

College of Medicine Courses Description

Course title	Introductory Block (4-weeks)
Course code	INT 111
Credit hours	2 (1+0+2)
Level/year at which the course is offered	Year-1, semester-1
Course Objectives:	
<p>This is a multidisciplinary course (block) integrating topics in basic and applied clinical anatomy, histology, embryology, and physiology. The aim of the Introduction: Homeostasis, Feedback, Cell Function and Transport block is to:</p> <ol style="list-style-type: none"> Help student acquire the relevant knowledge relating to basic understanding of the normal body function and control systems. Understand normal cell structure and function, and transport mechanisms across cell membrane. Learn fundamental concepts relating to the physics of membrane potentials, action potential, and its initiation and propagation. Prepare the student for long term understanding of normal body function and through this knowledge be able to understand disease states in the future. Prepare the students to describe the general aspects of anatomy including basic terminology, body planes, movements, organization of nervous system, classification of basic tissues, and classification of bones and joints and early stages of human development. 	

Course title	Musculoskeletal Block (7-weeks)
Course code	MSK 112
Credit hours	4 (3+0+2)
Level/year at which the course is offered	Year-1, semester-1
Course Objectives:	
<p>This is a multidisciplinary course (block) integrating topics in basic and applied clinical anatomy, histology, embryology and physiology. The aim of this course is that by the end of this block student should be able to:</p> <p>Identify bones & joints of upper and lower extremities, muscles of upper and lower extremities on the basis of their attachments, innervations and actions.</p> <p>Identify the blood vessels and nerves of upper and lower extremities on the basis of their area of supply and relations.</p> <p>Identify Vertebrae (lumbosacral) on the basis of gross anatomical and radiological features.</p> <p>Relate movements of upper and lower limbs with the structural organization of joints.</p> <p>Relate functional anatomy of nerve and blood supply of muscles with their compartmental Organization.</p> <p>Relate sensory and motor deficits with structural organization of brachial and lumbosacral plexuses.</p> <p>Relate lymphatics of upper and lower limbs with their area of drainage.</p> <p>Relate embryological development of limbs and spine with their gross anatomy</p>	

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Relate role of fibrous proteins (collagen, elastin) and proteoglycans with the bone matrix and bone mineralization.

Relate changes in bone and cartilage turn-over with aging

Relate role of calcium, vitamin D and bisphosphonates with enhancing bone strength/fracture healing.

Relate sliding mechanism of contraction and cross bridge cycling with the arrangement of various myofilament bands.

Relate muscle weakness with the changes in skeletal muscle metabolism during muscular dystrophies.

Kinesiology

The subject kinesiology will be introduced to the students. The objective of kinesiology is to study of human movement, performance, and function by applying the sciences of biomechanics, anatomy, physiology and neuroscience. Students will appreciate the fact that applications of kinesiology in human health include the rehabilitation professions, such as physical and occupational therapy, as well as applications in the sport and exercise industries.

Introduction to Organization of the Nervous System

The students should know the overall organization of the nervous system and describe the basic difference between somatic and autonomic nerves.

Course title	Cardiovascular Block (6-weeks)
Course code	CVS 121
Credit hours	3 (2+0+2)
Level/year at which the course is offered	Year-1, semester-1

Course Objectives:

This is a multidisciplinary course (block) integrating topics in basic and applied clinical anatomy, histology, embryology, and physiology.

The objectives of the cardiovascular block are to:

- Help student acquire the relevant knowledge relating to basic understanding of the cardiovascular system and its most common abnormalities.
- Understand the mechanics and hemodynamics of the heart, blood vessels, and the central nervous system and renal mechanisms that contribute to the regulation of blood pressure acutely and chronically.
- Learn fundamental concepts relating to the relationship between blood pressure, cardiac output, and total peripheral.
- Learn the basic fluid mechanics and dynamics of the control of venous return, cardiac output, and blood pressure.
- Prepare the student for long term understanding of the cardiovascular system and its homeostatic contribution to the human body and its relations to other branches of medicine.
- Enhance logical thinking and problem-solving skills through the application of the TBL

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Course title	Molecular Medicine I (Biochemistry & Cell Biology)
Course code	MOL 114
Credit hours	2 (1+2+0)
Level/year at which the course is offered	Year-1, semester-1
Course Objectives:	
<p>The overall objective of this course to introduce the student to the molecular mechanisms by which cells interact with their environment and some of the biochemical processes involved in the generation of metabolic energy. To achieve this objective, the course will address basic biochemical properties of amino acids and proteins, protein assembly and folding into three dimensional structures required for function, and principles of enzyme kinetics. In addition, key topics on cell structure, protein trafficking, extracellular matrix and cell signaling will also be discussed. Finally, a review of carbohydrate metabolism and the generation of usable chemical energy by the cell will be presented. The following is a list of concepts to be mastered:</p>	
<ol style="list-style-type: none"> 1) Functional significance of amino acid side groups 2) Primary, secondary, tertiary, and quaternary structure of proteins 3) Cell membrane composition, cytoskeleton, and extracellular matrix 4) Protein translation, intracellular trafficking, and degradation 5) Enzyme kinetics and regulation 6) Bioenergetics and oxidative phosphorylation 7) Molecular mechanisms involved in cell signaling 8) Reactions and regulation of glycolysis 9) Reactions and regulation of the tricarboxylic acid cycle 10) Reactions and regulation of gluconeogenesis 11) Reactions and regulation of glycogen metabolism 	

Course title	Communications Skills
Course code	PRO 115
Credit hours	2 (0+4+0)
Level/year at which the course is offered	Year-1, semester-1
Course Objectives:	
<p>This is an interactive course. Upon completion of this course, it is expected that students will be able to:</p>	
<ol style="list-style-type: none"> 1. Understand the basics of communication skills and its major role in the daily life of health professionals 2. Recognize open and close ended questions, their strength and weakness, and begin to apply them. 3. Recognize and respond to non-verbal communication in others and develop an awareness of their own communication systems. 4. Recognize the different components of active listening and begin applying these components. 5. Show empathy & demonstrate breaking bad news effectively. 6. Demonstrate a willingness to be open about themselves, their skills, ideas and responses to people and situations. 	

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Course title	Primary Health Care & Rural Health
Course code	COM 116
Credit hours	2 (0+4+0)
Level/year at which the course is offered	Year-1, semester-1
Course Objectives:	
<p>Upon completion, students will be able to:</p> <ol style="list-style-type: none"> 1. Define the role of community medicine in promoting healthcare in the KSA. 2. Conceptually define the meaning and purposes of primary healthcare and community medicine and relate them to the healthcare systems in the Kingdom. 3. Realize the role of the primary care physician in community health and healthcare. 4. Develop supportive attitudes towards health concerns of local communities. 5. Learn about some of the scientific perspectives and basic methods of conducting community research relevant to common health problems in local communities. 6. Understand the role of epidemiology, and biostatistics in conducting proper community-based research 7. Define the role of community medicine in promoting healthcare in the KSA. 8. Be aware of and have appreciation for the many Saudi public and private organizations working toward a common goal of improving the health of our communities. 9. Develop the leadership skills, team skills, and organizational abilities essential to serving as an effective voice for our communities outside the doctor-patient relationship. 10. Introduce principles of rural health, describe the context of health issues in rural areas and describe the challenges to a healthy rural Saudi Arabia. 	

Course title	Hematopoietic & Lymphatic System (3-weeks)
Course code	HLS 122
Credit hours	2 (1+2+0)
Level/year at which the course is offered	Year-1, semester-2
Course Objectives:	
<p>This is a multidisciplinary block integrating topics in basic and applied clinical anatomy, histology, embryology, and physiology.</p> <p>Objectives of the block are to:</p> <ol style="list-style-type: none"> a. Describe the various constituents of blood, haematopoiesis, function and maturation of red cells, white cells and platelets, blood types, transfusion, tissue and organ transplantation; the most common abnormalities and complications relating to these systems and processes. b. Describe endothelial function, blood coagulation and discuss the most common abnormalities and complications relating to endothelial dysfunction and failure of haemostasis. c. Describe the general characteristics of leukocytes (neutrophils and macrophages) and their roles in defending the host against infection, including the monocyte-macrophage system and inflammation. d. Describe the types of acquired immunity (humoral and cell-mediated), the function of T and B lymphocytes, the nature and function of antibodies, the complement system, and allergy and sensitivity reactions. e. Enhance logical thinking and problem-solving skills through the application of the PBL. 	

