

Planning and Quality Assurance Affairs

Form (C)

MDCN1215	Communication Skills						
Course type	College Needs	Level	1	hours (theoretical)	2	hours (practical)	0

Course Objectives

1 - Upon completing this course, students will be anticipated to grasp the significance of effective communication abilities in the medical profession and elucidate the fundamental principles of both spoken and unspoken communication skills. It is our anticipation that our students will exhibit their proficiency in carrying out patient-centered interviews by employing basic communication skills adeptly within a simulated environment. This course serves as a foundation for students to develop and utilize these skills in their forthcoming professional endeavors.

Intended Learning Outcomes

Knowledge and Understanding	<ul style="list-style-type: none"> * Discuss common strategies of communication skills. * Describe the importance of communication effectively in medical practice. * Understand how communication skills (verbal and non-verbal) are essential tool for physicians.
Intellectual Skills	<ul style="list-style-type: none"> * Apply the principles of effective communication in daily life. * Identify the barriers to effective communication and ways to overcome these barriers * Demonstrate appropriate non-verbal communication skills
Professional Skills	<ul style="list-style-type: none"> * Outline the components of the health history of a patient * Practice different ways to approach the patient. * Practice history taking focusing on the components of the history of presenting illness * Practice taking pain history using SOCRATES. * Explain the four dimensions of illness – “FIFE” (feelings, ideas, impact on function, expectations) * Apply/ demonstrate the FIFE method when taking history from the patients in the given case

Course Contents

- 1 - concepts of communication skills in medicine
- 2 - Non-verbal communication skills
- 3 - Communication skills using history of presenting illness
- 4 - Exploring the patient’s perspective (FIFE)
- 5 - Communication techniques (teach back, validation and reflective listening)
- 6 - Breaking bad news (SPIKES)
- 7 - Patient counselling- smoking/ alcohol abuse (5As + CAGE)
- 8 - Dealing with difficult patient
- 9 - Communication with the healthcare team IPE using (ISBAR)

Teaching and Learning Methods

- 1 - Lectures
- 2 - Small group discussions
- 3 - De-briefing session

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Mid term	1 hr	30
Quizes		30
Final exam	2 hrs	40

Books and References

Recommended books Bates' Guide to Physical Examination & History Taking, Ed 11, Lippincott Williams & Wilkins Inc.

Knowledge and Skills Matrix

Main Course Contents	Study Week	Knowledge and Understanding	Intellectual Skills	Professional Skills	General Skill
The concepts of communication skills in medicine	Week #1	1	1	1	
Non-verbal communication skills	Week #2	1,2,3	3	1,2	
Communication skills using history of presenting illness	Week #3+4	1,2,3	1,2	1,2,3	
Exploring the patient's perspective (FIFE)	week #5	1,2,3	1,2,3	1,2,3	
Communication techniques (teach back, validation and reflective listening)	week #6	1,2,3	1,2,3,4	1,2,3	
Breaking bad news (SPIKES)	week #7,8	1,2,3	1,2,3,4	1,2,3	
Patient counselling- smoking/ alcohol abuse (5As + CAGE)	week #9	1,2,3,	1,2,3,4	1,2,3	
Dealing with difficult patient	week #10,11	1,2,3	1,2,3,4	1,2,3	
Communication with the healthcare team IPE using (ISBAR)	week #12	1,2,3	1,2,3,4	1,2,3,4	

MDCN1219

Organic chemistry

Course type

College Needs

Level

1

hours (theoretical)

2

hours (practical)

1

Course Objectives

- 1 - This course deals with the basic concepts of chemistry needed for health sciences students for building background knowledge about design, synthesis and analysis of organic molecules-from simple compounds to candidate drugs.
- 2 - Upon completing this course , students will be able to : At the end of the course, students become familiar with the following points:
 - Organic chemistry is essential in biological and medical fields. All living organisms are composed of abundances of organic substances. Evolution of life has been postulated to have been developed from one single organic compound called a nucleotide. Nucleotides polymerize, or join together to form the building blocks of all life, DNA (deoxyribonucleic acid).
 - Organic compounds constitute various substances in the body which are vital for life to be sustained. Proteins, carbohydrates and lipids are organic compounds that contribute to the structure of the human body.
 - Organic compounds also make up enzymes and catalysts that are mandatory for essential biological processes to occur. Also, organic compounds are responsible for governing ion transport channels in the cell which function in carrying information from one cell to another and mediating cell to cell communication. Failure of ion transport may result in failure of important biological processes in the body.
- 3 - Upon completing this course , students will be able to : At the end of the course, students become familiar with the following points:
 - Organic chemistry is essential in biological and medical fields. All living organisms are composed of abundances of organic substances. Evolution of life has been postulated to have been developed from one single organic compound called a nucleotide. Nucleotides polymerize, or join together to form the building blocks of all life, DNA (deoxyribonucleic acid).
 - Organic compounds constitute various substances in the body which are vital for life to be sustained. Proteins, carbohydrates and lipids are organic compounds that contribute to the structure of the human body.
 - Organic compounds also make up enzymes and catalysts that are mandatory for essential biological processes to occur. Also, organic compounds are responsible for governing ion transport channels in the cell which function in carrying information from one cell to another and mediating cell to cell communication. Failure of ion transport may result in failure of important biological processes in the body.

Intended Learning Outcomes

Knowledge and Understanding

- * Upon completing this course , students will be able to : At the end of the course, students become familiar with the following points:
 - Organic chemistry is essential in biological and medical fields. All living organisms are composed of abundances of organic substances. Evolution of life has been postulated to have been developed from one single organic compound called a nucleotide. Nucleotides polymerize, or join together to form the building blocks of all life, DNA (deoxyribonucleic acid).
 - Organic compounds constitute various substances in the body which are vital for life to be sustained. Proteins, carbohydrates and lipids are organic compounds that contribute to the structure of the human body.
 - Organic compounds also make up enzymes and catalysts that are mandatory for essential biological processes to occur. Also, organic compounds are responsible for governing ion transport channels in the cell which function in carrying information from one cell to another and mediating cell to cell communication. Failure of ion transport may result in failure of important biological processes in the body.

Course Contents

- 1 - 1 Introduction 2 Bonding and Isomerism 3 Alkanes and Cycloalkanes; Conformational and Geometric Isomerism 4 Alkenes and Alkynes 5 Aromatic Compounds 6 Stereoisomerism 7 Organic Halogen Compounds; Substitution and Elimination Reactions 8 Alcohols, Phenols, and Thiols 9 Ethers and Epoxides 10 Aldehydes and Ketones 11 Carboxylic Acids and their Derivatives 12 Amines and Related Nitrogen Compounds 13 Spectroscopy and Structure Determination

Teaching and Learning Methods

- 1 - Lectures and discussions

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Exams and assignments	Tow hours weekly	? Assignments 30% ? Midterm exam 20% ? Final 50%

Books and References

Course note	David J. Hart, Christopher M. Hadad, Leslie E. Craine and Harold Hart. Organic Chemistry (short course), 13th edition David J. Hart, Christopher M. Hadad, Leslie E. Craine and Harold Hart. Organic Chemistry (short course), 13th edition
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MDCN1218	General chemistry for health sciences						
Course type	College Needs	Level	1	hours (theoretical)	2	hours (practical)	1

Course Objectives

- 1 - this course is intended to give the student the basic concepts of chemistry as stiochemistry, chemical formulas, chemical structures, balanced chemical equations and the basic concepts of equilibrium and kinetics.

Course Contents

- 1 - This course begins with topics such as the mole concept, stoichiometric determination, structure of the atom and the atomic theories, chemical formulas, limiting reactant, electronic configuration of the elements, It includes the periodic table beside the periodic properties of the atoms such as atomic size, ionization energy and electron affinity. 2 The student is also introduced to study the principle of chemical bonding in general terms and stresses the importance of applying theory to practice such as Lewis structure, VSEPR, Valence bond and molecular orbital theories. 3 The properties of solids, liquids, solutions, studying of the intermolecular forces between solid and liquid molecules, reactions in aqueous solutions such as redox reaction, precipitation reactions and neutralization reaction, kinetics, equilibrium, electrochemistry and redox reaction. 4 The student is introduced to techniques in qualitative analysis given an introduction in analytical chemistry through studying the acids-bases theories, ionic equilibria, calculating the pH of the solutions, principles of buffer solutions and solubility product, and finally the elements of thermodynamics and thermochemistry

Books and References

Course note	CHEMISTRY, TENTH EDITION Raymond ChangAmericas, New York, NY 10020. Copyright © 2010
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MDCN1213	Medical Physics						
Course type	College Needs	Level	1	hours (theoretical)	2	hours (practical)	0

Course Objectives

- 1 - Define the concepts of the measurements.
- 2 - Define the concepts measuring length
- 3 - Define the concepts of measuring time
- 4 - Define the concepts of measuring weight
- 5 - Differentiate between the distance, the position, and the displacement
- 6 - Differentiate between the speed and the velocity
- 7 - Differentiate between the average velocity and the instantaneous velocity
- 8 - Define the concepts of the acceleration
- 9 - Differentiate between the average acceleration and the instantaneous acceleration
- 10 - Differentiate between the linear acceleration and the free fall acceleration

Intended Learning Outcomes

- | | |
|------------------------------------|--|
| Knowledge and Understanding | <ul style="list-style-type: none">* Define the physical quantities, physical phenomena, and basic principles of physics related to the course.* Record the physical quantity at the lab* Express the physical laws related to the course using mathematics |
| Intellectual Skills | <ul style="list-style-type: none">* Calculate the physical quantity related to the course* Solve physical problems* Determine some physical quantity at the lab. |
| Professional Skills | <ul style="list-style-type: none">* Drive physics laws* Determine some physical quantity at the lab. |
| General Skill | <ul style="list-style-type: none">* Work effectively in groups* Show responsibility for self-learning to be aware with recent developments in physics |

Course Contents

- 1 - Vectors and Scalars.
- 2 - Motion in one dimension
- 3 - Motion in two and three dimensions
- 4 - Force and motion
- 5 - Fluid dynamics
- 6 - Temperature, Heat and the first law of Thermodynamics.
- 7 - Reflection and refraction of light at plane surface
- 8 - Experimental part at the lab of general physics

Teaching and Learning Methods

- 1 - Lectures
- 2 - Laboratory/Studio
- 3 - Tutorial

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Home works		5
Scientific activities		5
Midterm Exam (theoretical)	1 hr	20
Lab. Reports (Practical)		10
Final Exam (Practical)		10
Final Exam (theoretical)	2 hr	60

Books and References

Course note Halliday and Resnick and Jearal Walker, " Fundamental of Physics" 8 edition, Wiley, 2008.
Physics, 4th edition , By: Halliday, Resnick, and Krane, Wiley (1992)
Physics , 4th edition, By: J. Walker (2010)

MDCN1314	ENGLISH LANGUAGE (Medical terminology)								
Course type	College Needs	Level	1	hours (theoretical)	3	hours (practical)	0		

Course Objectives

- 1 - Form medical terms by combining prefixes, suffixes and root words.
- 2 - Associate medical terms with specific body systems.
- 3 - Identify and interpret diagnostic and symptomatic terms related to the pathophysiology specific to each body system.
- 4 - Distinguish common medical abbreviations and acronyms.
- 5 - Choose and define medical terms from appropriate sources.
- 6 - Summarize and correctly interpret medical/clinical related materials.
- 7 - Develop an active vocabulary of selected medical terms

Intended Learning Outcomes

- | | |
|------------------------------------|--|
| Knowledge and Understanding | <ul style="list-style-type: none">* Learn to build medical words and combining forms.* Learn to identify specific anatomical sites on illustrations* Learn to use a medical dictionary and pronounce medical terms correctly* Learn to analyze medical terms and conditions by their prefixes, suffixes, and root elements. |
|------------------------------------|--|

Course Contents

- 1 - Introduction – Basic Elements of a Medical Word
- 2 - Suffixes: Surgical, Diagnostic, Pathological, Grammatical and Plural
- 3 - Prefixes
- 4 - Body Structure
- 5 - Integumentary System
- 6 - Gastrointestinal (Digestive) System
- 7 - Respiratory System
- 8 - Cardiovascular System
- 9 - Blood and Lymphatic System
- 10 - Musculoskeletal System
- 11 - Urinary System
- 12 - Female Reproductive System
- 13 - Male Reproductive System
- 14 - Endocrine System
- 15 - Nervous System

Teaching and Learning Methods

- 1 - lectures

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
quizzes		20
assignment		10
midterm exam		30
final exam		40

Books and References

Essential books medical terminology

Knowledge and Skills Matrix

Main Course Contents	Study Week	Knowledge and Understanding	Intellectual Skills	Professional Skills	General Skill
Introduction – Basic Elements of a Medical Word	Week #1	1,2			
Suffixes: Surgical, Diagnostic, Pathological, Grammatical and Plural	Week #1 , #2	1,2,3			
Prefixes	Week #3				
Body Structure	Week #4	1,2			
Integumentary System	Week #5	1,2,3,4			
Gastrointestinal (Digestive) System	#7 ,Week #6	1,2,3,4			
Respiratory System	Week #8	1,2,3,4			
Cardiovascular System	Week #9	1,2,3,4			
Blood and Lymphatic System	Week #10	1,2,3,4			
Musculoskeletal System	Week #11	1,2,3,4			
Urinary System	Week #12	1,2,3,4			
Female Reproductive System	Week #13	1,2,3,4			
Male Reproductive System	Week #14	1,2,3,4			
Endocrine System	Week #15	1,2,3,4			
Nervous system	Week #16	1,2,3,4			

