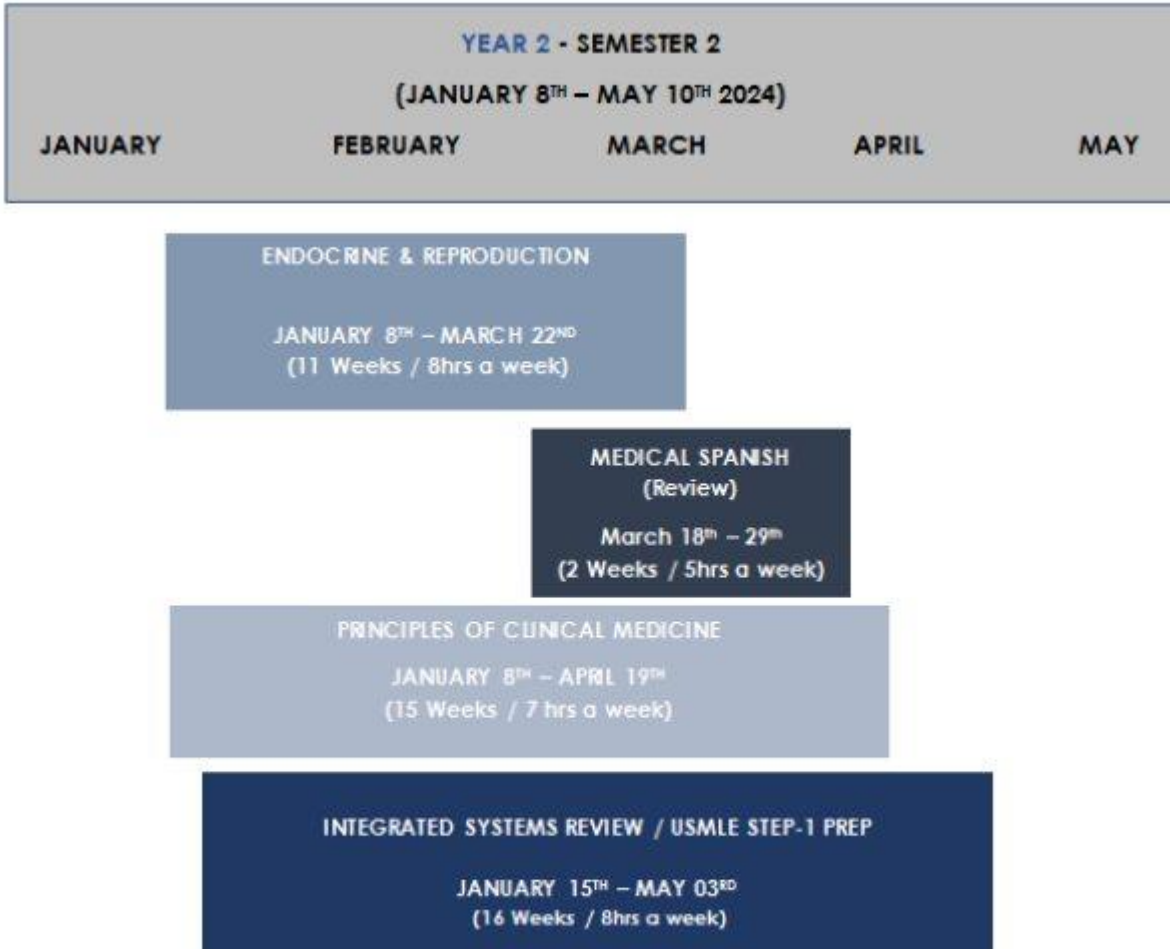
Introduction to Clinical Medicine 4 (6 credits)

This course covers the physical mental & social wellbeing of the patients. It will look at the impact of technology and climate change in Medicine.

This course will also address disorders of the central nervous system (raised intracranial pressure, developmental disorders, traumatic brain injury, demyelinating disorders, headaches, neurodegenerative disorders, brain tumors), sleep, mood, obsessive compulsive and anxiety disorders, somatic and dissociative disorders, feeding and eating disorders, renal system disorders

resulting from abnormal development, genetic mutations, vascular, immune, infectious and intrinsic disease, and their treatment.

Introduction to Medical Spanish course will commence during this module



Year 2 – Semester 2

Endocrine/Reproductive System (6 credits)

This course focuses on the structure, function, and cellular mechanisms in the endocrine and reproductive systems. The role of the endocrine system on the maintenance of homeostasis and regulation of organ systems will be taught. The

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clinical, cultural, and behavioural aspects associated with various physiological processes are also discussed such as the impact of cultural differences on people's views of sex, birth control, pregnancy, infant care and feeding and nutrition for a healthy body as a whole.

Principles of Clinical Medicine (6 credits)

This module will focus on aspects of pathology, microbiology, immunology and therapeutics with clinical correlations and application of areas not covered in the Introduction to Clinical Medicine courses. These include the study of disruptive, impulse control and conduct disorders,

personality disorders, substance abuse disorders, and sexual dysfunctions. Psychopharmacology, including drugs for mood disorders, antipsychotic drugs including cannabis, opioid analgesics, effects of alcohol on the CNS, and sedative-hypnotics will also be covered.

American Heart Association Instructor Training in Basic Cardiac Life Support (BLS) and Advanced Cardiac Life Support (ACLS)

Introduction to Medical Spanish course will be completed.

Integrated Systems Review/USMLE Step-1 Prep (7 credits)

This course is designed to engage students to integrate all of the knowledge acquired in the Preclinical Sciences courses completed during years 1 & 2 and help in the application of this knowledge to clinical scenarios in preparation for the mandatory National Board of Medical Examiners (NBME) – Comprehensive Basic Science Examination (CBSE on the Island) and the USMLE STEP 1.

The course will take the form of interactive review lectures by experts from multiple disciplines with the inclusion of integrated clinical cases and problems, to remind the students of relevant concepts (of Anatomy, Behavioral Science / Epidemiology / Biostatistics, Biochemistry and Genetics, Microbiology/Immunology, Physiology, Pathology, Pharmacology) and fostering their integration skills.