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Course title	Respiratory Block (4-weeks)
Course code	RES 123
Credit hours	2 (1+2+0)
Level/year at which the course is offered	Year-1, semester-2
Course Objectives:	
<p>This is a multidisciplinary course (block) integrating topics in basic and applied clinical anatomy, embryology, histology, physiology and biochemistry. The aim of the Lungs, Oxygen Transport and Exchange block is to:</p> <ol style="list-style-type: none"> Help student to acquire the relevant knowledge relating the basic structural and developmental organization of the respiratory system and its most common abnormalities. Help student to acquire the relevant knowledge relating the basic microscopic structure and function with common clinical problems / diseases of respiratory system. Understand the mechanics, the muscles involved, and the central nervous system mechanisms that contribute to inspiration and expiration. Learn fundamental concepts relating to gas exchange and transport from the atmosphere to the cells and from the cells to the lungs and then to the atmosphere. Enhance logical thinking and problem-solving skills through the application of the TBL and laboratory exercises. Prepare the student for long term understanding of the respiratory system and its homeostatic contribution to the human body and its relations to other branches of medicine. 	

Course title	Gastrointestinal Block (5-weeks)
Course code	GIT 113
Credit hours	3 (1+2+0)
Level/year at which the course is offered	Year-1, semester-2
Course Objectives:	
Objective:	
<p>The overall objective is to stress structural/functional correlates of the different organs within the GIT and how they contribute to the digestion and absorption of ingested nutrients.</p>	
Specific objectives:	
<p>Structure</p> <ol style="list-style-type: none"> 1) Main morphological features of the GIT. 2) Extrinsic & intrinsic innervation of GIT. 3) Structural features of the mouth, esophagus, stomach, and intestines as well as accessory glands, i.e., salivary glands, liver, & pancreas. 4) Anatomical features as visualized by X-radiographs, CT and MRI scans. 5) Main histological features of various organs of GIT. 6) Embryological development of oral cavity, pharyngeal gut as well as fore-, mid-, & hindgut 7) Organization of anterior abdominal wall 8) Peritoneal reflections 	

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Function

- 1) Mastication (chewing) and salivary secretion.
- 2) Regulation of gastric secretion and emptying.
- 3) Hepatobiliary & pancreatic contribution to assimilation of nutrients
- 4) Role of the intestines in nutrient digestion & absorption
- 5) Elimination of unabsorbed material (defecation)

These learning objectives will be achieved by a combination of didactic lectures, structural/functional laboratories, large group discussion sessions, and Team-Based Learning (TBL) sessions. All of these approaches will emphasize normal structure and function of the GIT and introduce students to the consequences of abnormal structure/function of the GIT. The knowledge acquired should provide a solid foundation for the understanding of GIT diseases.

Course title	Renal Block (5-weeks)
Course code	REN 124
Credit hours	3 (1+2+0)
Level/year at which the course is offered	Year-1, semester-2
Course Objectives: This is a multidisciplinary course (block) integrating topics in basic and applied clinical anatomy, histology, embryology, physiology and biochemistry. The aim of the Excretion, Fluid Homeostasis & Acid Base block is to: <ol style="list-style-type: none">a. Help student acquire the relevant knowledge relating to basic understanding of the normal renal development, structure function correlation, and renal control systems.b. Understand normal renal hemodynamics and the role of renal blood flow and glomerular filtration rate in maintaining normal renal function.c. Learn fundamental concepts relating to the characteristics of the glomerular capillary filtration barrier and the renal processes of filtration, reabsorption, and secretion.d. Enhance the logical thinking and problem-solving skills through the application of the TBL.e. Prepare the student for long term understanding of the renal system and its homeostatic contribution to the human body and its relations to other branches of medicine.f. Prepare the student for long term understanding of normal renal function and through this knowledge be able to understand disease states in the future.	

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Course title	Genetics
Course code	GEN 125
Credit hours	2 (2+0+0)
Level/year at which the course is offered	Year-1, semester-2
<p>Course Objectives: The Genetics Course is designed to provide medical students with specific knowledge, skills, and behaviors that are essential competencies to the field of medical genetics. The specific requirements in each domain include the following:</p> <p>(i) <u>Knowledge:</u></p> <ol style="list-style-type: none"> 1. Structure and Function of Genes 2. The Human Genome 3. Structure and Function of Chromosomes 4. Chromosomal Abnormalities 5. Patterns of Inheritance 6. Mutations and Disease 7. Genetics in Medical Practice 8. Preventive Genetics 9. Population Genetics 10. Genetics and Society <p><u>(ii) Skills:</u></p> <ol style="list-style-type: none"> 1. Construct family pedigree 2. Recognize patterns of inheritance 3. Recognize features that suggest the presence of genetic disease <p><u>(iii) Behaviors:</u></p> <ol style="list-style-type: none"> 1. Appreciate the potential for genetics to contribute to improvement in human health 2. Recognize the importance of public awareness and education in promoting health care and disease prevention 3. Be aware of the dilemmas in genetic testing 4. Appreciate the implications of having a genetic disorder on patients, families, tribes, and society at large 5. Appreciate the influence of Saudi culture on patients' reactions and family dynamics 6. Appreciate the influence of gender, age, and education on patients' reactions 7. Recognize the rapid pace of knowledge in medicine and the importance of continuing medical education 8. Make appropriate referrals to genetics support groups, community groups, or other resources that can benefit the patient and family 9. Recognize the limitations of own skills and seek consultation when necessary 10. Use appropriate resources to obtain information necessary for good patient care. 	

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Course title	Molecular Medicine II (Biochemistry & Cell Biology)
Course code	MOL 126
Credit hours	2 (2+0+0)
Level/year at which the course is offered	Year-1, semester-2
Course Objectives:	
<p>The overall objective of this course to introduce the student to the molecular mechanisms by which cells interact with their environment and some of the biochemical processes involved in the generation of metabolic energy. Molecular Medicine II is a continuation of the Molecular Medicine I course. The cell cycle and cell response to external stresses will be addressed. The biochemical pathways involved in lipid metabolism will be reviewed and clinically relevant topics discussed, such as atherosclerosis, obesity, diabetes. Further, protein metabolism and disposal of nitrogen will be addressed. Other relevant topics covered include vitamins and trace elements, haemoglobin, and biomarkers of disease. The following is a list of concepts to be mastered:</p> <ol style="list-style-type: none"> 1) Functional significance of the pentose phosphate pathway 2) Reactive oxygen species and cellular antioxidants 3) Cell cycle, responses to stress, and cell death 4) Biochemistry of neurotransmitters and biomarkers of disease 5) Lipid metabolism: triglycerides, cholesterol, phospholipids 6) Plasma lipoproteins and atherosclerosis 7) Obesity and diabetes 8) Amino acid metabolism and the urea cycle 9) Nucleotide metabolism 10) Heme and bilirubin metabolism 11) Vitamins and tracer 	

Course title	Endocrine Block (4-Weeks)
Course code	END 231
Credit hours	2 (1+2+0)
Level/year at which the course is offered	Year-2, semester-1
Course Objectives:	
<p>This is a multidisciplinary course (block) integrating topics in basic and applied clinical anatomy, histology, embryology, physiology and biochemistry. The general learning objectives of the Endocrinology block are to:</p> <ol style="list-style-type: none"> a. Help student acquire the relevant knowledge relating to basic understanding of the normal development, structure function correlation, and control systems of endocrine glands and relevant organs and tissues. b. Understand normal Chemical structure, synthesis, secretion, transport, and clearance of hormones. 	

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- c. Feedback control of hormone secretion and mechanisms of action of hormones.
- d. Physiologic functions and regulation of growth hormone, thyroid hormones, adrenocortical hormones, insulin, and Glucagon.
- e. Enhance the logical thinking and problem-solving skills through the application of the PBL.
- f. Prepare the student for long term understanding of the endocrine system and its homeostatic contribution to the human body and its relations to other branches of medicine.
- g. Prepare the student for long term understanding of normal endocrine function and through this knowledge be able to understand disease states in the future.