MDCN1116 First Aid

Course type College Needs Level 1 hours (theoretical) 1 hours (practical) 0

Course Objectives

- 1 - Understand the importance of first aid
- 2 - Demonstrate basic life support techniques: Students should be able to perform cardiopulmonary resuscitation (CPR), including chest compressions and rescue breaths, on individuals who are unresponsive and not breathing.
- 3 - Acquire knowledge of common medical emergencies
- 4 - Understand and apply appropriate first aid techniques
- 5 - Develop communication and leadership skills
- 6 - Gain knowledge of first aid equipment and resources: Students should become familiar with different types of first aid equipment, such as automated external defibrillators (AEDs), bandages, splints, and immobilization devices
- 7 - Understand legal and ethical considerations
- 8 - Develop teamwork and problem-solving skills
- 9 - Foster self-confidence and resilience

Intended Learning Outcomes

Knowledge and Understanding	<ul style="list-style-type: none">* recognizing common medical emergencies, understanding the physiological processes involved, and knowing how to provide appropriate initial care.* assess and analyze emergency situations effectively.* quick and accurate evaluation of the severity of injuries or illnesses and determine the appropriate course of action.* identifying potential risks, making decisions under pressure, and adapting their approach based on the changing circumstances.
Intellectual Skills	<ul style="list-style-type: none">* critically analyze emergency situations, assess the needs of the injured individuals, and make informed decisions regarding first aid interventions.* attention to detail when assessing injuries or illnesses, ensuring that no critical information is overlooked and appropriate interventions are provided.
Professional Skills	<ul style="list-style-type: none">* develop practical skills necessary for effective first aid intervention.* attention to detail when assessing injuries or illnesses, ensuring that no critical information is overlooked and appropriate interventions are provided.* be able to adapt their first aid approach to different situations, individuals, and available resources, considering factors such as the environment, equipment, and time constraint
General Skill	<ul style="list-style-type: none">* develop the ability to work collaboratively with others in emergency situations* respecting patient autonomy and confidentiality* effectively manage emotions and empathize with the emotions of others in highly stressful and emotionally charged emergency situations.

Course Contents

1 - Basic life support in adults
2 - Paediatric Basic life support
3 - Defibrillation of the heart
4 - Airway management
5 - Life support in special situations
6 - Trauma
7 - Burn
8 - Triage
9 - Managing an accident
10 - • Assessing a casualty
11 - The unconscious casualty
12 - The unconscious casualty
13 - The unconscious casualty
14 - Respiratory problems
15 - Wounds and circulation
16 - Bone, joint, and muscle injuries
17 - Effects of heat and cold
18 - Foreign objects, poisoning, bites & stings
19 - Medical conditions
20 - Medical conditions
21 - Techniques and equipment
22 - Emergency first aid

Course Contents

- 1 - Water, pH, Weak Acids, Weak Bases, and buffers.
- 2 - Macromolecules, structure and function Amino acids and proteins, carbohydrates, Lipids, nucleic acids.
- 3 - The cell: Prokaryotic and eukaryotic cells.
- 4 - Microscopy (principles of magnification and resolution).
- 5 - Eukaryotic cell compartmentalization, endomembrane system and organelles structure and function; Animal vs plant cell
- 6 - The cytoskeleton: Microtubules, microfilaments, & intermediate filaments.
- 7 - Extracellular components and connections between cells.
- 8 - Cell Walls of Plants (primary and secondary cell wall and the middle lamella)
- 9 - The Extracellular Matrix (ECM) of Animal Cells
- 10 - Cell Junctions Cells in animal (Tight Junctions, Desmosomes, and Gap Junctions in Animal Cells) and plant cells (Plasmodesmata in Plant Cells).
- 11 - Biological Membranes and Transport
- 12 - Cell membrane structure and function
- 13 - , The Fluidity of Membranes
- 14 - Membrane Proteins and Their Functions Traffic across membranes including exocytosis and endocytosis
- 15 - The cell cycle and cell divisions Mitosis and Meiosis (gametogenesis and nondisjunction) in details
- 16 - DNA replication Prok vs Euk
- 17 - From gene to protein: Transcription and translation

Teaching and Learning Methods

- 1 - in-class discussions, online assignments and homework
- 2 - regular weekly lectures
- 3 - practical part that include microscopy and other real laboratory experiments about the major topics of the course

Teaching and Learning Methods for the Disabled Students

- 1 - this will be determined individually according to the type of disability

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
online quizzes and assignments via Moodle	10-60 mins	30
midterm exam	60 mins	30
final exam	120 mins	40

Books and References

Course note	PowerPoint material collected and prepared by the course instructor
Essential books	Biology 12th edition by Peter H. Raven, George B. Johnson, Kenneth A. Mason, Jonathan Losos, Tod Dunca 2020
Recommended books	Campbell Biology, 12th Edition. Authors: Lisa A. Urry, Micheal L. Cain, Steven A. asserman, Peter V. Minorsky, Rebecca B. Orr, Neil A. Campbell .2020 Beckers World of the Cell 8th edition. Authors: Jeff Hardin, Gregory Paul Bertoni, Lewis J. Kleinsmith. 2018
Other References (Periodical, web sites, etc.)	Lehninger Principles of Biochemistry 7th edition. Authors: David L. Nelson, Michael M. Cox. 2017

Course Objectives

- 1 - Demonstrate an understanding of fundamentals and principles of physiology
- 2 - develop a solid foundation of knowledge regarding the structure and function of major organ systems, including the cardiovascular, respiratory, nervous, muscular, digestive, renal, endocrine, and reproductive systems
- 3 - Acquire the ability to analyze and interpret physiological processes, including the mechanisms underlying cellular transport, neural signaling, muscle contraction, and other key physiological functions

Intended Learning Outcomes

Knowledge and Understanding

- * Understand the fundamental principles: Gain a solid understanding of the basic principles and concepts of physiology, including the organization and functions of cells, tissues, and organs within the human body.
- * Explain the membrane dynamics and transport process, communication, integration, and homeostasis
- * 3- Describe the structure of major human organs and explain their role in the maintenance of healthy individuals.
- * 4- Explain the interplay between different organ systems and how organs and cells interact to maintain biological equilibria in the face of a variable and changing environment
- * 5- Discuss the principles of regulation and integration of the body including the fundamentals of nervous tissue and the nervous system covering the central/peripheral and somatic/autonomic nervous systems; synapsis, nerve impulse and action potential, and sensory physiology.
- * 6- Explanation for muscles structure and sliding filament theory, action potential in smooth, skeletal and cardiac muscle.

Course Contents

- 1 - This course introduces to membrane dynamics and transport process, communication, integration, and homeostasis, the principles of regulation and integration of the body including the fundamentals of nervous tissue and the nervous system covering the central/peripheral and somatic/autonomic nervous systems; synapsis, nerve impulse and action potential, and sensory physiology. an explanation for muscles structure and sliding filament theory, action potential in smooth, skeletal and cardiac muscle. action potential in special sense; vision, hearing, smell, taste.

Teaching and Learning Methods

- 1 - Lectures
- 2 - PowerPoint Presentations
- 3 - Group Discussions

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Quizzes	30	20
Midterm	60	30
Final	120	50

Books and References

Essential books Hall, J. E. (2021). Guyton and Hall textbook of medical physiology. 14 ed, Elsevier Health Sciences. Chicago

Course Objectives

- 1 - • Understanding the stages of development from birth till aging
- 2 - • Discussing the theories of learning
- 3 - • Discussing the human defense mechanisms
- 4 - • Understanding the nature of stress and how it affects the body
- 5 - • Discussing the commonly abused substances and how can we deal with such patients
- 6 - • Taking a tour through the DSM 5 diagnostic criteria for mental disorders
- 7 - • Understanding the nature, quality and disorders of sleep
- 8 - • Revision of brain areas, function, neurotransmitters and neurocognitive disorders
- 9 - • Understanding the ethical and legal issues related to psychiatric practice

Intended Learning Outcomes

Knowledge and Understanding

- * • Understanding the stages of development from birth till aging
- * • Discussing the theories of learning
- * • Discussing the human defense mechanisms
- * • Understanding the nature of stress and how it affects the body
- * • Discussing the commonly abused substances and how can we deal with such patients
- * • Taking a tour through the DSM 5 diagnostic criteria for mental disorders

Course Contents

- 1 - Human development (newborn reflexes, milestones of development and developmental theories, sexuality, aging, bereavement, attachment and suicide)
- 2 - Learning theories (classical conditioning and its behavioral modification techniques, observational learning theories, cognitive learning and Maslow hierarchy of life events, operant conditioning and its behavioral modification techniques, behavioral models for depression)
- 3 - Revision to the previous two lectures in a form of multiple cases solving problem and interactive discussion.
- 4 - Defense mechanisms (Freud topographical and structural models of mind, Anna Freud, narcissistic defense mechanisms, immature and mature defense mechanisms)
- 5 - Psychological Health and Testing (stress, type A and type B personalities, stress and illness, psychological testing)
- 6 - Substances use disorders (Alcohol, cannabis, amphetamine, sedative hypnotics, opioids Etc.)
- 7 - Revision to the previous three lectures in a form of multiple cases solving problem and interactive discussion.
- 8 - Sleep and sleep related disorders (sleep architecture, sleep disorders)
- 9 - DSM 5 diagnostic criteria part one (neurodevelopmental disorders, intellectual disabilities, attention deficit hyperactivity disorder, disruptive disorders, Tourette disorder and psychotic disorders, mood disorders and anxiety disorders)
- 10 - DSM 5 diagnostic criteria part two (obsessive compulsive disorders, trauma and stress related disorders, eating disorders, somatic symptoms disorder, dissociative disorders, personality disorders and sexual disorders)
- 11 - Revision to the previous three lectures in a form of multiple cases solving problem and interactive discussion.
- 12 - Brain function and neurocognitive disorders (Brain areas with their function, neurotransmitters, neurocognitive disorders and pseudo dementia)
- 13 - Ethics and law (Ethical principles, ethical issues in psychiatry practice, process of hospital admission, testamentary capacity and criminal law)
- 14 - Final revision in a form of multiple choice questions, multiple cases solving problem and interactive discussion

Teaching and Learning Methods

- 1 - lectures
- 2 - discussions
- 3 - MCQs
- 4 - case study

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Midterm	after 4 weeks	30
quiz	after 3 weeks	10
assignment	after 6 weeks	10
final exam	end of course	40
attendance	during the course	10

Books and References

Course note	from lectures
Essential books	kaplan behavioral science

Course Objectives

- 1 - o provide a foundation of the fundamental concepts and terminology of the anatomy of the human body
- 2 - to discuss anatomical organization into functional systems related to medical correlations
- 3 - Demonstrate an understanding of the primary functions of the major systems of the human body
- 4 - Develop problem solving skills to describe possible pathologic outcomes of system dysfunction
- 5 - Demonstrate critical thinking skills to evaluate how alterations in anatomical structures and changes in system function will lead to medical conditions.

Intended Learning Outcomes

- | | |
|------------------------------------|--|
| Knowledge and Understanding | <ul style="list-style-type: none"> * Recognize the meaning terms and planes of gross anatomy. * Describe the structure and essential functions of each organ. * Recall the definitions about the body systems |
| Intellectual Skills | <ul style="list-style-type: none"> * Identify proper position and orientation of each organ and structure. * - Correlate anatomical facts with its major clinical applications. |
| Professional Skills | <ul style="list-style-type: none"> * Apply understanding of human anatomy on demonstration of evidence based practice. * Conduct research studies and utilize the results in different pharmaceutical fields |
| General Skill | <ul style="list-style-type: none"> * Develop communication with the internet critically as a source of information about human anatomy. * Organize working as a team member in collecting valuable information of evidence based practice. |

Course Contents

- 1 - . Respiratory system
- 2 - Urinary system
- 3 - Reproductive organs
- 4 - Venous system.
- 5 - Lymphatic system,
- 6 - Nervous system,
- 7 - Surface Anatomy
- 8 - Introduction (Medical Terminology)
- 9 - Skeletal System
- 10 - Joints
- 11 - Muscular System
- 12 - Cardiovascular System
- 13 - Digestive System
- 14 - Endocrine System

Teaching and Learning Methods

- 1 - Unit overviews
- 2 - recorded lectures with PowerPoint presentations
- 3 - lab lectures

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Mid-term examination (MCQs)	1 hour	30
assessments		30
final exam	2 hour	60

Books and References

Essential books Principles of Human Anatomy

Knowledge and Skills Matrix

Main Course Contents	Study Week	Knowledge and Understanding	Intellectual Skills	Professional Skills	General Skill
Introduction (Medical Terminology)	1	1			
Skeletal System	1	1	2	2	
Joints	1	2	2		
Muscular System	1	2	2	2	
Cardiovascular System	1	1	2	2	2
Lymphatic System	1	3	2	1	1
Respiratory System	1	1	2	2	1
Digestive System	1	1	2	2	
Urinary System	1	3	2	2	
Endocrine System	1	1	2	2	2
Nervous System	1	3	2	2	1
Surface Anatomy	1	1	1	1	
Venous system	1	1	2	2	2
Reproductive organs	1	1	2	2	2

MDCN1223

General Histology

Course type

College Needs

Level

1

hours (theoretical)

2

hours (practical)

1

Course Objectives

- 1 - Understand the basic principles of histology, including cell and tissue structure and function, and the interactions between cells and tissues that make up organs and systems of the body.
- 2 - Identify different types of tissues, including epithelial, connective, nervous, and muscular tissues, and understand their roles in the body.
- 3 - Learn different tissue staining techniques used in histology to visualize cells and tissues and understand their applications.
- 4 - Develop an understanding of the various methods used in the preparation, preservation, and examination of histological specimens.
- 5 - Understand the cellular and molecular mechanisms underlying tissue growth, development, repair, and regeneration.
- 6 - Develop critical thinking and problem-solving skills by analyzing histological data and interpreting findings.

Intended Learning Outcomes

Knowledge and Understanding	<ul style="list-style-type: none">* Understand the basic concepts and terminology of histology, including the organization of cells, tissues, and organs.* Understand the basic principles of histological staining and microscopy, including the use of light microscopy, electron microscopy, and immunofluorescence.* Understand the role of histology in research and development of new treatments and techniques.
Intellectual Skills	<ul style="list-style-type: none">* Identify and describe the different types of tissues found in the body, including epithelial, connective, muscle, and nervous tissue.* Develop critical thinking skills for the interpretation and analysis of histological information, including the use of histological images and diagrams.
General Skill	<ul style="list-style-type: none">* Describe the basic structure and function of cells, including the different organelles and their functions.

Course Contents

1 - Histology and its methods to study
2 - The cell (nucleus and cytoplasm)
3 - Epithelial tissue
4 - Connective tissue
5 - Adipose tissue
6 - Bone
7 - Cartilage
8 - Muscle tissue
9 - Nerve tissue and nervous system

Teaching and Learning Methods

1 - Lectures
2 - Practical training for examination of tissues under microscope in labs

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Histology lab		20
Mid-term exam		30
Final exam		40
Assignment		10

Books and References

Essential books	Junqueira basic histology
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Knowledge and Skills Matrix

Main Course Contents	Study Week	Knowledge and Understanding	Intellectual Skills	Professional Skills	General Skill
the cell nucleus and cytoplasm	week #1. 2. 3	1,2	1		1
epithelial tissue	week # 4.5	1 , 2	1		1
connective tissue	week #6	1,2	1		1
adipose tissue	week #7	1,2	1		1
muscle tissue	week #8	1,2	1		1
bone	week #9	1,2	1		1
cartilage	week #10	1,2	1		1
nerve histology	week #11,12	1,2	1,2		1
Introduction to histology	week #1	1	1		1

MDCN1129

General Embryology

Course type

College Needs

Level

1

hours (theoretical)

1

hours (practical)

0

Course Objectives

- 1 - To acquire students with basic knowledge of Embryology and stages of development 1 of the embryo
- 2 - To enable students to distinguish between different stages of embryological process
- 3 - To enable students to determine various structures and their changes through 3 development.
- 4 - To enable students to understand patterns of genetic layers and their contribution in 4 development of organs.
- 5 - To provide students with knowledge regarding latest developments in vertebrates 5 embryology

Intended Learning Outcomes

Knowledge and Understanding	<ul style="list-style-type: none"> * advanced knowledge of terminology related to embryology in English * knows the stages of human embryogenesis, the structure and function of foetal membranes and placenta * knows the stages of development of individual organs
Intellectual Skills	<ul style="list-style-type: none"> * explains the influence of harmful factors on the development of the embryo and fetus * presents the stages of fertilization
Professional Skills	<ul style="list-style-type: none"> * Recognizes in microscopic images the structures of the umbilical cord * Recognizes in microscopic images the structures of placenta
General Skill	<ul style="list-style-type: none"> * elements characteristic for the stages of the organisms development Recognizes in microscopic images the structures of the * able to uses terminology related to embryology in speech and writing

Course Contents

- 1 - Introduction of Embryology, Terms and concepts. Primordial Germ cells. Gonads early formation.
- 2 - Gametogenesis. Spermatogenesis and Spermiogenesis
- 3 - Oogenesis
- 4 - Hormonal control of Gametogenesis.
- 5 - Fertilization.
- 6 - Cleavage. Patterns of cleavage, Cleavage pattern in some vertebrates.
- 7 - Gastrulation, Formation of the genetic layers. Gastrulation pattern in some vertebrates.
- 8 - Organogenesis. The generation of Ectodermal, mesodermal and Endodermal Organ rudiments. Examples of some organs developmental process.
- 9 - Cellular basis of Morphogenesis Morphogenesis of 3 and 10mm frog embryo.
- 10 - Organs Formed by The Ectoderm Layer: Neural System
- 11 - Pituitary Gland Sense Organs (The Eye).
- 12 - Organs Formed by The Mesoderm Layer: Urinary and Genital System
- 13 - Circular and Vascular System.
- 14 - Organs Formed by The Endoderm Layer: Digestive System.

Teaching and Learning Methods

- 1 - Lecture

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Mid-term examination (MCQs)	1 hour	30
assessments		30
final exam	2 hour	60

Books and References

Essential books	Embryology
Recommended books	High-Yield Embryology
	Netters Atlas of Human Embryology
	Langmans Medical Embryology

Knowledge and Skills Matrix

Main Course Contents	Study Week	Knowledge and Understanding	Intellectual Skills	Professional Skills	General Skill
Introduction of Embryology	1	1			
Gametogenesis	1	1	1	1	
Oogenesis.	1	1	2	2	2
Hormonal control of Gametogenesis	1	2	2	2	
Fertilization	1	2	2	2	
Cleavage. Patterns of cleavage, Cleavage pattern in some vertebrates.	1	1	2	2	2
Gastrulation, Formation of the genetic layers. Gastrulation pattern in some vertebrates.	1	1	2	2	2
Organogenesis	1	2	2	2	1
Cellular basis of Morphogenesis Morphogenesis of 3 and 10mm frog embryo.	1	1	1	2	2
Organs Formed by The Ectoderm Layer: Neural System	1	1	1	2	2
Pituitary Gland Sense Organs (The Eye).	1	1	2	1	1
Organs Formed by The Mesoderm Layer: Urinary and Genital System	1	1	1	2	2
Circular and Vascular System	1	1	2	2	2
Organs Formed by The Endoderm Layer: Digestive System.	1	2	2	2	2

MDCN1229

General Biochemistry

Course type

College Needs

Level

1

hours (theoretical)

2

hours (practical)

0

Course Objectives

- 1 - Demonstrate an understanding of fundamentals and concept of biochemistry
- 2 - develop critical thinking and analytical abilities

Intended Learning Outcomes

Knowledge and Understanding

- * 1- Understand the chemistry of water, acid-base, buffers, Henderson-Hasselbach equation
- * 2- Describe the chemistry of carbohydrates, classification, structure, properties and explain the proteins classification, structure, amino acids
- * 5- Understand lipids classification, structure, cell membrane, membrane transport process... fat soluble vitamins
- * 6- Describe the important of nucleic acids, structure of nucleotides & nucleic acids, DNA, RNA.
- * 7- Determine the enzymes, properties, function, mode of action, Michaelis-Menten equation, enzyme inhibitors

Course Contents

- 1 - This subject is designed to enhance the understanding of the fundamentals and concept of biochemistry, including the major constituents of cell, Biomolecules, water, acid-base, buffers, Henderson-Hasselbach equation, carbohydrates classification, structure, properties, etc., proteins classification, structure, amino acids etc., lipids classification, structure, cell membrane, membrane transport process... fat soluble vitamins, Nucleic acids, transport of glucose from blood to cells. Bioenergetics, enzymes, properties, function, mode of action, Michaelis-Menten equation, enzyme inhibitors.

Teaching and Learning Methods

- 1 - Lectures
- 2 - PowerPoint Presentations
- 3 - Assignments

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Quizzes	30	20
Midterm	60	30
Final	120	50

Books and References

Essential books CAMPBELL, M.K.; FARRELL, S.O. AND McDougal, O. M. (2018): BIOCHEMISTRY, 9TH EDITION, INTERNATIONAL STUDENT EDITION, THOMSON BROOKS/COLE, USA.

MDCN1328	Public Health						
Course type	College Needs	Level	1	hours (theoretical)	3	hours (practical)	0

Course Objectives

- 1 - Understanding the principles and concepts of public health: Medical students will learn the fundamental principles and concepts that underpin public health practice, including disease prevention, health promotion, and population-based interventions.
- 2 - Examining the determinants of health: Students will explore the various social, behavioral, environmental, and biological factors that influence the health of populations and communities.
- 3 - Analyzing the epidemiology of diseases: Medical students will study the distribution and determinants of diseases in populations, including patterns of occurrence and risk factors.
- 4 - Learning about public health systems and policies: Students will gain insights into the structure and organization of public health systems, as well as the development and implementation of public health policies and programs.
- 5 - Addressing global health issues: The course may cover global health challenges and solutions, including infectious diseases, non-communicable diseases, and other emerging health threats.
- 6 - Emphasizing health equity and social determinants of health: Students will examine the impact of social and economic factors on health disparities and explore strategies to promote health equity.

Intended Learning Outcomes

- | | |
|------------------------------------|--|
| Knowledge and Understanding | <ul style="list-style-type: none">* Understand the key principles and concepts of public health, including disease prevention, health promotion, and population-based interventions.* Comprehend the determinants of health and the social, behavioral, environmental, and biological factors that influence population health outcomes.* Analyze public health systems, policies, and research methods, and apply this knowledge to address health disparities, advocate for evidence-based policies, and promote health equity |
| Intellectual Skills | <ul style="list-style-type: none">* Apply critical thinking and analytical skills to evaluate public health data, research findings, and epidemiological patterns.* Develop skills in problem-solving and decision-making to address public health challenges, including the development and implementation of effective interventions.* Communicate effectively and collaborate with interdisciplinary teams to promote public health initiatives and advocate for evidence-based policies. |
| Professional Skills | <ul style="list-style-type: none">* Develop proficiency in utilizing public health data and research to inform evidence-based medical practice and decision-making* Demonstrate effective communication and collaboration skills when working with diverse stakeholders in public health settings, including patients, communities, and interdisciplinary teams* Apply ethical principles and considerations to navigate public health challenges, including issues related to health equity, social justice, and advocacy for vulnerable populations. |

Course Contents

- 1 - Introduction to Public Health
- 2 - Epidemiology and Biostatistics
- 3 - Determinants of Health
- 4 - Public Health Systems and Policies
- 5 - Infectious Disease Control and Prevention
- 6 - Chronic Disease Prevention and Management
- 7 - Environmental Health
- 8 - Global Health
- 9 - Health Promotion and Communication
- 10 - Ethics and Legal Issues in Public Health
- 11 - Research Methods in Public Health
- 12 - Health Disparities and Health Equity

Teaching and Learning Methods

- 1 - Lectures
- 2 - Small group discussions
- 3 - Seminars

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Midterm		30
Quizes		30
Final exam		40

Books and References

Recommended books "Principles of Epidemiology in Public Health Practice" by CDC (Centers for Disease Control and Prevention)
Public Health 101: Improving Community Health" by Richard Riegelman
Introduction to Public Health" by Mary-Jane Schneider

MDCN1203 French language (1)

Course type College Needs Level 1 hours (theoretical) 2 hours (practical) 0

Course Objectives

- 1 - Demonstrating, at a minimum, the basic-level of proficiency in speaking the French language.
- 2 - Making relevant topics in the basic-level spoken form in the French language.
- 3 - Analysis of relevant topics in the basic-level written form in the French language.
- 4 - Interpretation of the basic-level practices, products, and perspectives of cultures using the French language.

Intended Learning Outcomes

Knowledge and Understanding	<ul style="list-style-type: none"> * Students should be able after the course to make relevant topics in the basic-level spoken form in the French language. * Students should be able after the course to analyze relevant topics in the basic-level written form in the French language.
Intellectual Skills	<ul style="list-style-type: none"> * Students will should be able after the course to demonstrate, at a minimum, the basic-level of proficiency in speaking the French language. * Students should be able after the course to interpret the basic-level practices, products, and perspectives of cultures using the French language.

Course Contents

<ol style="list-style-type: none"> 1 - Basic-level French vocabulary 2 - Basic-level French Reading paragraphs 3 - Basic-level French listening exercises 4 - Basic-level French speaking activities
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Teaching and Learning Methods

<ol style="list-style-type: none"> 1 - Lectures 2 - Small group discussions 3 - Seminars

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Midterm Exam		30
Quizzes		30
Final Exam		40

Books and References

Course note	Basic French language study bindings
Recommended books	Bienvvenue French book 1

MDCN1201	Hebrew language (1)					
Course type	College Needs	Level	1	hours (theoretical)	2	hours (practical) 0

MDCN1202	German language (1)					
Course type	College Needs	Level	1	hours (theoretical)	2	hours (practical) 0

Course Objectives

- 1 - Analysis of relevant topics in the basic-level written form in the German language.
- 2 - Demonstrating, at a minimum, the basic-level of proficiency in speaking the German language.
- 3 - Making relevant topics in the basic-level spoken form in the German language.
- 4 - Interpretation of the basic-level practices, products, and perspectives of cultures using the German language.