Course title	Reproductive Block (4-weeks)
Course code	REP 232
Credit hours	2 (2+2+0)
Level/year at which the course is offered	Year-2, semester-1
Course Objectives:	
By the end of the block students should be able to:	
1. Know embryonic development, fetal maturation, and perinatal changes of the reproductive system	
2. Know the structure of female reproductive organs, including breast	
3. Know the functions of female reproductive system (eg, menstrual cycle, puberty, and menopause)	
4. Know the structure of the male reproductive organs.	
5. Know the functions of the male reproductive system (eg, spermatogenesis, puberty)	
6. Understand the hypothalamic-pituitary-gonadal axis, sex steroids, and gestational Hormones	

Course title	Pathogenesis of Diseases (Basic Principles of Pharma, Micro, Patho & Immuno) 9-Weeks
Course code	POD 233
Credit hours	5 (3+2+2)
Level/year at which the course is offered	Year-2, semester-1
Course Objectives:	
During this course students will become conversant with basic characteristics of disease , classification, etiology, pathogenesis, structural and functional manifestations, complications, sequelae, and prognosis.	
Major examples for genetic, environmental, infectious factors in the cause of diseases will be provided to foster student's independent study. Specific topics will include the causes and mechanisms of cell injury, necrosis, apoptosis and cellular ageing, of acute and chronic inflammation , along with the anti-inflammatory drugs . Students will learn how microorganism can cause infections and how we can face them with our natural (the immune system) and artificial (vaccines, antibiotics, disinfectants) defences . Only by knowing the molecular mechanisms of pathogenicity preventive strategies such as effective vaccines to be used on billions of people can be devised. Upon entering the body they have to fight against potent	

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defences provide by **our immune system**, represented by serum proteins such as complement and antibodies, the latter produced by activated B lymphocytes assisted by other cells such as the professional phagocytes and the T lymphocytes. Students will perform in several laboratory activities the major techniques to grow and identify the microorganisms together with the most medically relevant assays to monitor the function of the immune system. The clinical relevance of these diagnostic approaches will become evident to them. Major **drugs to treat infections** will be described to guide students in choosing the most appropriate antibiotic thus avoiding in students future clinical practice the abuse and misuse of these molecules, two issues responsible for widespread antibiotic resistance.

Students will come to understand how the immune system can fail to protect us and can cause aggression against the self. In this case drugs such as anti-inflammatory agents and **immuno-modulatory drugs** have to be used to control the aggression.

Besides inflammation, **Hemodynamic disorders, thrombosis, haemorrhage and shock** will be considered in appropriate detail, including pharmacological approaches. Special consideration will be devoted to the **acquired disorders of differentiation and growth including metaplasia, dysplasia and neoplasia** addressing the various **molecular bases of cancer development** and ability to invade and metastasize. Students will recognize the role of viruses not only in infections but also in oncogenesis. The major drugs that are used in clinical practice to treat cancer will be described. Students are encouraged to focus more on the basic pharmacological concepts rather than the names of drugs and only prototype and most important drugs are discussed from each pharmacological class. The various laboratory tests available for the diagnosis of cancers, including morphologic methods, tumor markers, molecular diagnosis, molecular profiling of tumors will be discussed.

Course title	Introduction to Medical Skills
Course code	PRO 234
Credit hours	2 (0+4+0)
Level/year at which the course is offered	Year-2, semester-1
Course Objectives:	
At the end of the course students should be able to	
A. Conduct (and record) medical interview, comprising of	
1. History of Presenting Illness/ Complaints.	
2. Past History (medical, surgical, trauma, blood transfusion).	
3. Drug History (prescription drugs, over-the-counter drugs, herbal remedies).	
4. Vaccination History.	
5. History of Allergy.	
6. Family History.	
7. Personal History (including lifestyle, smoking, addiction, sexuality, socio-economic status).	
8. Travel History.	
9. Menstrual History (female subjects).	
10. Gynecological and obstetrical history (female subjects).	
11. Birth History (pediatric patients).	
12. Systemic review	
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B. Perform General Physical Examination that includes the following:	

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1. Documenting general impression and gait.
2. Recording presence of pallor, jaundice, cyanosis, hand and nail changes, mucosal changes.
3. Recording vital signs that includes, (radial) pulse, respiratory rate, blood pressure (sitting, standing, lying down) and temperature (oral, axillary, tympanic, rectal).
4. Measure height, weight, mid-arm circumference and waist-hip ratio.
5. Palpate lymph nodes: peri-auricular, cervical, axillary, cubital, inguinal, popliteal.

Course title	Basics of Biostatistics & Epidemiology
Course code	BEP 235
Credit hours	2 (1+2+0)
Level/year at which the course is offered	Year-2, semester-1
Course Objectives:	
The main objective of this course is to enhance your ability to understand the methods section in articles presented in medical literature. At the end of this course you will be able to:	
<ul style="list-style-type: none"> • Perform basic biostatistical analysis and data presentation using SPSS. • Have better understanding and begin to interpret the main results of medical and public health research articles. • Effectively participate in medical and public health research programs and projects. 	

Course title	Neuroscience Block (10 weeks)
Course code	NEU 241
Credit hours	5 (3+2+2)
Level/year at which the course is offered	Year-2, semester-2
<p>The CNS block has been re-designed to be at the interface of the two phases of the Pre-clerkship program of the College of Medicine. Unlike previous iterations of the Nervous System curriculum, this block is fully integrated – covering normal structure and function as well as integrating disease processes and pharmacotherapy of the diseases related to neurology and psychiatry. In addition, a clinical skills program runs concurrently, teaching the students the skills required for examination and diagnostic approach to different clinical presentations in neurologic and psychiatric disorders.</p> <p>..The course is runs over ten weeks. All the learning activities are centered on weekly themes. A typical week starts with the teaching of structure and function followed by disease processes and pharmacotherapy. In the last part of the week clinical lectures are delivered to relate clinical features with the disease processes, and to discuss diagnostic approaches to different clinical presentations. A PBL case relevant to the theme of the week is discussed and serves to anchor the learning around that theme.</p> <p>The contents of the block will be delivered through multiple formats as appropriate. These include lectures, PBLs, tutorials, lab sessions (anatomy and physiology), as well as clinical skills sessions.</p> <p>The main weekly themes of the blocks are:</p> <ol style="list-style-type: none"> a. Neuron, The function unit of the nervous system 	

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- b. Development of the nervous system
- c. The motor and sensory systems I: spinal cord
- d. The motor and sensory system II: brain stem and the cranial nerves
- e. The motor and sensory systems III: cerebrum
- f. The modulation of motor system: basal ganglia and cerebellum
- g. Sleep, consciousness and homeostatic function: reticular formation, thalamus and hypothalamus
- h. Higher cortical functions of the brain (basic principles of cognitive neuroscience)

Course title	Head & Neck And Special Senses Block (4-weeks)
Course code	HNS 242
Credit hours	2 (1+2+0)
Level/year at which the course is offered	Year-2, semester-2

Course Description:

The Head & Neck and Special Senses (HNSS) block has been re-designed to be at the interface of the two phases of the Pre-clerkship program of the College of Medicine. Unlike previous iterations of HNSS block, the curriculum of this block is fully integrated – covering normal structure and function as well as integrating disease processes and pharmacotherapy of the diseases related to Otolaryngology and Ophthalmology.

At the end of head and neck block, students should be able to :

1. Describe the basic ophthalmic anatomy, pathology, pharmacology and physiology of Eye
2. Describe common ophthalmic diseases.
3. Describe the signs and symptoms of ocular conditions that are associated with important systemic diseases and diagnoses, such as congenital, traumatic, vascular, neoplastic, autoimmune, idiopathic, infectious, metabolic or endocrine, and pharmacologic or toxic conditions
4. Describe the major types of refractive errors
5. Describe basic ophthalmic optics and optical principles of refraction and retinoscopy.
6. Describe the pharyngeal (branchial) arch system and the derivation of specific components of the head, neck, cranial nerves and special senses from these arches.
7. Describe the embryological development of the special senses including the eyes, ears and nose.
8. Describe some of the genetic and molecular basis responsible for craniofacial developments and development of special senses (i.e., eyes and ears).
9. Describe structural anomalies of the eyes, face, neck, pharynx, larynx and oral cavity.
10. Describe the pathoetiology of both congenital and acquired diseases of the head and neck and the special senses.
11. Describe the risk factors leading to the development of benign and malignant diseases of the head and neck region and the special senses.