Intended Learning Outcomes

- | | |
|------------------------------------|--|
| Knowledge and Understanding | <ul style="list-style-type: none">* Students should be able after the course to make relevant topics in the basic-level spoken form in the German language.* Students should be able after the course to analyze relevant topics in the basic-level written form in the German language. |
| Intellectual Skills | <ul style="list-style-type: none">* Students will should be able after the course to demonstrate, at a minimum, the basic-level of proficiency in speaking the German language.* Students should be able after the course to interpret the basic-level practices, products, and perspectives of cultures using the German language. |

Course Contents

- 1 - Basic-level German vocabulary
- 2 - Basic-level German Reading paragraphs
- 3 - Basic-level German listening exercises
- 4 - Basic-level German speaking activities

Teaching and Learning Methods

- 1 - Seminars
- 2 - Lectures
- 3 - Small group discussions

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Midterm		30
Quizzes		30
Final exam		40

Books and References

Course note Basic German language presentation
Recommended books MENSCHEN Book A1

ISLM2105	Holy Quran (2)					
Course type	UNIV Needs	Level	1	hours (theoretical)	1	hours (practical) 0

ISLM1101	Holy Quran (1)						
Course type	UNIV Needs	Level	1	hours (theoretical)	1	hours (practical)	0

GEOL3203	Environmental Sciences						
Course type	UNIV Needs	Level	1	hours (theoretical)	2	hours (practical)	0

Course Objectives

1 - The main aim of the course is to classify the components of the environment and its elements and effects (pollution) that affect the ecological balance.

Intended Learning Outcomes

Knowledge and Understanding	* In this course the students can find out the environment and its elements and components, environmental balance, energy flow in the environment, the environmental envelops, and biogeochemical cycles affecting the ecological balance. As well as local and global pollution issues that lead to ecosystem degradation and the impact of pollution issues on human health. In addition the environmental of Palestine.
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Course Contents

- 1 - Introduction to Environment and Ecology (1)
- 2 - Outline of earth envelops (2)
- 3 - Natural biogeochemical cycles in the environment (3)
- 4 - Environmental pollution (4)
- 5 - Human health and the environment (5)
- 6 - The environment of Palestine (6)

Teaching and Learning Methods

- 1 - Lectures presentation by Power Point Projector
- 2 - Shore research report on the subject of pollution topic

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Attendance and participation + short report and search on the subject of pollution + Final Exam		Attendance (10 marks) + report (10 marks) + Final Exam (80 marks)

Books and References

Course note	Lecture notes
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Knowledge and Skills Matrix

Main Course Contents	Study Week	Knowledge and Understanding	Intellectual Skills	Professional Skills	General Skill
(1) (Introduction to Environment and Ecology	first and second				
(2)Outline of earth envelops	Third and fourth				
(3)Natural biogeochemical cycles in the environment	Fifth and sixth				
(4)Environmental pollution	Seventh, eighth, ninth and tenth				
(5)Human health and the environment	Eleventh, twelfth, and thirteenth				
(6)The environment of Palestine	Fourteenth and fifteenth				

MDCN2314 Immunology

Course type College Needs Level 2 hours (theoretical) 3 hours (practical) 0

Course Objectives

- 1 - Understand the fundamental principles of immunology and their relevance to clinical practice.
- 2 - Develop skills in the interpretation of immunological laboratory tests and their clinical implications.
- 3 - Apply knowledge of immunological mechanisms to diagnose and manage immunological disorders.

Intended Learning Outcomes

Knowledge and Understanding	<ul style="list-style-type: none"> * Understand the basic components and functions of the immune system and their clinical significance * Comprehend the pathophysiology of common immunological disorders and their clinical manifestations * Gain knowledge of immunotherapeutic approaches, including vaccinations, immunosuppressive therapy, and targeted immunomodulatory agents.
Intellectual Skills	<ul style="list-style-type: none"> * Analyze clinical scenarios and apply immunological concepts to formulate accurate diagnoses and treatment plans. * Critically evaluate scientific literature and research findings in the field of clinical immunology. * Apply critical thinking skills to interpret immunological laboratory data and correlate them with clinical presentations
Professional Skills	<ul style="list-style-type: none"> * Apply evidence-based approaches to diagnose and manage immunological disorders in clinical settings * Communicate effectively with patients, colleagues, and interdisciplinary teams regarding immunological conditions and treatment options

Course Contents

- 1 - Introduction to Immunology
- 2 - Immunological Techniques and Tools
- 3 - Innate Immunity
- 4 - Adaptive Immunity
- 5 - Antigen Recognition and Processing
- 6 - Antibody Structure and Function
- 7 - Cell-Mediated Immunity
- 8 - Immunological Disorders and Hypersensitivity
- 9 - Vaccines and Immunization
- 10 - Transplantation Immunology

Teaching and Learning Methods

- 1 - Lectures
- 2 - Interactive Discussions
- 3 - Small Group Activities
- 4 - Online Resources and Virtual Tools
- 5 - Self-Directed Study

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Midterm		30
Quizes		30
Final examination		40

Books and References

Recommended books "Basic Immunology: Functions and Disorders of the Immune System" by Abul K. Abbas, Andrew H. Lichtman, Shiv Pillai
"Janeways Immunobiology" by Kenneth Murphy, Paul Travers, Mark Walport

MDCN2315 General Pathology

Course type College Needs Level 2 hours (theoretical) 3 hours (practical) 1

Course Objectives

- 1 - Understand the definition and application of pathology, including its role in the diagnosis, treatment, and prevention of diseases.
- 2 - Develop knowledge of cellular and molecular pathology, including the pathogenesis of cell injury, inflammation, and repair.
- 3 - Understand the ethical and social considerations surrounding the diagnosis, treatment, and prevention of diseases and the role of pathology in public health.
- 4 - Study of the pathogenesis of diseases and the corresponding microscopic and gross changes to tissues
- 5 - Understand the role of genetics, immune system, and environmental factors in the development and progression of diseases.
- 6 - Understand the role of genetics, immune system, and environmental factors in the development and progression of diseases.

Intended Learning Outcomes

Knowledge and Understanding

- * An understanding of the basic principles of pathology, including cellular and molecular mechanisms of disease.
- * Familiarity with the general pathological processes that contribute to disease development and progression ,including the morphological and functional changes that occur in different organs in response to diseases.
- * The ability to interpret pathological findings under microscope and correlate them with clinical manifestations of disease.
- * Understanding of modern diagnostic techniques used to identify and characterize various diseases.
- * Understanding of the role of genetics, immune system, and environmental factors in the development and progression of diseases.

Course Contents

- 1 - Introduction
- 2 - Inflammation and healing
- 3 - Cell Death
- 4 - Disturbance in cell metabolism
- 5 - Infections: Bacterial , viral , parasitic diseases
- 6 - Disturbance in cell growth
- 7 - Circulatory disturbances
- 8 - Neoplasia

Teaching and Learning Methods

- 1 - Lectures
- 2 - Practical pathological slides examination under microscope in labs

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Mid-term exam		30
Final exam		40
Labs		20
Assignment		10

Books and References

Essential books	Robbins basic pathology
Recommended books	1. Robbins basic pathology. ISBN-13: 978-0323353175. Vinay Kumar, Kumar, Vinay; Abbas, Abul K; Aster, Jon C. Elsevier Health Sciences,2017 2. General and Systemic Pathology. (5th Edition). Underwood, J.C.E and Cross, S.S. London. Churchill Livingstone, 2009. 3. Wheater's Functional Histology: A Text and Colour Atlas (5th Edition). Yong, B., Health, J.W., Lowe, J.S. and Stevens, A. Elsevier:Churchil Livingstone, 2006

Knowledge and Skills Matrix

Main Course Contents	Study Week	Knowledge and Understanding	Intellectual Skills	Professional Skills	General Skill
Introduction	week #1	1,2			
Inflammation and healing	week # 2,3	1,2,3			
Cell Death	week # 4 , 5	1,2,3,4			
Disturbance in cell metabolism	week # 6,7	1,2,3,4			
Infections: Bacterial , viral , parasitic diseases	week #8	1,2,3,4,5			
Disturbance in cell growth	week #9	1,2,3,4			
Circulatory disturbances	week # 10, 11	1,2,3,4			
Neoplasia	week # 12,13,14	1,2,3,4,5			

MDCN2313	General pharmacology				
Course type	Major Needs	Level	2	hours (theoretical)	3
				hours (practical)	0

Course Objectives

- 1 - Understand the Principles of Pharmacology: Students should develop a solid understanding of the fundamental principles of pharmacology, including drug classification, mechanisms of drug action, pharmacokinetics, pharmacodynamics, and drug interactions
- 2 - Learn Drug Administration and Dosage Forms: Students should gain knowledge of different routes of drug administration and dosage forms, including oral, parenteral, topical, and inhalation routes. They should understand the factors affecting drug absorption, distribution, metabolism, and excretion
- 3 - Identify and Classify Drugs: Students should be able to identify and classify commonly used drugs based on their pharmacological properties, therapeutic uses, and adverse effects. They should understand the rationale behind drug classification systems
- 4 - Understand Drug-Receptor Interactions: Students should learn about drug-receptor interactions, including receptor binding, agonists, antagonists, and the concept of drug affinity and efficacy. They should be able to explain the mechanism of drug action at the molecular level
- 5 - Recognize Pharmacokinetic Parameters: Students should develop an understanding of pharmacokinetic parameters, including drug absorption, distribution, metabolism, and excretion. They should be able to calculate and interpret pharmacokinetic parameters such as half-life, clearance, and volume of distribution
- 6 - Understand Adverse Drug Reactions and Drug Safety: Students should learn about adverse drug reactions, including toxicities, allergies, idiosyncratic reactions, and drug-drug interactions. They should understand the importance of drug safety, adverse event reporting, and pharmacovigilance
- 7 - Pharmacotherapy and Therapeutic Decision-Making: Students should acquire skills in pharmacotherapy, including selecting appropriate drugs for specific disease states, individualizing drug therapy based on patient factors, and considering evidence-based guidelines and principles of rational drug use
- 8 - Evaluate Drug Literature and Clinical Trials: Students should develop skills in critically evaluating drug literature, including clinical trials, systematic reviews, and meta-analyses. They should understand the principles of evidence-based medicine and its application to pharmacological decision-making
- 9 - Ethical and Legal Considerations: Students should understand the ethical and legal aspects of pharmacology, including informed consent, off-label drug use, medication errors, drug marketing, and regulations governing drug development and approval

Intended Learning Outcomes

Knowledge and Understanding

- * Students should be able to classify drugs based on their pharmacological properties, such as mechanism of action, therapeutic uses, chemical structure, and pharmacokinetic profiles
- * Students should demonstrate an understanding of drug absorption, distribution, metabolism, and excretion. They should be able to explain factors influencing these processes and calculate pharmacokinetic parameters
- * Students should acquire knowledge of the mechanisms of drug action, including drug-receptor interactions, enzyme inhibition, and modulation of cellular signaling pathways. They should understand the relationship between drug concentration and pharmacological response
- * Students should learn about drug-drug interactions, drug-food interactions, and drug interactions with other substances. They should be able to identify potential interactions and their implications for drug therapy
- * Students should gain knowledge of pharmacogenetic principles, including genetic variations affecting drug metabolism, individualized drug therapy, and the impact of genetic testing on treatment decisions

Intellectual Skills

- * Students should acquire problem-solving skills in pharmacology, allowing them to identify and resolve medication-related problems, such as drug interactions, adverse drug reactions, and individualized therapy considerations. They should apply their knowledge to develop appropriate strategies for optimal drug therapy
- * Students should be able to interpret pharmacological data, including drug concentration-time profiles, pharmacokinetic parameters, and dose-response relationships. They should analyze and synthesize data to make informed decisions regarding drug dosing, regimen adjustments, and therapeutic monitoring
- * Students should develop skills in critically evaluating pharmacological literature, including research articles, systematic reviews, and drug monographs. They should assess the quality and relevance of the literature, identify biases, and draw valid conclusions based on the available evidence
- * Students should demonstrate clinical reasoning skills in pharmacology, integrating knowledge from pharmacokinetics, pharmacodynamics, and patient factors to make sound therapeutic decisions. They should be able to analyze patient-specific information and develop individualized drug therapy plans
- * Students should develop skills in identifying and managing medication-related risks, including adverse drug reactions, medication errors, and drug interactions. They should be able to contribute to pharmacovigilance efforts and promote patient safety in pharmacological practice

Professional Skills

- * Students should develop skills in effectively managing medications, including accurate and timely prescription writing, medication order review, dosage calculations, and medication administration techniques. They should demonstrate attention to detail and adhere to safe medication practices
- * Students should demonstrate the ability to work collaboratively with other healthcare professionals, such as physicians, nurses, pharmacists, and allied health professionals, in the management of pharmacotherapy. They should effectively communicate and contribute to interprofessional teams to optimize patient outcomes
- * Students should acquire effective communication skills to provide patient-centered counseling on medication use, including proper administration, potential side effects, drug interactions, and adherence strategies. They should be able to educate patients on the appropriate use and potential risks of medications

Professional Skills

- * Students should demonstrate knowledge of medication safety principles, including error prevention, adverse event reporting, and risk management strategies. They should identify and mitigate potential medication-related risks and contribute to promoting patient safety in pharmacological practice
- * Students should develop skills in accurate and comprehensive documentation of medication-related information, including medication histories, medication reconciliations, adverse drug reactions, and therapeutic monitoring. They should adhere to legal and ethical standards in record-keeping