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Course title	Skin Block (3-weeks)
Course code	SKN 243
Credit hours	2 (1+2+0)
Level/year at which the course is offered	Year-2, semester-2
<p>Course Objectives: By the end of this block it is expected that students will be able to:</p> <p>A. Cognitive Domain (Knowledge)</p> <ul style="list-style-type: none"> • Describe the etiology, epidemiology, predisposing factors, pathophysiology and classification and diagnostic tests of common dermatological conditions broadly subdivided under the headings of Infectious, Inflammatory, and Neoplastic conditions. • Describe the abnormal macroscopic (clinical/ gross) and microscopic terms of common skin lesions including pigmentary disorders, common epidermal neoplasms, infection, acute and chronic inflammatory dermatoses, bullous disease and inflammation of the subcutaneous fat. • Describe basic treatment options for common skin conditions. Discuss the mechanism of action of drugs used in the management of common dermatological conditions • Correlate the clinical features and underlying mechanism of common dermatological disorders • Describe the principles and practice of prevention of communicable skin diseases, and environmental skin diseases. (if applicable) <p>B. Psychomotor Domain (Skills) (professional skill course)</p> <ol style="list-style-type: none"> 1. Take a focused history of the patient with dermatological disease. 2. Perform clinical examination of patient with dermatological disease <p>C. Affective Domain (Attitude) (professional skill course)</p> <ul style="list-style-type: none"> • Approach patients in a humane and sympathetic manner. • Extract important information from the patients in methodological and respectful way • Resolve problems through collaborative work with colleagues and mentors 	

Course title	Behavior Science
Course code	BHS 244
Credit hours	2 (2+0+0)
Level/year at which the course is offered	Year-2, semester-2
<p>Course Objectives: By the end of this course students should understand:</p> <ol style="list-style-type: none"> 1. progression through the life cycle, including birth through senescence <ul style="list-style-type: none"> - cognitive, language, motor skills, and social and interpersonal development - sexual development - influence of developmental stage on physician-patient interview 	

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2. psychological and social factors influencing patient behaviour
 - personality traits or coping style, including coping mechanisms
 - psychodynamic and behavioral factors, related past experience
 - family and cultural factors, including socioeconomic status, ethnicity, and gender
 - adaptive behavioral responses to stress and illness
 - maladaptive behavioral responses to stress and illness
 - interactions between the patient and the physician or the health care system
 - patient adherence (general and adolescent)

Course title	Professional Skills IV (Integrated with Clinical Sessions)
Course code	PRO 245
Credit hours	2 (0+2+2)
Level/year at which the course is offered	Year-2, semester-2
Course Objectives:	
Competency Based Course Objectives:	
By the end of this Course, students will be able to:	
Medical Expert:	
<ul style="list-style-type: none"> • Obtain a complete Medical Hx related to Nervous System, Otolaryngeal , Ophthalmic and Skin disorders • Explore life style, environmental, and occupational factors pertinent to presentation(s) covered in each session • Perform general then focused Physical Exam (PEX) related to Nervous System, Otolaryngeal, Ophthalmic and Skin disorders • Document Hx and PEX findings accurately and skillfully • Present History and physical findings comfortably in front of preceptor and peers • Synthesize list of Differential Diagnosis based on Hx and PEX findings 	
Communicator	
<ul style="list-style-type: none"> • Communicate respectfully and effectively with patients and their family members • Demonstrate knowledge of appropriate communication skills in the clinical setting 	
Scholar	
<ul style="list-style-type: none"> • Exhibit keenness to acquire knowledge and skills needed for successful clinical encounter and medical interview. • Prove effective utilization of Self Directed Learning time 	
Professional	
<ul style="list-style-type: none"> • Exhibit compassion and honesty with patients and their family members • Respect boundaries • Communicate politely with tutors, peers, and members of the medical team 	

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<p>Collaborator</p> <ul style="list-style-type: none"> • Collaborate with peers, tutors, medical team members, hospital staff <p>Manager</p> <ul style="list-style-type: none"> • Utilize time and resources provided towards effective completion of session objectives and tasks <p>Health Advocate</p> <ul style="list-style-type: none"> • Understand the role of physicians as health advocates
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Course title	Radiology
Course code	RAD 246
Credit hours	2 (2+2+0)
Level/year at which the course is offered	Year-2, semester-2

In this course students are required to:

- Become aware of and understand the nature of all currently available imaging procedures.
- Acquire a basic understanding of what each imaging procedure can and cannot accomplish and how to use these procedures in the evaluation of the clinical problem.
- Gain a firm knowledge of the indications, contradictions, risks and costs of commonly used imaging procedures.
- Learn the preparation and post procedural routines for imaging examinations.
- Learn to recognize basic anatomic structures as they appear on imaging studies in the normal patient and in common disease states.

Course title	Musculoskeletal Block (4-weeks)
Course code	MSK 351
Credit hours	2 (1+2+0)
Level/year at which the course is offered	Year-3, semester-1

Course Objectives:

By the end of this block it is expected that students will be able to:

A. Cognitive Domain (Knowledge)

1. **Describe** the etiology, epidemiology, predisposing factors, pathophysiology and classification of common major musculoskeletal diseases of the joints; bones; connective tissue; and muscles.
2. **Relate** clinical signs and symptoms, result of laboratory diagnostic test, and radiological changes with underlying pathogenesis of common major musculoskeletal diseases of the joints; bones; connective tissue; and muscles.
3. **Describe** the principles of deferential diagnosis and clinical investigations including laboratory

and radiological test in the management of common major musculoskeletal diseases of the joints; bones; connective tissue; and muscles.

4. **Discuss** the mechanism of action of drugs used in the management of common major musculoskeletal diseases of the joints; bones; connective tissue; and muscles.

B. Psychomotor Domain (Skills) (professional skill course)

5. **Take** a focused history of the patient with musculoskeletal diseases of the joints; bones; connective tissue; and muscles.

6. **Perform** clinical examination of the major musculoskeletal diseases of the joints; bones; connective tissue; and muscles.

C. Affective Domain (Attitude) (professional skill course)

- Approach patients in a humane and sympathetic manner.
- Extract important information from the patients in methodical and respectful way
- Resolve problems through collaborative work with colleagues and mentors

Course title	Gastrointestinal Block (6-Weeks)
Course code	GIT 352
Credit hours	3 (3+0+0)
Level/year at which the course is offered	Year-3, semester-1
Course Objectives:	
By the end of this block it is expected that students will be able to:	
A. Cognitive Domain (Knowledge)	
<ul style="list-style-type: none"> • Describe the etiology, epidemiology, predisposing factors, pathophysiology and classification, of common gastrointestinal, liver and pancreatobiliary diseases. • Relate clinical signs and symptoms, result of laboratory diagnostic tests, and radiological changes with underlying pathogenesis of common gastrointestinal, hepatic and pancreatobiliary diseases. • Describe the principles of differential diagnosis and clinical investigations including laboratory and radiological test in the management of common gastrointestinal, hepatic and pancreatobiliary diseases. • Discuss the mechanism of action of drugs used in the management of common gastrointestinal, hepatic and pancreatobiliary diseases • Describe the principles and practice of prevention of communicable and environmental gastrointestinal, hepatic and pancreatobiliary diseases. (if applicable) • Take a history and perform clinical examinations in patients with gastrointestinal, hepatic and 	

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pancreaticobiliary

B. Psychomotor Domain (Skills) (professional skill course)

- Take a focused history of the patient with gastrointestinal, hepatic and pancreaticobiliary disorder.
- Perform clinical examination of the gastrointestinal, hepatic and pancreaticobiliary system

C. Affective Domain (Attitude) (professional skill course)

- Approach patients in a humane and sympathetic manner.
- Extract important information from the patients in methodical and respectful way
- Resolve problems through collaborative work with colleagues and mentors

Course title	Endocrine Block (4-Weeks)
Course code	END 353
Credit hours	2 (2+0+0)
Level/year at which the course is offered	Year-3, semester-1

Course Objectives:

By the end of this block it is expected that students will be able to:

A. Cognitive Domain (Knowledge)

- Describe the functions and regulation of pituitary, thyroid, parathyroid, pancreatic and adrenal hormones.
- Describe the epidemiology, risk factors, pathogenesis and diagnostic workup of disorders of Pituitary, thyroid, parathyroid, pancreatic and adrenal gland.
- Describe the epidemiology, risk factors, pathological classifications and morphology of tumors of Pituitary, thyroid, parathyroid, pancreatic and adrenal gland.
- Discuss the mode of action, pharmacokinetics, pharmacodynamics and adverse reactions of common drugs used in disorders of pituitary, thyroid, parathyroid, pancreatic and adrenal gland.
- Relate clinical sign & symptoms, complications and results of relevant investigations with underlying endocrine disorders.
- Able to take history and perform examination of some common endocrine disorders.

B. Psychomotor Domain (Skills) (professional skill course)

- Take relevant history of the patient suffering from endocrine diseases
- Perform clinical examination of the thyroid gland.