General Skill

- * Students should develop effective oral and written communication skills to convey complex pharmacological concepts to patients, healthcare professionals, and other stakeholders. They should be able to explain drug therapy, provide clear instructions, and document medication-related information accurately
- * Students should acquire numeracy skills necessary for pharmacological calculations, such as dosage calculations, infusion rates, and pharmacokinetic calculations. They should be able to interpret numerical data and perform calculations accurately
- * Students should demonstrate attention to detail in pharmacological practice, including accurate medication orders, proper dosage calculations, and diligent review of medication-related information. They should be able to identify and prevent potential medication errors
- * Students should develop effective time management skills to prioritize tasks, meet deadlines, and efficiently manage medication-related responsibilities. They should be able to balance multiple priorities and optimize workflow in pharmacological practice
- * Students should develop skills in working collaboratively with colleagues, healthcare professionals, and patients to achieve optimal medication-related outcomes. They should be able to contribute effectively to interprofessional teams and respect diverse perspectives

Course Contents

- 1 - Introduction to Pharmacology
- 2 - Pharmacokinetics
- 3 - Pharmacodynamics
- 4 - Pharmacogenetics and Personalized Medicine
- 5 - Central Nervous System Pharmacology
- 6 - Cardiovascular Pharmacology
- 7 - Anti-Infective Pharmacology
- 8 - Pharmacology of Inflammation and Immune System
- 9 - Endocrine Pharmacology
- 10 - Gastrointestinal and Renal Pharmacology
- 11 - Chemotherapy and Cancer Pharmacology
- 12 - Herbal and Alternative Medicines
- 13 - Ethical and Legal Considerations in Pharmacology

Teaching and Learning Methods

- 1 - Lectures
- 2 - Small-Group Discussions
- 3 - Case-Based Learning
- 4 - Problem-Based Learning
- 5 - Laboratory Sessions
- 6 - Computer-Assisted Learning
- 7 - Clinical Rotations and Observations
- 8 - Medication Case Presentations
- 9 - Guest Lectures and Expert Panels
- 10 - Online Resources and E-Learning

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
First exam	6th week	20
attendance	At the end of the course	10
Research	8th week	20
Final exam	At the end of the course	50

Books and References

Essential books	Lippincott Illustrated Reviews: Pharmacology by Richard A. Harvey, Pamela C. Champe, and Bruce D. Fisher
Recommended books	Basic and Clinical Pharmacology by Bertram G. Katzung, Anthony J. Trevor, and Marieke Knudering-Hall Pharmacology: Principles and Practice by Miles Hacker, William S. Messer Jr., and Kenneth A. Bachmann
Other References (Periodical, web sites, etc.)	National Center for Biotechnology Information (NCBI) https://www.ncbi.nlm.nih.gov Clinical Pharmacology and Therapeutics by Gerard A. McKay, Neil R. A. McIntyre, and Peter J. L. McLachlan

MDCN2312		General Microbiology			
Course type	College Needs	Level	2	hours (theoretical)	3
				hours (practical)	1

Course Objectives

- 1 - 1) To provide basic knowledge of microorganisms and their relationship to humans in health and disease.
- 2 - 2) To understand the basic structure of bacteria, viruses, fungi and protozoa as it relates to their pathogenicity and classification. Microbial physiology, genetics and control is covered in relation to medical microbiology.
- 3 - 3) To introduce the students to the application of microbiology in different fields of medical practice
- 4 - 4) Provide the students with the basic information about the different types of antimicrobial therapy, their use and their mode of action

Intended Learning Outcomes

Knowledge and Understanding	* The course introduces students to basic concepts of microorganism and human infections.
Intellectual Skills	* This course will prepare the student to think deeply in any case of infectious diseases in the future when he finished this basic course of microbiology
Professional Skills	* This course will build up the second year medical students with a solid basic concepts in the field of microbiology which will support their professional skills in diagnosis of infectious diseases while they are in the clinical study period
General Skill	* Understanding and practicing the basic knowledge of microorganisms and their relationship to humans in health and disease.

Course Contents

1 - Introduction to the Microbial World
2 - Bacterial Cell – Structure and Function
3 - Classification of Bacteria and Diagnostic Methods
4 - Bacterial Physiology and Growth Requirements
5 - Bacterial Genetics
6 - Normal Flora of the Body
7 - Pathogenic Mechanisms
8 - Transmission and Spread of Microorganisms
9 - Antimicrobial Agents
10 - Sterilization and Disinfection
11 - Basic Virology part I and II
12 - Bacterial and viral vaccines
13 - Introduction to Mycology & Parasitology

Teaching and Learning Methods

1 - The main teaching methods are PowerPoint lectures, seminars and discussion focusing groups.
2 - Also practical sessions as applications to what covered in the theoretical part

Teaching and Learning Methods for the Disabled Students

1 - Almost all the same methods for others, but I did not meet any disabled medical student in my class.
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Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Three Quizzes	During the semester	30%
Midterm exam	Mid of the semester	20%
Final Theoretical exam	At the end of the semester	40%
Final Practical Exam	At the end of the semester	10%

Books and References

Course note	Printed PowerPoint lectures
Essential books	1. Review_of_Medical_Microbiology_and_Immunology_by_Warren_E_Levinson_2020 2. Jawetz_Melnick__Adelbergs_Medical_Microbiology_-_27Edition
Recommended books	John Wiley & Sons, Limited, 2005 - Medical microbiology - 698 pages. By Fritz H. Kayser
Other References (Periodical, web sites, etc.)	CDC website; ECMD website and WHO website

MDCN2321 Metabolic Biochemistry

Course type	College Needs	Level	2	hours (theoretical)	2	hours (practical)	1
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Course Objectives

- 1 - To provide a comprehensive understanding of the fundamental principles and concepts of metabolic biochemistry.
- 2 - To explore the biochemical pathways involved in the metabolism of carbohydrates, lipids, and proteins.
- 3 - To examine the interconnections and regulation of metabolic pathways.
- 4 - To understand the role of vitamins and minerals in metabolism.
- 5 - To analyze metabolic disorders and their underlying biochemical mechanisms.
- 6 - To foster an appreciation for the clinical relevance of metabolic biochemistry.

Intended Learning Outcomes

Knowledge and Understanding	<ul style="list-style-type: none"> * Knowledge: Demonstrating a solid understanding of the major metabolic pathways, including carbohydrate, lipid, and protein metabolism. * Comprehension: Explaining the interconnections and regulation of metabolic pathways and the role of vitamins and minerals in metabolism.
Intellectual Skills	<ul style="list-style-type: none"> * Analysis: Critically evaluating scientific literature and experimental data related to metabolic biochemistry and drawing meaningful conclusions. * Synthesis: Integrating knowledge from different metabolic pathways and applying it to complex scenarios or case studies. * Evaluation: Assessing the clinical relevance of metabolic biochemistry and its implications for disease diagnosis, treatment, and prevention.
Professional Skills	<ul style="list-style-type: none"> * 7. Communication: Effectively communicating scientific concepts related to metabolic biochemistry, both orally and in written form.
General Skill	<ul style="list-style-type: none"> * Critical Thinking: Developing critical thinking skills to analyze and evaluate information related to metabolic biochemistry. * Problem-Solving: Applying problem-solving skills to address complex issues and challenges in metabolic biochemistry.

Course Contents

- 1 - Introduction to Metabolic Biochemistry
- 2 - Carbohydrate Metabolism
- 3 - Lipid Metabolism
- 4 - Protein Metabolism
- 5 - Metabolism of Nucleotides and Nucleic Acids
- 6 - Vitamins and Coenzymes
- 7 - Metabolic Regulation and Hormonal Control
- 8 - Metabolic Integration and Interorgan Coordination
- 9 - Metabolic Diseases and Disorders
- 10 - Metabolic Biochemistry and Aging
- 11 - Metabolic Biochemistry and Cancer
- 12 - Metabolic Biochemistry and Exercise Physiology
- 13 - Metabolic Biochemistry and Drug Metabolism
- 14 - Emerging Topics in Metabolic Biochemistry

Teaching and Learning Methods

- 1 - Lectures: Delivering traditional lectures to provide essential concepts, explanations, and foundational knowledge. Use visual aids, such as slides or diagrams, to support learning.
- 2 - Interactive Discussions: Engage students in discussions on specific topics, encouraging them to ask questions, share their perspectives, and critically analyze metabolic processes. This can be done through small group discussions, case studies, or debates.
- 3 - Problem-Based Learning (PBL): Present real-world scenarios or case studies that require students to apply their knowledge of metabolic biochemistry to solve problems. PBL promotes critical thinking, problem-solving skills, and the integration of knowledge from multiple sources.
- 4 - Laboratory Sessions: Conduct hands-on laboratory experiments related to metabolic biochemistry, such as enzyme assays or metabolic pathway analysis. This provides students with practical experience and reinforces theoretical concepts.
- 5 - Virtual Simulations: Utilize virtual simulations or online platforms that allow students to explore metabolic pathways and manipulate variables to observe the effects. Virtual simulations can enhance understanding and provide opportunities for self-paced learning.
- 6 - Multimedia Resources: Incorporate multimedia resources, such as videos, animations, and online interactive modules, to illustrate complex biochemical processes, enhance visual learning, and provide additional explanations.
- 7 - Guest Speakers: Invite experts or professionals from the field of metabolic biochemistry to deliver guest lectures or share their experiences. This exposes students to real-world applications and provides valuable insights.

Teaching and Learning Methods for the Disabled Students

- 1 - Provide Accessibility: Ensure that the learning environment is physically accessible, with appropriate accommodations for students with mobility disabilities. This may include wheelchair-accessible desks, ramps, and elevators.
- 2 - Use Assistive Technologies: Explore and utilize assistive technologies that can aid students with disabilities in accessing the course materials. This can include screen readers, speech-to-text software, magnification tools, or adaptive keyboards.
- 3 - Provide Captioning and Transcripts: Provide captions for videos and audio materials to assist students with hearing impairments. Additionally, provide transcripts for audio content to facilitate access for students with hearing impairments or those who prefer written text.
- 4 - Flexible Course Materials: Provide course materials, such as lecture slides or handouts, in accessible formats. This may include providing materials in electronic formats that can be enlarged, converted to braille, or accessed with screen readers.
- 5 - Clear Communication: Use clear and concise language when delivering lectures or providing instructions. Repeat important points and allow time for questions and clarification. Consider providing lecture outlines or summaries to assist students with cognitive disabilities.
- 6 - Break Down Complex Concepts: Break down complex concepts into smaller, more manageable parts. Use visual aids, diagrams, and real-life examples to enhance understanding. This can benefit students with cognitive disabilities or learning differences.

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Quizzes	each week	30
midterm	the 7th week	30
final	the 14th week	30

Books and References

Course note	https://www.biochemden.com/
Essential books	"Harpers Illustrated Biochemistry" by Victor W. Rodwell, David A. Bender, Kathleen M. Botham, Peter J. Kennelly, P. Anthony Weil. "Lippincotts Illustrated Reviews: Biochemistry" by Denise R. Ferrier
Recommended books	"Biochemical Pathways: An Atlas of Biochemistry and Molecular Biology" by Gerhard Michal, Dietmar Schomburg, and Andreas B. Hofmeyr. "Metabolic Regulation: A Human Perspective" by Keith N. Frayn.
Other References (Periodical, web sites, etc.)	"Biochemistry," "Journal of Biological Chemistry," "Annual Review of Biochemistry," and "Trends in Biochemical Sciences." https://www.asbmb.org/

MDCN2416 Molecular Biology & Genetics

Course type College Needs Level 2 hours (theoretical) 4 hours (practical) 0

Course Objectives

- 1 - Understand the fundamental concepts of molecular biology and genetics
- 2 - Gain knowledge of genetic inheritance patterns and genetic disorders.
- 3 - Understand the impact of genetic variation on human health and disease.
- 4 - Explore the role of genetics in personalized medicine and pharmacogenomics.
- 5 - Familiarize students with the ethical, legal, and social implications of genetics.
- 6 - Explore the structure and function of DNA, RNA, and proteins.
- 7 - Comprehend the principles of gene expression and regulation.
- 8 - Learn about the techniques and tools used in molecular biology and genetic research.

Intended Learning Outcomes

Knowledge and Understanding	<ul style="list-style-type: none">* Demonstrate a thorough understanding of the fundamental principles and concepts of molecular biology and genetics.* Recognize and explain the relationship between genetic variations and the development of human diseases, including genetic disorders and cancer* Demonstrate competence in laboratory techniques commonly used in molecular biology and genetics research.* Understand the principles of genetic inheritance, including Mendelian and non-Mendelian patterns, and apply them to solve genetic problems.
Intellectual Skills	<ul style="list-style-type: none">* Critically analyze scientific literature in the field of molecular biology and genetics, and effectively communicate findings and concepts through oral and written presentations.* Evaluate the ethical, legal, and social implications of advances in molecular biology and genetics, including genetic testing and gene editing technologies.
Professional Skills	<ul style="list-style-type: none">* Explain the mechanisms of gene expression and regulation and their role in cellular processes and development.* Analyze and interpret genetic data using appropriate tools and techniques, such as PCR, DNA sequencing, and gene expression analysis.
General Skill	<ul style="list-style-type: none">* Apply knowledge of DNA, RNA, and protein structure and function to explain molecular processes and their significance in biological systems.* Encourage students to consider ethical issues and dilemmas related to molecular biology and genetics research, such as privacy concerns, informed consent, and the responsible use of genetic information.

Course Contents

- 1 - Introduction to Molecular Biology and Genetics:
- 2 - Gene Expression and Regulation:
- 3 - Molecular Techniques and Tools:
- 4 - Genetic Inheritance:
- 5 - Human Genetics and Genetic Disorders:
- 6 - Molecular Basis of Disease:
- 7 - Genetic Variation and Population Genetics:
- 8 - Genetic Testing and Genomic Medicine:
- 9 - Ethical, Legal, and Social Implications (ELSI) of Genetics:
- 10 - Emerging Topics in Molecular Genetics:

Teaching and Learning Methods

- 1 - Lectures: Use lectures to provide foundational knowledge and explanations of key concepts. Incorporate visual aids, such as slides or diagrams, to enhance understanding. Consider using active learning techniques within lectures, such as think-pair-share or concept mapping, to promote student engagement.
- 2 - Case Studies: Present real-life case studies that require students to apply their knowledge of molecular biology and genetics to analyze and solve problems. This approach helps students connect theoretical concepts to practical situations and enhances critical thinking skills.
- 3 - Laboratory Work: Organize laboratory sessions where students can apply theoretical knowledge to practical experiments. This hands-on approach allows students to gain familiarity with molecular biology and genetic techniques, such as DNA extraction, PCR, gel electrophoresis, and gene expression analysis.
- 4 - Group Discussions: Encourage group discussions where students can engage in peer-to-peer learning and collaborative problem-solving. Assign specific topics or research papers for students to review and discuss in groups, promoting active participation and the exchange of ideas.
- 5 - Guest Speakers: Invite guest speakers, such as researchers or clinicians, to share their experiences and expertise in the field of medical molecular and genetics. This provides students with insights into real-world applications and career paths.

Teaching and Learning Methods for the Disabled Students

- 1 - Universal Design for Learning (UDL): Implement UDL principles, which aim to provide multiple means of representation, engagement, and expression. This involves offering content in various formats (e.g., visual, auditory), providing multiple ways for students to engage with the material, and offering flexible options for students to demonstrate their understanding.
- 2 - Accommodations and Modifications: Work with disability support services at your institution to identify appropriate accommodations or modifications for students with disabilities. This could include providing extra time for exams, offering assistive technology, providing captioning or transcripts for audiovisual materials, or providing note-taking assistance.
- 3 - Visual Aids and Captioning: Use visual aids such as diagrams, charts, and images to enhance understanding. Ensure that visual materials are clear and accessible to all students. When using videos or multimedia resources, provide captioning or transcripts to support students with hearing impairments.
- 4 - Lecture Materials and Handouts: Provide lecture materials, including slides, handouts, or lecture notes, in advance to give students the opportunity to review and familiarize themselves with the content. This allows students with learning disabilities or attention-related challenges to engage with the material at their own pace.
- 5 - Assistive Technology: Familiarize yourself with assistive technology tools that can support students with disabilities. For example, screen readers can assist visually impaired students, while speech-to-text software can support students with motor disabilities. Collaborate with disability support services to identify and implement appropriate assistive technology solutions.

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Quizzes		30
midterm		30
final		40

Books and References

Essential books	<p>"Molecular Biology of the Cell" by Bruce Alberts, Alexander Johnson, Julian Lewis, et al. This comprehensive textbook provides a thorough understanding of molecular biology concepts, including genetics, gene expression, and cellular processes.</p> <p>"Principles of Genetics" by Peter Snustad and Michael Simmons. This book covers the principles of genetics, including Mendelian and molecular genetics, population genetics, and genetic analysis techniques.</p>
Recommended books	<p>"Human Molecular Genetics" by Tom Strachan and Andrew Read. This textbook focuses on the principles of human genetics, including genetic diseases, inheritance patterns, and genomic medicine.</p> <p>"Introduction to Genetic Analysis" by Anthony J.F. Griffiths, Susan R. Wessler, Sean B. Carroll, et al. This widely used textbook introduces the principles and techniques of genetic analysis, including molecular genetics and genetic engineering.</p>
Other References (Periodical, web sites, etc.)	<p>www.ncbi.nlm.nih.gov</p> <p>https://www.genome.gov/</p> <p>www.omim.org</p>

Knowledge and Skills Matrix

Main Course Contents	Study Week	Knowledge and Understanding	Intellectual Skills	Professional Skills	General Skill
Ethical, Legal, and Social Implications (ELSI) of Genetics: Gene Expression and Regulation: Molecular Basis of Disease: Introduction to Molecular Biology and Genetics: Molecular Techniques and Tools: Genetic Inheritance: Human Genetics and Genetic Disorders: Genetic Variation and Population Genetics: Emerging Topics in Molecular Genetics	14				

MDCN2228

Clinical Nutrition

Course type

Major Needs

Level

2

hours (theoretical)

2

hours (practical)

0

Course Objectives

- 1 - Understand the principles of human nutrition: Students should acquire a comprehensive understanding of the basic principles of human nutrition, including macronutrients (carbohydrates, proteins, and fats) and micronutrients (vitamins and minerals), as well as their roles in maintaining health and preventing diseases
- 2 - Evaluate nutritional needs: Students should be able to assess and evaluate the nutritional needs of individuals across the lifespan, taking into consideration factors such as age, sex, physiological status, and specific health conditions
- 3 - Interpret dietary patterns: Students should learn how to interpret dietary patterns and assess the nutritional adequacy of various diets. This includes understanding the different types of diets (e.g., vegetarian, vegan, Mediterranean) and their potential impacts on health
- 4 - Identify nutritional deficiencies and excesses: Students should be able to identify signs, symptoms, and consequences of nutritional deficiencies and excesses. They should understand the importance of laboratory tests and other diagnostic tools in assessing nutritional status
- 5 - Design and implement therapeutic diets: Students should learn to design and implement appropriate therapeutic diets for individuals with specific health conditions, such as diabetes, cardiovascular disease, renal disease, gastrointestinal disorders, and obesity
- 6 - Consider cultural and social factors: Students should recognize the influence of cultural, social, and economic factors on dietary choices and nutrition-related health outcomes. They should be able to provide culturally sensitive and contextually appropriate nutrition recommendations
- 7 - Assess nutritional interventions: Students should understand the evidence-based approach to evaluating the effectiveness of different nutritional interventions and therapies. They should be able to critically analyze research studies and apply the findings to clinical practice
- 8 - Stay updated with current research and trends: Students should develop the ability to stay updated with the latest research, guidelines, and emerging trends in the field of clinical nutrition. They should be able to critically evaluate new information and incorporate it into their practice
- 9 - Communicate effectively: Students should develop effective communication skills to educate and counsel individuals and groups about nutrition-related topics. They should be able to translate complex scientific concepts into clear and practical recommendations

Intended Learning Outcomes

Knowledge and Understanding	<ul style="list-style-type: none">* Demonstrate a comprehensive understanding of the fundamental principles of human nutrition, including macronutrients, micronutrients, and their roles in physiological processes* Explain the relationship between nutrition and the prevention, development, and management of various diseases and health conditions* Identify and analyze the nutritional needs of individuals across different life stages and health statuses* Critically evaluate research studies, scientific literature, and evidence-based guidelines related to clinical nutrition* Describe the social, cultural, economic, and environmental factors that influence dietary choices and nutritional status* Cultural Competence: Demonstrate cultural sensitivity and competence in providing nutrition care to individuals from diverse cultural backgrounds, respecting their beliefs, practices, and preferences related to food and health
Intellectual Skills	<ul style="list-style-type: none">* Problem Solving: Identify and analyze complex nutritional problems and develop appropriate strategies and interventions to address them, taking into consideration individual needs, cultural factors, and health conditions* Analytical Thinking: Apply critical thinking skills to evaluate and interpret scientific literature, research studies, and nutrition-related data, and use evidence-based reasoning to make informed decisions in clinical nutrition practice* Data Interpretation: Demonstrate the ability to collect, analyze, and interpret nutritional data, including dietary assessments, biochemical markers, and anthropometric measurements, to assess nutritional status and guide nutrition interventions* Information Literacy: Access, evaluate, and utilize a wide range of nutrition-related information sources, including scientific journals, databases, and professional guidelines, to stay updated with current research and trends in clinical nutrition* Lifelong Learning: Develop a commitment to lifelong learning by seeking out opportunities for professional development, staying updated with advancements in the field of clinical nutrition, and engaging in continuous self-reflection and improvement
Professional Skills	<ul style="list-style-type: none">* Patient Counseling: Apply counseling techniques and motivational interviewing skills to effectively educate, empower, and support individuals in making informed nutrition decisions and behavior changes* Interprofessional Collaboration: Collaborate effectively with healthcare professionals from different disciplines, such as physicians, nurses, and dietitians, to provide comprehensive and coordinated patient care that integrates nutrition interventions* Documentation and Record-Keeping: Develop proficiency in maintaining accurate and detailed documentation of nutrition assessments, interventions, and outcomes in compliance with legal and regulatory requirements* Time Management and Organization: Effectively manage time and resources to prioritize and meet the demands of clinical nutrition practice, including timely completion of assessments, documentation, and patient follow-ups* Quality Improvement: Participate in quality improvement initiatives by identifying opportunities for practice improvement, implementing evidence-based changes, and evaluating outcomes to enhance the delivery of nutrition care* Communication: Demonstrate effective communication skills, both written and oral, in conveying nutrition-related information to individuals, groups, and interdisciplinary healthcare teams

General Skill

- * **Nutritional Assessment:** Gain competency in conducting comprehensive nutritional assessments, including dietary analysis, medical history review, and physical examination, to identify nutritional needs and develop individualized nutrition care plans
- * **Meal Planning and Modification:** Demonstrate the ability to design and modify meal plans that meet the nutritional needs of individuals with specific health conditions, taking into account dietary restrictions, cultural preferences, and individualized goals
- * **Educational Strategies:** Develop effective educational strategies and materials to communicate nutrition information and promote behavior change, tailoring approaches to diverse audiences and considering cultural and socioeconomic factors
- * **Technology Utilization:** Utilize technology tools and software, such as nutrition analysis software, electronic health records, and mobile applications, to support nutrition assessment, monitoring, and communication in clinical practice
- * **Problem-Solving and Decision-Making:** Apply problem-solving skills and evidence-based decision-making approaches to address complex nutrition-related challenges and develop appropriate nutrition interventions for individuals with diverse needs and health conditions

Course Contents

- 1 - Introduction to Clinical Nutrition
- 2 - Macronutrients
- 3 - Micronutrients
- 4 - Nutrition through the Life Cycle
- 5 - Nutrition and Chronic Diseases
- 6 - Nutrition and Gastrointestinal Disorders
- 7 - Renal and Metabolic Disorders
- 8 - Nutrition Support
- 9 - Nutritional Counseling and Behavior Change
- 10 - Nutritional Epidemiology and Research
- 11 - Specialized Diets and Cultural Considerations

Teaching and Learning Methods

- 1 - Lectures
- 2 - Interactive Discussions
- 3 - Case Studies
- 4 - Practical Demonstrations
- 5 - Clinical Placements or Internships
- 6 - Group Projects
- 7 - Simulation Activities
- 8 - Guest Speakers
- 9 - Online Learning Platforms
- 10 - Laboratory Sessions

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
First exam	6th week	20
attendance	At the end of the course	10
Research	8th week	20
Final exam	At the end of the course	50

Books and References

Essential books	Nutrition in Clinical Practice by David L. Katz, Rachel S.C. Friedman, and Sean C. Lucan
Recommended books	Nutrition and Diagnosis-Related Care by Sylvia Escott-Stump, Lillian K. Mahan, and Kathleen M. Raymond Krauses Food & the Nutrition Care Process by L. Kathleen Mahan and Janice L. Raymond
Other References (Periodical, web sites, etc.)	Academy of Nutrition and Dietetics (AND) - www.eatright.org American Society for Parenteral and Enteral Nutrition (ASPEN) - www.nutritioncare.org

MDCN2624	Cardiovascular System					
Course type	Major Needs	Level	2	hours (theoretical)	5	hours (practical) 1

Course Objectives

- 1 - Identify the anatomy of mediastinum, heart chambers, valves, general and Topographic of the great vessels and their distribution
- 2 - Describe the microscopic appearance of different parts of the cardiovascular system, normal embryological development with their common congenital abnormalities
- 3 - Describe and understand the electrocardiogram cardiac cycle, hemodynamics, regulation of blood flow and blood pressure, microcirculations, and the mechanism of circulatory shock
- 4 - Understand the metabolism of the cardiac muscles and the value of the cardiac enzymes and Troponins and their role in the diagnosis of acute myocardial disease
- 5 - Recognize the characteristics of microorganisms that cause infection of the cardiovascular system, their pathogenicity and methods of identification
- 6 - Define with the more common types of cardiovascular diseases with emphasis on (etiology, mechanism, morphology and briefly to correlate the pathological aspects of diseases with clinical manifestations).
- 7 - Understand the mechanisms of action, pharmacokinetics, uses and adverse effects of commonly used drugs in the treatment of cardiac failure, cardiac arrhythmias, hypertension, angina and drugs used in hyperlipidemias