C. Affective Domain (Attitude) (professional skill course)

- Approach patients in a humane and sympathetic manner.
- Extract important information from the patients in methodical and respectful way

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Course title	Reproductive Block and Breast (4-Weeks)
Course code	REP 354
Credit hours	2 (2+0+0)
Level/year at which the course is offered	Year-3, semester-1
Course Objectives:	
<p>By the end of this block it is expected that students will be able to:</p> <ol style="list-style-type: none"> 1. Describe the aetiology, pathophysiology, clinical features and diagnosis of common gynaecological and breast-related conditions/ infections. 2. Discuss the mechanism of action of drugs used in the management of common gynaecological conditions and fertility control. 3. Describe the principles stages of labour and the pathophysiology of abnormal labour. 4. Describe the principles and practice of screening programmes in women of reproductive age group 	

Course title	Evidence Based Medicine & Research (CM**)
Course code	COM 126
Credit hours	1 (0+2+0)
Level/year at which the course is offered	Year-1, semester-2
Course Objectives:	
<p>At the end of the course, the student should be able to:</p> <ul style="list-style-type: none"> • Learn the basic principles of epidemiologic studies and Evidence Based Medicine (EBM) • Identify and interpret some of the risk factors affecting patients and the community • Interpret epidemiological findings in terms of the population and patients • Identify issues with regards to medical research and research ethics • Learn how to prepare a formal research proposal and prepare it for submission • Appreciate the concept of a healthcare team and be able to collaborate effectively with other professionals • Communicate effectively in an essay and in oral presentations 	

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Course title	Professional Skills V (Integrated with Clinical Sessions)
Course code	PRO 356
Credit hours	2 (0+4+0)
Level/year at which the course is offered	Year-3, semester-1
<p>Course Objectives: By the end of this course the students should be able to</p> <ul style="list-style-type: none"> • take clinical history of a patient with Musculoskeletal, Gastrointestinal, Endocrine and Gynaecological & obstetrics problems and/or complaints, • perform general physical examination, • perform focused physical examination of the Musculoskeletal, Abdominal, and Reproductive systems. • Describe the features in chest, abdominal X-rays, IVP and correlate with anatomical structures and physical examination findings. 	

Course title	Medical Informatics
Course code	MIF 357
Credit hours	2 (1+2+0)
Level/year at which the course is offered	Year-3, semester-1
<p>Course Objectives: By the end of this block it is expected that students will be able to:</p> <p>Cognitive Domain (Knowledge)</p> <ol style="list-style-type: none"> 5. Providing the future healthcare leaders an understanding of the value and capability of information and technology to lead the transformation of healthcare, contain costs, reduce medical errors, and optimize the delivery of services across all healthcare professions. 6. Understand the nature of medical data and the electronic medical records (EMR) 7. Knowledge of standards, coding and classifications in medical informatics. 8. An overview of the informatics tools and systems in healthcare and their associated medical departments and clinical support systems. 9. Familiar with the foundations of quality, patient safety, and risk management sciences. 10. Demonstrating best practices through quality improvement tools and techniques. 11. Educate students to be agents to facilitate patient safety culture. 	

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Course title	Family Medicine	
Course code	COM 358	
Credit hours	3 (0+2+0)	
Level/year at which the course is offered	Year-3, semester-1	
Course Objectives:		
Objectives	Corresponding CanMeds-FMU competencies	
Identify clinical presentations common to the field of Family Medicine	The Family Medicine Expert	
Understand concept of preventive medicine and importance of family med in implementing community based disease prevention, cancer screening and health promotion programs	Family Med expert, Family Med advocate, Family Med communicator	
Apply Family Medicine oriented diagnostic approach	Family Med expert	
Introduced to interprofessional multidisciplinary team approach in the management family medicine patients	Family Med Collaborator Family Med Manager	
Create opportunities to acquire knowledge and skills pertinent to the speciality of Family Medicine through self reflection and previously studied courses	Family Med Scholar	
Appreciate family physicians important roles as health advocates and resources for their practice and community	Family Med communicator	
Demonstrate expected professional standards in communication with faculty and peers. Recognize the importance of patient doctor relationship in managing patients with on-going health concerns	Family Med Professional	

Course title	Cardiovascular Block (5-weeks)	
Course code	CVS 361	
Credit hours	3 (3+0+0)	
Level/year at which the course is offered	Year-3, semester-2	
Course Objectives:		
<p>The cardiovascular Course in Phase II is directed towards the learning and understanding of pathological disorders of the heart and blood vessels and their treatment. This is a multidisciplinary block integrating topics in basic and applied clinical cardiovascular pathology, pharmacology, immunology, microbiology, genetics and radiology. The general learning objectives of this block are to</p>		

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1. revisit the anatomical and functional concepts of development of heart, conducting system of heart, coronary circulation and the regulation of blood pressure and cardiac output.
2. discuss the pathophysiology, causes (including genetic and environmental factors), laboratory aspects and treatment of cardiovascular disorders.
3. describe the clinical features, diagnostic criteria and management of cardiovascular disorders.
4. correlate the radiological findings with the pathophysiology of cardiovascular disorders.
5. acquire basic knowledge and skills of history taking and clinical examination in cardiovascular patients.

Course title	Respiratory Block (4-weeks)
Course code	RES 362
Credit hours	2 (2+0+0)
Level/year at which the course is offered	Year-3, semester-2
By the end of this block it is expected that students will be able to:	
<ol style="list-style-type: none"> 1. Describe the etiology, epidemiology, predisposing factors , pathophysiology and classification, of common respiratory diseases 2. Relate clinical signs and symptoms , result of laboratory diagnostic test , respiratory function tests and radiological changes with underlying pathogenesis of common Respiratory diseases 3. Describe the principles of deferential diagnosis and clinical investigations including laboratory and radiological test in the management of common respiratory diseases. 4. Discuss the mechanism of action of drugs used in the management of common 5. Describe the principles and practice of prevention of communicable pulmonary diseases, and environmental pulmonary diseases. 6. Take a history and perform clinical examinations in patients with pulmonary disease. 	

Course title	Renal Block (4-weeks)
Course code	URN 363
Credit hours	2 (2+0+0)
Level/year at which the course is offered	Year-3, semester-2
Course Objectives:	
<p>The Renal Course in Phase II is directed towards the learning and understanding the disorders of the kidney and urogenital system and their treatment. This is a multidisciplinary block integrating topics in basic and applied pathology, pharmacology, immunology, microbiology, clinical pathology, nephrology, urology, radiology and clinical medicine.</p> <p>The general learning objectives of this block are to:</p> <ol style="list-style-type: none"> 1. Revisit the anatomical and functional concepts of the kidney and urogenital system. 2. Discuss the pathophysiology, causes and laboratory aspects of renal disorders. 3. Describe the clinical features, diagnostic criteria, treatment and management of renal disorders. 4. Correlate the radiological findings with the pathophysiology of renal disorders. 5. Practice skills of history taking and clinical examination in patients with renal disorders. 	

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Course title	Hem/Onc Block (4-weeks)
Course code	HEM 364
Credit hours	2 (1+2+0)
Level/year at which the course is offered	Year-3, semester-2
Course Objectives:	
<ol style="list-style-type: none"> 1. Review hematopoiesis and red cell structure, function and metabolism 2. Describe the pathophysiology, clinical features, diagnostic workup and management of red and white cell disorders, bleeding disorders and thrombophilias. diseases of spleen and thymus 3. Interpret the clinical and laboratory information to understand and classify different types of anemia 4. Describe the mechanisms of hemostasis and thrombosis and correlate it with the interpretation of coagulation tests and the role of coagulants and anticoagulants in the treatment of various diseases. 5. Discuss the basis of blood grouping and blood transfusion and perform blood grouping. 6. Identify the different types of stem cell transplant currently available and the indications for SCT. 	