Intended Learning Outcomes

Knowledge and Understanding	<ul style="list-style-type: none"> * Explain and classify common cardiovascular conditions, including diagnostic tests and therapeutic approaches * Explain the electrical conductivity of the heart and factors that lead to common dysrhythmias
Intellectual Skills	<ul style="list-style-type: none"> * Analyze factors leading to hypertension, as well as approaches useful in preventing and treating the condition
General Skill	<ul style="list-style-type: none"> * Compare and contrast the various forms of shock and the basis of therapeutic interventions

Course Contents

- 1 - Mediastinum & pericardium (Anatomy)
- 2 - Heart chambers, valves Conductive system and Innervations of the heart (Anatomy)
- 3 - Development of The heart (Anatomy)
- 4 - Organization of CVS (Physiology)
- 5 - Histology of the myocardium and blood vessels (Anatomy)
- 6 - Surface anatomy of the CVS (Anatomy)
- 7 - Physiology of cardiac muscle (Physiology)
- 8 - ECG (Physiology)
- 9 - Cardiac arrhythmia (Physiology)
- 10 - Antiarrhythmic drugs (Pharmacology)
- 11 - Cardiac cycle (Physiology)
- 12 - Cardiac Output & Its regulation (Physiology)
- 13 - Pumping of the heart (Physiology)
- 14 - Metabolism in the cardiac muscle under physiological and pathological conditions (Biochemistry)
- 15 - Microbiology of carditis (Pathology)
- 16 - Valvular heart disease. Rheumatic fever and Rheumatic heart disease1 (Pathology)
- 17 - Endocarditis Myocarditis (Pathology)
- 18 - Cardiomyopathy-Pericardium and cardiac tumors (Pathology)
- 19 - Cardiac enzymes and other proteins markers (Biochemistry)
- 20 - Blood vessels I-Arterial system (Anatomy)
- 21 - Blood vessels II- Venous system (Anatomy)
- 22 - Development of the vascular system (Anatomy)
- 23 - Blood pressure (Physiology)
- 24 - Microcirculation (Physiology)
- 25 - Plasma lipoproteins and cholesterol(Biochemistry)
- 26 - Arteriosclerosis Atherosclerosis (Pathology)
- 27 - Antihypertensive drugs (Pharmacology)
- 28 - Hyperlipidemia (Pharmacology)
- 29 - Drugs used in the treatment of heart failure (Pharmacology)

Teaching and Learning Methods

- 1 - Lectures
- 2 - videos and simulation labs
- 3 - case scenario simulation of common clinical cases

Teaching and Learning Methods for the Disabled Students

- 1 - Lectures
- 2 - Help each student according to his needs and his condition

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
paper 1 exam	60	40
paper 2 exam	60	40
practical exam	60	20

Books and References

Course note	doctors lectures notes
Essential books	Clinical Anatomy for Medical Students. By R.S. Snell, 8th Edition, 2008
	Basic Histology. By L. Carlos Junqueira, 12th edition, 2010
	Textbook of Medical physiology. By Guyton and Hall, 11th edition, 2006
	Medical Microbiology. An Introduction to infectious Diseases. By Sheries, 5th edition, 2010. .
Recommended books	Basic Pathology. By Kumar, Cotran and Robbins, 8 th edition, 2009

MDCN2622

Respiratory System

Course type

Major Needs

Level

2

hours (theoretical)

5

hours (practical)

1

Course Objectives

- 1 - - Identify and describe the anatomy of respiratory system (upper and lower).
- 2 - - Describe microscopic appearance of different parts of respiratory system
- 3 - - Describe the normal embryological development with of respiratory system and common congenital abnormalities
- 4 - - Describe and understand the physiology of respiration and acid base balance
- 5 - - Recognize the characteristics of microorganisms that cause infection of the respiratory system
- 6 - - Understand and discuss different respiratory diseases
- 7 - - Understand the mechanisms of action, pharmacokinetics, uses and adverse effects of commonly used drugs in the treatment of common types of respiratory diseases

Intended Learning Outcomes

Knowledge and Understanding	* Describe the anatomical, biochemical and physiological basis for respiration in the human body
Intellectual Skills	* explain symptoms, signs, investigations, and forms of treatments of respiratory system's anomalies
Professional Skills	* Order and interpret results of relevant diagnostic procedures and apply safe methods of pharmacotherapy
General Skill	* Critically appraise research studies guided by evidence-based medicine and demonstrate ability to work in diverse settings and communities

Course Contents

- 1 - Overview of respiratory system The nose & Paranasal Sinuses
- 2 - The pharynx The larynx
- 3 - Thoracic wall Diaphragm and respiratory muscle
- 4 - Trachea, Bronchial tree Pleura & lungs
- 5 - Histology of respiratory system
- 6 - Types of Respiration, Functions of Respiratory Passageways
- 7 - Pulmonary Ventilation: Mechanics of Ventilation
- 8 - Pulmonary Circulation
- 9 - Transport of Oxygen and Carbon Dioxide in the Blood
- 10 - Oxygen haemoglobin saturation curve Contribution of respiratory system to Acid Base Balance.
- 11 - Lower respiratory tract bacterial infections Respiratory tract viral infections
- 12 - Obstructive lung disease Restrictive lung disease
- 13 - Drugs Used for Bronchial Asthma & COPD
- 14 - Pulmonary infections
- 15 - Immunological Diseases of Respiratory System

Teaching and Learning Methods

- 1 - discussions during lectures
- 2 - case scenario simulation of common clinical cases
- 3 - quizzes and homework

Teaching and Learning Methods for the Disabled Students

- 1 - Lectures
- 2 - Help each student according to his needs and his condition
- 3 - Revision and Discussion sections

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
paper 1 exam	60	40
paper 2 exam	60	40
practical exam	45	20

Books and References

Course note	Basic Histology. By Junqueira, Latest Edition Textbook of Medical physiology. By Guyton and Hall, Latest Edition
Essential books	Clinical Anatomy by Regions. By Richard S. Snell, 9th Edition. Human Physiology, from Cells to Systems. By Sherwood, Latest Edition Textbook of Biochemistry with Clinical Correlations. By Thomas Devlin, 7th edition Robbins Basic Pathology, 10th Edition. By Vinay Kumar, MBBS, MD, FRCPATH, Abul K. Abbas, MBBS and Jon C. Aster, MD, PhD Lippincott's Illustrated Reviews: Pharmacology, 7th edition
Recommended books	Sherris Medical Microbiology, Sixth Edition 2015, by Ryan KJ, Ray CG

Knowledge and Skills Matrix

Main Course Contents	Study Week	Knowledge and Understanding	Intellectual Skills	Professional Skills	General Skill
Introductory lecture	1	Understand the general outline of the respiratory system module	Be familiarized with the modalities of teaching throughout the course	Be introduced to the clinical implications of respiratory anatomy and physiology	Be introduced to the basic pulmonary function testing and arterial blood gases in respiratory diseases
Upper Respiratory Tract (Anatomy)	1	. Describe the structure of nasal cavity including nasal septum	Locate the openings of the paranasal air sinuses and naso-lacrimal duct in the meatus	Describe nasal innervations, blood supply and its relation to epistaxis	Study the structure of nasopharynx and associated openings with their clinical importance
Pulmonary Ventilation	1	Describe the mechanics of pulmonary ventilation	Describe changes in lung volumes, alveolar pressure, pleural pressure, and trans-pulmonary pressure during normal breathing	Describe the significance of the major volume and capacities that are recorded during normal function test	Describe the chemical composition and function of the surfactant
Lower Respiratory Tract (Anatomy)	1	Describe the structure of various cartilages and membranes of the trachea including its relations and subdivision, larynx	Describe muscles of the larynx including their action, nerve and blood supply		
Pleura, lung and mediastinum (Anatomy)	1	Define pleura and pleural cavity, and name its parts and recesses	Discuss the pleural nerve supply	Compare between right and left lungs by describing their lobes, fissures and surfaces	Be familiarized with the bronchopulmonary segments of each lung.

Alveolar ventilation (Physiology)	1	Define alveolar ventilation . Describe the effect of dead space on alveolar ventilation	Describe the effects of alveolar ventilation on PCO ₂ and PO ₂		Use systematic approaches to utilize medical terms to describe ventilation process.
Pulmonary circulation (Physiology)	2	Describe bronchial circulation and the concept of physiological shunt Describe blood flow through the lungs and its distribution	Compare the pulmonary and systemic circulations listing the main differences between them		Use systematic approaches to utilize medical terms to describe pulmonary circulation.

MDCN2427 Research Methodology & Biostatistics							
Course type	Major Needs	Level	2	hours (theoretical)	4	hours (practical)	0

Course Objectives

1 - To identify general concepts and to select research topic
2 - To select Research Objectives and Study Variables
3 - To read and do Literature review
4 - To know and differentiate between different research methods
5 - To learn the ethical issues in Research

Intended Learning Outcomes

Knowledge and Understanding	* Student is expected to know health sciences relevant statistical analyses
	* Provide students with the knowledge of clinical manifestations, complications, goals of statistical analyses.
Intellectual Skills	* Student is expected to identify criteria of which statistical analysis to apply based on the experimental needs
	* Learn how to interpret and communicate the statistical results
	* Develop the ability to design a statistical analysis.
	* Students are expected to start constructing data sets using statistics software such as SPSS and analyze it.
Professional Skills	* Student is expected to read research papers and analyze the rationale behind using certain statistical analysis.
General Skill	* Enable students present their data in a scientific format.
	* Enable students to collect and interpret information from medical research papers

Course Contents

- 1 - Introduction – Basic knowledge of medical research and the differences between medical research and medical management
- 2 - General concepts -Research topic selection
- 3 - Research Objectives and Study Variables
- 4 - Literature review and References
- 5 - Research methods - Quantitative Research
- 6 - Qualitative Research
- 7 - Study Population and Sampling
- 8 - Ethical issues in Research
- 9 - Study instruments
- 10 - Validity and Reliability in Research
- 11 - Basics in SPSS
- 12 - Data Management and Analysis
- 13 - Implementation Science

Teaching and Learning Methods

- 1 - Lectures
- 2 - Practical computer training

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
quizzes		20
assignment		20
midterm exam	1 hr	30
final exam	2 hr	40

Books and References

Course note Medical research methodology and biostatistics

MDCN2203 French language (2)

Course type College Needs **Level** 2 **hours (theoretical)** 2 **hours (practical)** 0

Course Objectives

- 1 - Demonstrating, at a minimum, the intermediate-level of proficiency in speaking the French language.
- 2 - Making relevant topics in the intermediate-level spoken form in the French language.
- 3 - Analysis of relevant topics in the intermediate-level written form in the French language.
- 4 - Interpretation of the intermediate-level practices, products, and perspectives of cultures using the French language.

Intended Learning Outcomes

<p>Knowledge and Understanding</p>	<ul style="list-style-type: none"> * Students should be able after the course to make relevant topics in the intermediate-level spoken form in the French language. * Students should be able after the course to interpret the intermediate-level practices, products, and perspectives of cultures using the French language.
<p>Intellectual Skills</p>	<ul style="list-style-type: none"> * Students should be able after the course to analyze relevant topics in the intermediate-level written form in the French language. * Students will should be able after the course to demonstrate, at a minimum, the intermediate-level of proficiency in speaking the French language.

Course Contents

<p>1 - Intermediate-level French vocabulary</p> <p>2 - Intermediate-level French Reading paragraphs</p> <p>3 - Intermediate-level French listening exercises</p> <p>4 - Intermediate-level French speaking activities</p>

Teaching and Learning Methods

<p>1 - Lectures</p> <p>2 - Small group discussions</p> <p>3 - Seminars</p>
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Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Midterm Exam		30
Quizzes		30
Final Exam		40

Books and References

Course note	Intermediate French language study bindings
Recommended books	Bienvvenue French book 2

MDCN2201	Hebrew language (2)					
Course type	College Needs	Level	2	hours (theoretical)	2	hours (practical) 0

MDCN2202	German language (2)					
Course type	College Needs	Level	2	hours (theoretical)	2	hours (practical) 0

Course Objectives

- 1 - Demonstrating, at a minimum, the intermediate-level of proficiency in speaking the German language.
- 2 - Making relevant topics in the intermediate-level spoken form in the German language.
- 3 - Analysis of relevant topics in the intermediate-level written form in the German language.
- 4 - Interpretation of the intermediate-level practices, products, and perspectives of cultures using the German language.