Course title	Professional Skills VI (Integrated with Clinical Sessions)
Course code	PRO 365
Credit hours	2 (0+4+0)
Level/year at which the course is offered	Year-3, semester-2
Course Objectives:	
Competency Based Course Objectives:	
By the end of this Course, students will be able to:	
Medical Expert:	
<ul style="list-style-type: none"> • Obtain a complete Medical Hx of disorders related to Cardiovascular, Respiratory, Renal and Hematological systems • Obtain a detailed comprehensive Hx of the Chief Complaint and pertaining Hx • Explore life style, environmental, and occupational factors pertinent to presentation(s) covered in each session • Perform general then focused Physical Exam (PEX) related to Cardiovascular, Respiratory, Renal and Hematological systems • Document Hx and PEX findings accurately and skillfully • Present History and physical findings comfortably in front of preceptor and peers • Synthesize list of Differential Diagnosis based on Hx and PEX findings 	
Communicator	
<ul style="list-style-type: none"> • Communicate respectfully and effectively with patients and their family members • Demonstrate knowledge of appropriate communication skills in the clinical setting 	

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Scholar

- Exhibit keenness to acquire knowledge and skills needed for successful clinical encounter and medical interview
- Prove effective utilization of Self Directed Learning time

Professional

- Exhibit compassion and honesty with patients and their family members
- Respect boundaries
- Communicate politely with tutors, peers, and members of the medical team

Collaborator

- Collaborate with peers, tutors, medical team members, and hospital staff

Manager

- Utilize time and resources provided towards effective completion of session objectives and tasks

Health Advocate

- Understand the role of physicians as health advocates

Course title	Family Medicine-II (Women's H, Prenatal C, Geriatrics, Palliative and Alternative M)
Course code	COM 366
Credit hours	3 (2+2+0)
Level/year at which the course is offered	Year-3, semester-2

Course Objectives:

Upon completion, the students will be able to:

1. Gain knowledge of the distinctive healthcare service needs of rural populations.
2. Understand the challenges in the effort to make rural healthcare accessible, high quality and cost effective in the KSA.
3. Explain the specific areas of health care that are particularly difficult to provide in rural areas of the KSA
4. Describe the efforts that have been made to attract healthcare providers to rural areas.
5. Identify the main communicable diseases prevalent in the KSA and discuss in detail few important examples.
6. Identify the links in the chain of infection and means of breaking the chain.
7. Identify signs and symptoms, causative agent, reservoir, means of transmission, for communicable diseases.

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Course title	Forensic Medicine & Toxicology
Course code	FMT 367
Credit hours	2 (2+0+0)
Level/year at which the course is offered	Year-3, semester-2
Course Objectives:	
By the end of this block it is expected that students will be able to:	
<ol style="list-style-type: none"> 1. Describe the theoretical principles and the basic disciplines of forensic medicine and science. 2. Define and explain the importance and applications of , Crime Scene Investigation, forensic evidence, death investigation .type of wounds, Biological Evidence, Firearms and Weapons and Tool marks, Death Investigation, Questioned Documents, Fire and Explosive Examination field, different type of wounds and the forensic viewpoint of Criminal Scene. 3. Describe the different type of poisons. 4. Describe the fundamental concepts of toxicology to commonly encountered abused and toxic substances, Illicit Drugs and Controlled Substances Act. 5. Performance and describe the postmortem toxic effects of drugs chemical toxins and carcinogens. 6. Knowledge of laboratory results interpretations. <p>Correlate and interpret the laboratory result with the clinical information or forensic investigation.</p>	

Course title	Nutrition
Course code	NTN 368
Credit hours	2 (2+0+0)
Level/year at which the course is offered	Year-3, semester-2
Upon completion of this course, the student should be able to do the following:	
<ol style="list-style-type: none"> 1. Recognize the major macro and micronutrients relevant to human health, and understand their roles and importance. 2. Understand the scientific grounds of determining the nutritional requirements of healthy individuals and communities, as well as specific populations, such as children, elderly, and pregnant and lactating women. 3. Discuss how nutrition relates to preventing or causing various illnesses, particularly chronic diseases. 4. Discuss major nutrition-related disorders and conditions. 5. Suggest a community-based nutritional awareness plan. 	

Course title	Medicine (9-weeks)
Course code	MED 471
Credit hours	9 (2+14+0)
Level/year at which the course is offered	Year-4, semester-1

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Course Objectives:

The first year of clinical clerkship experience usually results in the acquisition of certain global skills as well as learning objectives more specific and tailored to the discipline.

The Clinical Clerkship is an integrated learning experience which will allow students to develop the knowledge, skills, and attitudes essential to care for patients effectively, efficiently, and humanely. The Faculty's goal is to facilitate learning, stimulate curiosity, promote independent thinking, encourage compassionate, excellent care, and to equip students for a lifetime of education.

Overall specific clerkship goals and objectives using “CanMEDS Framework”:

1. Medical Expert/Skilled Clinician

- a. Knowledge (Basic Science and Clinical)
- b. History taking
- c. Physical examination
- d. Diagnostic test interpretation
- e. Problem formulation and management plan (clinical judgment)
- f. Generating a problem list and differential diagnosis
- g. Technical and procedural skills
- h. Use of evidence based medicine

2. Communicator/Doctor-Patient Relationship

- a. Communication with patients/families/community
- b. Written records
- c. Oral reports
- d. Patient education

3. Collaborator

- a. Team participation (contribution within an interdisciplinary team)
- b. Provision of patient care in collaboration with all health care providers

4. Manager

- a. Awareness of and appropriate use of healthcare resources

5. Health Advocate

- a. Recognition of important determinants of health and principles of disease
- b. Patient advocacy

6. Scholar

- a. Self-directed learning
- b. Contribution to rounds, seminars and other learning events

7. Professional

- a. Altruism
- b. Duty: Reliability and Responsibility
- c. Excellence: self improvement and adaptability
- d. Respect for others: relationships with students, faculty and staff

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e. Honor and integrity: upholding student and professional code of conduct

Course title	Paediatrics (9-weeks)
Course code	PED 472
Credit hours	9 (2+14+0)
Level/year at which the course is offered	Year-4, semester-1
Course Objectives:	
<ul style="list-style-type: none"> • Acquisition of basic knowledge of growth and development (physical, physiologic and psychosocial) and of its clinical application from birth through childhood. • Acquisition of the knowledge necessary for the diagnosis and initial management of common pediatric acute and chronic illnesses. • An understanding of the approach of pediatricians to the health care of children. • An understanding of the influence of family, community and society on the child in health and disease. • Development of communication skills that will facilitate the clinical interaction with children and their families and thus ensure that complete and accurate data are obtained. • Development of competency in the physical examination of infants and children. • Development of clinical problem-solving skills. • Development of strategies for health promotion as well as disease and injury prevention. • Development of the attitudes and professional behaviors appropriate for clinical practice. 	

Course title	Surgery (9-weeks)
Course code	SUR 481
Credit hours	9 (2+14+0)
Level/year at which the course is offered	Year-4, semester-2
Course Objectives:	
<p>By the end of clerkship the student should be able to:</p> <ul style="list-style-type: none"> • Perform complete, accurate histories and physical examination on surgical patients • Interpret laboratory, diagnostic tests and radiological imaging studies associated with common surgical diseases accurately • Formulate from the history, physical exam, and patient studies, a differential diagnosis and develop an initial plan for further patient evaluation and management • Describe indications for operative surgery • Discuss the risks and benefits of common surgical procedures • Identify the necessary diagnostic modalities to develop a preliminary plan of management • Outline a plan of action for the management of surgical infection, with either surgery or a plan for antibiotics • Demonstrate proficiency in the preoperative preparation of patients for surgery and routine post-operative care with guidance of faculty staff • Demonstrate medical communication skills by performing satisfactory (accurate and concise) oral presentations • Demonstrate interpersonal skills necessary to maintain professionalism, communicate 	

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appropriately with patients, their families, and other medical and paramedical personnel involved in patient care

- Maintain complete and legible patient care related documentation including writing inpatients progress notes
- Describe and follow the structure of routine orders (admission, pre and post-op)
- Observe informed consent process noting potential effects of physician-patient power imbalance, cultural disparities and bias
- Act in an ethical manner and identify ethical issues related to patient care and health policies
- Follow established practices, procedures and policies of the Department of Surgery
- Recognize and describe your own role and the roles of other members of the team
- Actively participate as a member of the health care team

Course title	Obstetrics & Gynecology (9-weeks)
Course code	GYN 482
Credit hours	9 (2+14+0)
Level/year at which the course is offered	Year-4, semester-2
Course Objectives:	
<p>The specific objectives of this rotation are to cover different aspects in Obstetrics & Gynecology which include:</p> <ul style="list-style-type: none"> • Master history taking from both obstetrics and gynecology patients. • Perform and appropriately record the essentials of a breast, abdominal and pelvic examination (including speculum and bi-manual pelvic exam), and obtain a Pap smear and cervical/ vaginal cultures • Physiology of pregnancy • Normal antenatal and postnatal care • Care of medical diseases associated with pregnancy • Common obstetric emergencies • Common obstetric related problems: multiple gestation, preeclampsia/eclampsia, Rh isoimmunization, preterm delivery, etc. • Evaluation and monitoring of normal labour. • Distinguish between the various techniques of antepartum fetal assessment and their indications based on maternal/fetal risk factors. 	

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- Physiology of reproduction
- Hormonal changes of the menstrual cycle and how they relate to normal and abnormal uterine bleeding.
- Common causes of infertility and their management
- Common gynecologic emergencies
- Common gynecologic problems at different stages of the women's life
- Describe the common gynecologic neoplasms, including the presentation, diagnosis and treatment; understand the general principles of staging.
- Strategies for screening and prevention of diseases
- Principles of family planning and different contraceptive techniques.

Course title	Health economics and Hospital management
Course code	HEN 483
Credit hours	2 (2+0+0)
Level/year at which the course is offered	Year-4, semester-1
Course Objectives:	
<p>Health economics applies the tools of economics to issues of the organization, delivery, and financing of health care. The objectives of this course are to: (1) develop an understanding of the relevance of economic concepts to the health care sector, (2) describe the system of health care financing and delivery arrangements in the health care sector, and (3) impart an understanding of the role of economic factors in the development of public policy concerning health and health care.</p>	

Course title	Sub-Specialty Medicine (9w: Cardio 4w, Hem/Onc 4w)
Course code	IMD 591

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Credit hours	9 (2+14+0)
Level/year at which the course is offered	Year-5, semester-1
<p>Cardiovascular Clerkship</p> <p>At the end of the CV clerkship, the student should be able to demonstrate competencies in each of the competency domains as outlined below:</p> <p>1. <u>Medical Knowledge:</u></p> <p>The student will:</p> <ol style="list-style-type: none"> 1. Understand the relationship between the basic and clinical sciences as it applies to the field of cardiovascular medicine. 2. Apply their knowledge in the basic and clinical sciences to the care of cardiovascular patients. 3. Demonstrate the ability to assess a cardiology/cardiac surgery patient and differentiate the need for urgent versus non-urgent care. 4. Utilize knowledge and clinical skills, when appropriate, to assist with the diagnosis and treatment of a cardiology/cardiac surgery patient. 5. Employ viable treatment plans within the confines of clinical data available, and within the socioeconomic capability of the Cardiology patient and/or family. 6. Demonstrate knowledge of the basic sciences and patho-physiologic principles behind the manifestations of the cardiovascular diseases 7. Integrate the knowledge of medical, ethical, and social-behavioral sciences with the clinical presentation of the disease in his/her patient 8. Demonstrate knowledge of the common indications, contraindications and benefits of the common cardiovascular procedures and surgeries such as: cardiac catheterization, electrophysiology studies, coronary artery bypass and valve surgeries. <p>2. <u>Patient Care:</u></p> <p>The student will:</p> <ol style="list-style-type: none"> 1. Recognize the cardiovascular patient's motivation(s) for seeking care. 2. Assess the type and level of care needed for the particular encounter. 3. Project empathy. 4. Encourage cardiovascular patients to seek continuing medical care at intervals appropriate for their condition(s). 5. Utilize appropriate health maintenance screening protocols. 6. Provide anticipatory health care. 7. Obtain an accurate, pertinent history from all appropriate available sources, and record it in a complete and concise manner 8. Perform and record a thorough physical examination, and review the physical findings with the faculty 9. Based on history and physical examination findings as well as any laboratory or diagnostic tests done, identify problems and develop appropriate differential diagnoses 10. Develop a prioritized and detailed problem list for each patient 11. Utilize clinical reasoning and form hypotheses to assess the patient's presenting problems based on gathered information 12. Formulate a diagnostic and therapeutic plan for his/her patient based on gathered clinical information and laboratory data 	

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3. Interpersonal and Communication Skills:

The student will:

1. Appraise literacy level of cardiovascular patients and others in an effort to improve communication.
2. Use effective written, verbal, and nonverbal language.
3. Utilize intuitive and listening skills.
4. Illustrate the attributes of a team player.
5. Cite and communicate information in an organized and succinct manner.
6. Develop skills in oral case presentation.
7. Demonstrate good communication skills when dealing with patients and their families.
8. Demonstrate respect when communicating with all members of the health care team.
9. Participate in obtaining informed consent prior to performing an invasive procedure in his/her patient.
10. Demonstrate ability to educate patients, families and other members of the health care team.

4. Professionalism:

1. Complete responsibilities reliably.
2. Demonstrate respect, empathy, and integrity.
3. Demonstrate understanding of ethical principles of autonomy, beneficence, informed consent, and confidentiality.
4. Develop an understanding of the psychosocial, educational, economic and religious backgrounds of patients that underlie their diverse belief systems, and demonstrate this understanding in the approach to the management of individual patients.
5. Demonstrate sensitivity to, and an understanding of, the ethical dimensions of patient care, and demonstrate this in the approach to the management of individual patients.
6. Develop a professional relationship with patients, peers and other health care professionals while conducting themselves professionally at all times.
7. Demonstrate ability to work hard, accept patient responsibility and respond appropriately to feedback provided.
8. Demonstrate respect, compassion, integrity, and honesty at all times.

5. Practice Based Learning and Improvement:

The student will:

1. Facilitate and support his/her own education by reading current journal publications, journal articles on cardiovascular blackboard site, Internal Medicine and Physiology textbooks, ECG', and utilizing information technology.
2. Assess, apply, and assimilate investigative knowledge to improve Cardiology patient care.
3. Utilize the library and its resources to research clinical questions that arise during patient care and management.
4. Demonstrate critical reading skills in selected journal articles, and identify characteristics of effective medical articles.
5. Demonstrate independent learning as evidenced by researching issues related to patient care.

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6. System Based Practice:

The student will:

1. Recognize the role of the Cardiologist/ cardiac surgeon as a member and coordinator of the healthcare delivery team.
2. Recognize social and economic factors that affect patient care.
3. Identify the various people/factors involved in the Cardiology patient care process, such as: patient, family, staff, consultants (medical and non-medical), and insurance companies.
4. Practice quality cost-effective healthcare.
5. Realize the Cardiologist's/ cardiac surgeon's role in the community and society.
6. Recognize the importance of and demonstrate commitment to the utilization of other health care professionals in diagnostic decision making.
7. Participate, whenever possible, in coordination of care and in the provision of continuity of care.

Pediatric Hematology/Oncology Clerkship:

Course Objectives:

During the time spent with the Hematology/Oncology Service, the student should become familiar with the following topics. This will be through a combination of patient care in the inpatient service, participation in various clinics and attendance of regularly scheduled rounds and as well as with discussion with the staff on service.

- Basic interpretation of the complete blood count, including changes in normal values with age.
- Approach to investigation and management of cytopenias.
- Initial approach to the bleeding patient, initial approach to coagulation laboratory results.
- Approach to lymphadenopathy.
- Initial management with a newly diagnosed hematological malignancy.
- Common forms of leukemia and lymphoma.
- Usual presentations of the common solid tumors.
- Management of fever/neutropenia and the immunocompromised patient.
- Approach to a breast mass.
- Approach to a lung nodule.
- Classification, diagnosis and management of hematological malignancies.
- Classification, diagnosis and management of solid tumors in adults.
- Understand the most common early and long term complications of therapy and how to approach them.

Course title	Integrated Neuroscience (9w: Neuro 4w, Psy 4w)
Course code	INS 592
Credit hours	9 (2+14+0)

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Level/year at which the course is offered	Year-5, semester-1
Course Objectives: General goals of Neurosciences Clerkship: <ul style="list-style-type: none"> • Acquisition of essential knowledge & competency for evaluation, diagnosis and plan initial treatment for patients with neurological diseases. • Learn the application of scientific clinical reasoning and evidence base to medical practice • Promote patient engagement & communication skills • Enhance clinical information management • Evaluate & analyze prognosis and clinical outcomes • Learn the application of care in context • Prepare talks & presentation • Develop ethics and professional behaviors appropriate for clinical practice 	

Course title	Surgical Sub-Specialty (9w: ER & Anesthesia 4w, Orth 4w)
Course code	SSP 5X1
Credit hours	9 (2+14+0)
Level/year at which the course is offered	Year-5, semester-2
Course Objectives: Emergency Medicine Rotation At the end of the rotation the student will be able to; <ol style="list-style-type: none"> 1. Perform and document an accurate history and physical examination. 2. Order and interpret test data, including laboratory, EKG, and radiographic / imaging studies. 3. Demonstrate interpersonal communication with patient, family, physician, EMS personnel, and ancillary staff. 4. Develop treatment plans for emergency patients with medical and surgical problems 5. Identify acutely ill patients and develop a plan for immediate stabilization. 6. Identify acute medical problems and identify triage priorities 7. Utilize hospital consultative services appropriately 8. Demonstrate understanding of emergency medicine procedural treatment skills under attending physician supervision. Anesthesia Rotation: List of Competences expected to be achieved in Anesthesia rotation <ol style="list-style-type: none"> 1. Pre Anesthetic assessment <ol style="list-style-type: none"> a. Understand the need for pre- operative assessment b. Be able to do a systematic assessment of the patient presenting for surgery c. Be able to understand the impact of co morbidities on patient management d. To identify patients who may be at risk postoperatively and to refer them to the most appropriate place to be cared for 2. Venous Canulation <ol style="list-style-type: none"> a. In adult patients coming to OR for surgery, under supervision of the responsible anesthesiologist. b. Should understand the choice of different sizes and the rationale behind it c. Observe pediatric cannulation and understand the differences between adult and pediatric cannulation. 	

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d. May get an opportunity to observe the use of vein locator or ultrasound for venous access in difficult cases.

3. Airway Management

a. Basic Airway Management

i. Should be able to choose appropriate size of face mask, apply it properly to patient face and be able to bag mask ventilate the patient (The anesthesiologist should explain the use of APL valve on the anesthesia machine)

4. Intravenous Fluid Therapy

a. Should understand different types of IV fluid including crystalloids, colloids (both natural and synthetic) and hypertonic solutions

5. Acute Pain Relief

a. Should understand the different types of analgesics and their pharmacology both opiates and non-opiates

b. Should observe intraoperative pain relief (Types of drugs and their dosage)

6. Oxygen Therapy

a. Understand the reason for oxygen therapy

b. Understand oxygen toxicity

c. Ways of giving oxygen to the patient

d. Assessment of efficacy of oxygen therapy

7. Assessment of the Unwell Patient

a. Should be able to assess the unwell patient based on ABC guidelines

b. Seek help as appropriate

c. Initiate basic management of the patient including Oxygen, IV fluids

Orthopaedic Surgery Rotation:

At the end of the rotation the student will be able to;

- Appropriate history taking
- Learn clinical examination of musculoskeletal system for both pediatrics as well as adults
- Learn to make a differential diagnosis
- Order relevant investigations and imaging studies
- Make the most likely diagnosis
- Make a comprehensive management plan for the patient
- Attend operating sessions and either observe or assist in surgeries & grasp principles of orthopedic surgery
- Attend regular ward rounds
- Attend the department grand rounds on Sunday afternoon and Wednesday morning
- Attend Journal club
- Present cases and other relevant topics.

Course title	Ambulatory Care (9 weeks: ENT+Ophth 4w, FM+Derma 4w)
Course code	AMB 5X2
Credit hours	9 (2+14+0)
Level/year at which	Year-5, semester-2

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<p>the course is offered</p> <p>Course Objectives:</p> <p>Otolaryngology – Head and Neck Surgery Rotation: The learning objectives include the following :</p> <ol style="list-style-type: none"> 1) Enhance history taking skills relative to ear, nose, throat, head and neck disorders. 2) Improve skills and techniques of head and neck examinations. 3) Understand the purpose, values and results of numerous laboratory assessments of various otolaryngologic disorders. 4) Gain exposure to alternative work-up and treatment strategies for several different in-and-out-patient populations with head and neck pathologies. 5) Observe surgical aspects of otolaryngology with emphasis on both out-patient and in-patient procedures. 6) Enhance development of professionalism and interpersonal and communication skills. <p>Family Medicine Rotation: At the end of the Family Medicine clerkship, each student should be able to:</p> <ol style="list-style-type: none"> 1. Discuss the principles of Family Medicine care and the vital role of the Family Physician within any healthcare system. 2. Demonstrate core history-taking skills, physical exam skills, verbal patient presentations, and written documentation of outpatient visits. 3. Gather the relevant information, formulate differential diagnoses and propose management plans for patients with common primary care concerns. 4. Manage follow-up visits with patients having one or more common chronic diseases and engage in patient education. 5. Demonstrate familiarity with key aspects of health maintenance/preventive care for all ages and both genders. 6. Demonstrate familiarity with common issues in the management of chronic illnesses such as diabetes, high blood pressure, high cholesterol, metabolic syndrome, obesity, and asthma. 7. Demonstrate familiarity with the diagnosis and management of common acute conditions for which patients commonly present to Family Medicine offices for care. These include, but are not limited to musculoskeletal, infectious, dermatologic, psychiatric, and gynecologic problems 8. Demonstrate an understanding of the Multidisciplinary approach to primary care and a knowledge of available healthcare resources including online resources. 9. Communicate effectively with patients and fellow primary health care professionals. <p>Dermatology Rotation Objectives: At the conclusion of the rotation in Dermatology, the student will be able to:</p> <ol style="list-style-type: none"> 1. Obtain and document a complete and focused medical history. 2. Perform and document a complete and focused dermatological and related physical examination. 3. Identify and demonstrate normal and abnormal features on general skin exam. 4. Integrate history, physical and laboratory test findings into a meaningful diagnostic formulation. 5. Demonstrate an understanding of basic pathophysiology and treatment of common skin conditions. 6. Correctly identify common skin tumors such as basal cell carcinoma, squamous cell carcinoma, and melanoma. 7. Recognize potentially life-threatening skin diseases such as serious drug eruptions, toxic epidermal necrolysis, and autoimmune blistering disorders. 8. Recognize some dermatological manifestations of internal disease. 	
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Ophthalmology Rotation Objectives:

At the end of the course, the students will be able to :

1. Recognize common ocular pathology.
2. Manage simple cases and know when to refer serious problems.
3. Describe the anatomy of the sensory visual pathway.
4. Differentiate the composition of the origin of nerve fibers in the prechiasm and postchiasm portions of the pathway.
5. Identify four (4) supra nuclear eye movement systems.
6. Compare the functions of the cranial nerves system in relation to eye function.
7. Explain the role of the automatic nervous system in relation to eye function.
8. Explain the relationship between accommodation and any refractive error.
9. Describe the types of the refractive error.
10. Outline the order of topics covered in obtaining a history.
11. Perform a concise history taking.
12. Discuss various methods of measuring visual acuity.
13. Understand how to record visual acuity.
14. Describe testing for a relative afferent pupillary defects and its significance.
15. Describe four (4) common defects that affects pupil function.
16. Describe the operation of the slit lamp.
17. Identify common signs of inflammation, scars, lens and corneal changes, and abnormal tissue information.
18. Understand the application and non-contact tonometers for measuring intra ocular pressure.
19. Describe the process of retinoscopy in sequence.
20. Understand how to measure eye protrusion.
21. Understand how ultra sounds echoes are used to measure axial length.
22. Name four (4) ocular structures that reflect ultra sound echoes.
23. Describe automatic screening and techniques in automated perimetry.
24. Understand the concepts of automated perimetry.
25. Understand various sensory tests to evaluate fusion.
26. Understand how prisms should be held when testing ocular motility.
27. Differentiate a phoria from a tropia.
28. Describe the six (6) cardinal positions of gaze.
29. Understand the proper way of evaluating strabismus patients.
30. List reactions to fluorescein injection during angiography.
31. Describe the normal position of the upper eyelid margin.
32. Understand what test are used to detect age related macular degeneration.
33. List tests use to evaluate patients with preoperative cataract for vision impairment.
34. Define glaucoma and its management.
35. Differentiate the types of glaucoma, open angle, close angle and congenital.
36. Understand the systematic effects of hypothyroidism and hyperthyroidism.
37. List ocular disorders caused by diabetes.

Course title	Trauma
Course code	TRM 5X3
Credit hours	2 (2+0+0)
Level/year at which the course is offered	Year-5, semester-2
Course Objectives:	
<p>This course is a sixteen week seminar series on trauma due to intentional and unintentional injury. Through the use of expert guest speakers, demonstrations, and class participation, the course directors aim to help students master the practical skills required to care for victims of injury and violence. Topics to be covered include clinical identification and management of violent ballistic and traumatic injury, domestic, child, adolescent and elder abuse, school violence, date and sexual assault, firearm and weapon prevention, hate crimes, abuse of the disabled, international violence and human rights, violence in the media/internet and in the workplace. Unintentional injury includes review on use of bicycle helmets, protective sports equipment, seatbelts, airbags, home and fire safety, near drowning and prevention of designer drug use, road rage, and teen suicide</p>	

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