Intended Learning Outcomes

- | | |
|------------------------------------|--|
| Knowledge and Understanding | <ul style="list-style-type: none">* Students should be able after the course to make relevant topics in the intermediate-level spoken form in the German language.* Students should be able after the course to analyze relevant topics in the intermediate-level written form in the German language. |
| Intellectual Skills | <ul style="list-style-type: none">* Students will should be able after the course to demonstrate, at a minimum, the intermediate-level of proficiency in speaking the German language.* Students should be able after the course to interpret the intermediate-level practices, products, and perspectives of cultures using the German language. |

Course Contents

- 1 - Intermediate-level German vocabulary
- 2 - Intermediate-level German Reading paragraphs
- 3 - Intermediate-level German listening exercises
- 4 - Intermediate-level German speaking activities

Teaching and Learning Methods

- 1 - Small group discussions
- 2 - Lectures
- 3 - Seminars

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Exam Midterm		30
Quizzes		30
Final exam		40

Books and References

Course note Intermediate German language presentation
Recommended books MENSCHEN Book A2

MDCN2235	Medical laws, regulations and human rights					
Course type	College Needs	Level	2	hours (theoretical)	2	hours (practical) 0

Course Objectives

- 1 - Understand the legal and ethical principles governing medical practice, patient rights, and healthcare delivery.
- 2 - Familiarize students with the laws and regulations pertaining to medical professionals, healthcare institutions, and medical research.
- 3 - Develop ethical decision-making skills and a commitment to upholding human rights in healthcare settings

Intended Learning Outcomes

Knowledge and Understanding	<ul style="list-style-type: none">* Comprehend the legal and ethical frameworks relevant to medical practice and healthcare systems.* Understand patient rights, including autonomy, privacy, confidentiality, and informed consent.* Gain knowledge of healthcare regulations, medical malpractice, medical research ethics, and the legal obligations of medical professionals.
Intellectual Skills	<ul style="list-style-type: none">* Analyze complex ethical dilemmas and apply legal and ethical principles to resolve them.* Critically evaluate healthcare policies, laws, and regulations for their impact on patient rights and human rights* Apply critical thinking skills to assess legal and ethical implications in medical practice and propose strategies for ethical decision-making.
Professional Skills	<ul style="list-style-type: none">* Apply legal and ethical principles to medical practice, including confidentiality, informed consent, and medical documentation* Demonstrate knowledge of legal responsibilities and liabilities of medical professionals and healthcare institutions.* Advocate for patient rights and uphold human rights in healthcare, promoting equitable and non-discriminatory practices.

Course Contents

1 - Introduction to Medical Laws and Ethics
2 - Patient Rights and Informed Consent
3 - Legal Responsibilities of Medical Professionals
4 - Healthcare Regulations and Institutional Governance
5 - Human Rights in Healthcare
6 - Medical Research Ethics
7 - End-of-Life Issues and Palliative Care

Teaching and Learning Methods

1 - Lectures
2 - Small Group Discussions
3 - Small Group Activities
4 - Self-Directed Study

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Midterm		30
Quizes		30
Final exam		40

Books and References

Recommended books	"Medical Law and Ethics" by Jonathan Herring
	"Ethics, Law and Professionalism: A Guide to Medical Ethics for Students, Doctors and Dentists" by Peter Richards, Anne Richards
	"Healthcare Human Rights: An Introduction" by Michael Grodin, Daniel Tarantola, George Annas, Sofia Gruskin

ISLM4113	Holy Quran (4)						
Course type	UNIV Needs	Level	2	hours (theoretical)	1	hours (practical)	0

ISLM3107	Holy Quran (3)						
Course type	UNIV Needs	Level	2	hours (theoretical)	1	hours (practical)	0

ISLM2202	Studies in Islamic Faith						
Course type	UNIV Needs	Level	2	hours (theoretical)	2	hours (practical)	0

MDCN3412	Endocrine system						
Course type	Major Needs	Level	3	hours (theoretical)	3	hours (practical)	1

Course Objectives

- 1 - Describe the anatomical and histological structure, development, and function of the different organs of the endocrine system
- 2 - Describe the various pathologic diseases affecting the endocrine system and understand their mechanisms.
- 3 - Describe drugs used in the treatment of various endocrine diseases and discuss the epidemiology of those diseases, their prevention and control

Intended Learning Outcomes

Knowledge and Understanding	<ul style="list-style-type: none">* Demonstrate a sufficient understanding of the structural organization and functions of the following systems of the human body: circulatory, respiratory, gastrointestinal, endocrine, hematopoietic & lymphatic, musculoskeletal, nervous, and genitourinary systems* Conceptualize the cellular, molecular, genetic, and biochemical mechanisms that maintain body's homeostasis and their derangements in disease states.
Intellectual Skills	<ul style="list-style-type: none">* Apply their knowledge of human anatomy and function to solve questions regarding major clinical cases and disease
Professional Skills	<ul style="list-style-type: none">* Demonstrate proficiency in performing clinical skills and procedure
General Skill	<ul style="list-style-type: none">* Communicate ideas and arguments effectively* Respect superiors, colleagues and any other members of the health profession.

Course Contents

1 - Anatomy of hypothalamus and hypophysis. Anatomy of the endocrine glands (thyroid, parathyroid, thymus and adrenal gland)
2 - Embryology of endocrine gland
3 - Histology of endocrine system
4 - Hypothalamus releasing factors and neurohypophysis of the pituitary gland hormones
5 - Pathology of adenohypophysis and neurohypophysis of the pituitary gland Pharmacology of hypothalamic and hypophysis hormones
6 - Introduction biochemical endocrinology Signal transduction, 2nd messengers and receptors:
7 - Mechanism of hormone actions
8 - Biochemical aspects of thyroid hormones metabolism
9 - Pathology of thyroid and parathyroid glands
10 - Pharmacology of parathyroid
11 - Diabetes mellitus and insulin
12 - Insulin and oral hypoglycaemic agents
13 - Pathology of the adrenal gland
14 - Autoimmune diseases of the endocrine system

Teaching and Learning Methods

1 - interactive lectures
2 - case scenario simulation of common clinical cases
3 - videos and simulation labs

Teaching and Learning Methods for the Disabled Students

1 - Help each student according to his needs and his condition
2 - Lectures

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
paper 1 exam	60	50
paper 2 exam	60	35
practical exam	50	15

Books and References

Course note	doctors lectures notes
Essential books	- Clinical anatomy by systems, R.S. Snell, (latest edition) - Textbook of Medical Physiology, by Guyton and Hall, (latest edition) - Pharmacology, Lippincott's Illustrated Review, (latest edition) - Basic Histology, by L.Carlos Junqueira, Jose Carneiro, Robert O. Kelley, (latest edition)
Recommended books	- Review of Medical Microbiology and Immunology, Levinson, W. (latest edition)

MDCN3611 Digestive System

Course type Major Needs Level 3 hours (theoretical) 5 hours (practical) 2

Course Objectives

- 1 - Identify and describe the macroscopic appearance of different parts of the digestive system
- 2 - Describe the microscopic appearance of different parts of the digestive system
- 3 - Describe the normal embryological development of digestive respiratory system and common congenital abnormalities
- 4 - Describe and understand the physiology of digestive system (digestion, secretion and absorption).
- 5 - Recognize the characteristics of microorganisms that cause infection of the digestive system, their pathogenicity and methods of identification
- 6 - Understand and discuss various disease affecting digestive system with emphasis liver disease, peptic ulcer, chronic bowel inflammatory diseases and digestive system tumors

Intended Learning Outcomes

Knowledge and Understanding	* Describe the anatomical and histological structure, development, and function of the different organs of the GI system * Describe the various pathologic diseases and infections of the GI system and understand their mechanisms.
Intellectual Skills	* Explain signs, symptoms and investigations related to GI disorders and explain the scientific bases for common disease
Professional Skills	* Describe drugs used in the treatment of various GI diseases
General Skill	* Respect superiors, colleagues and any other members of the health profession.

Course Contents

- 1 - Anatomy of oral cavity, salivary glands Mandible & muscles mastication
- 2 - The anterior abdominal walls and inguinal region The abdominal cavity and peritoneum
- 3 - Histology of digestive system
- 4 - Gastro-Intestinal motility, secretions and digestion
- 5 - Anatomy of the esophagus and stomach Anatomy of small and large intestine
- 6 - Diseases of the oral cavity Diseases of the esophagus
- 7 - Diseases of stomach
- 8 - Anatomy of large intestine, rectum and the anal canal Anatomy of the accessory organs of GIT
- 9 - Control mechanisms: Neuronal and Hormonal
- 10 - GIT blood supply and portal circulation Nerves and lymphatic drainage of the GIT Anatomy
- 11 - Histology of digestive system
- 12 - Liver function and bile secretions.
- 13 - Embryology of the coelomic cavity and peritoneum
- 14 - Metabolic diseases of the liver
- 15 - Drug-induced liver injury

Teaching and Learning Methods

- 1 - case scenario simulation of common clinical cases
- 2 - videos and simulation labs
- 3 - interactive lectures

Teaching and Learning Methods for the Disabled Students

- 1 - Help each student according to his needs and his condition
- 2 - Lectures

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
paper 1 exam	60	40
paper 2 exam	60	40
practical exam	60	20

Books and References

Course note	doctors lectures notes
Essential books	GRANTS ATLAS OF ANATOMY OR ANY OTHER REASONABLE COLORED ATLAS OF HUMAN ANATOMY. - TEXTBOOK OF MEDICAL PHYSIOLOGY BY GUYTON AND HALL (LATEST EDITION). - LEHNINGER PRINCIPLES OF BIOCHEMISTRY, LEHNINGER, NELSON AND - PHARMACOLOGY, LIPPINCOTT'S ILLUSTRATED REVIEW, (LATEST EDITION). - BASIC HISTOLOGY BY CARLOS JUNQUEIRA, JOSE CARNEIRO, ROBERT O. KELLEY (LATEST EDITION) - REVIEW OF MEDICAL MICROBIOLOGY AND IMMUNOLOGY, LEVINSON W. (LATEST EDITION).

Course Objectives

- 1 - Describe the gross morphology of different organs forming the Reproductive System
- 2 - Discuss the vasculature, lymphatic drainage and innervation of different parts of the Reproductive System
- 3 - Understand various functions of the Reproductive System
- 4 - Discuss the microorganisms that infect the Reproductive System
- 5 - describe the pharmacology of various drugs acting on the Reproductive System
- 6 - Understand the bases of the inherited diseases

Intended Learning Outcomes

Knowledge and Understanding

- * The student will understand the anatomical components of the reproductive system
- * The student will have good knowledge about the common diseases affecting the reproductive system
- * The student will know the common microorganisms infecting the reproductive system
- * The student will understand the pharmacology and know how to treat diseases and infections of the reproductive system

Course Contents

- 1 - Introductory lecture discussing Pelvic walls, perineum, and pelvic diaphragm. (Anatomy)
- 2 - Anatomical components of male reproductive system. (Anatomy)
- 3 - Developmental Anatomy "Embryology" of the reproductive system. (Anatomy)
- 4 - Anatomical components of the female internal reproductive system. (Anatomy)
- 5 - Anatomical components of the female external reproductive system. (Anatomy)
- 6 - Hormonal regulation of sex determination. (Physiology)
- 7 - Male reproductive physiology. (Physiology)
- 8 - Histology of the male and female reproductive system. (Anatomy)
- 9 - Androgens and their antagonists. (Pharmacology)
- 10 - Female reproductive physiology-I. (Physiology)
- 11 - Female reproductive physiology-II. (Physiology)
- 12 - Erection. (Physiology)
- 13 - Disease of the penis, scrotum and testis. (Pathology)
- 14 - Diseases of the prostate. (Pathology)
- 15 - Physiology of pregnancy. (Physiology)
- 16 - Female sex steroids and contraceptives agents. (Pharmacology)
- 17 - Diseases of the cervix. (Pathology)
- 18 - Disease of the vulva and vagina. (Pathology)
- 19 - Gonorrhoea. (Microbiology)
- 20 - Trichomoniasis & Ectoparasites. (Microbiology)
- 21 - Infections by Chlamydia, Gardnerella, and Ureaplasma. (Microbiology)
- 22 - Parturition and lactation. (Physiology)
- 23 - Disease of the uterus. (Pathology)
- 24 - Diseases of the ovaries and fallopian tubes. (Pathology)
- 25 - Syphilis. (Microbiology)
- 26 - Inherited diseases. (Biochemistry)
- 27 - HIV and AIDS. (Microbiology)
- 28 - Herpes, Cytomegalo Virus, Human Papilloma Virus and Moluscum contagiosum. (Microbiology)
- 29 - Candidiasis. (Microbiology)
- 30 - Infections of urinary and reproductive system. (Public Health)
- 31 - Community awareness (Public Health)

Teaching and Learning Methods

- 1 - Theoretical interactive lectures
- 2 - Encourage Group discussions
- 3 - Audiovisual aids

Teaching and Learning Methods for the Disabled Students

- 1 - Lectures
- 2 - Revision and Discussion sections
- 3 - Help each student according to his needs and his condition

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
paper 1 exam	60	40
paper 2 exam	60	40
practical exam	45	20

Books and References

Course note	Lippincott's Illustrated Reviews: Pharmacology, latest edition Basic Pathology. By Kumar, Cotran and Robbins, latest edition Medical Microbiology. An Introduction to Infectious Diseases. By Sheries, latest edition.
Essential books	Principles of Human Anatomy. By G.J. Tortora, latest edition
Recommended books	Textbook of Medical Physiology. By Guyton and Hall, latest edition

MDCN3413 Reanal System

Course type	Major Needs	Level	3	hours (theoretical)	4	hours (practical)	1
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Course Objectives

- 1 - Understanding the anatomy and physiology of the renal system: Develop a comprehensive understanding of the structure and function of the kidneys, nephrons, and other components of the renal system. Understand the processes involved in urine formation, filtration, reabsorption, and secretion.
- 2 - Understanding renal diseases and disorders: Gain knowledge about common renal diseases and disorders, including acute kidney injury, chronic kidney disease, glomerular diseases, renal infections, and renal calculi. Understand the pathophysiology, clinical features, diagnostic approaches, and treatment options for these conditions.
- 3 - Learning about renal diagnostic tests and imaging: Acquire knowledge about the various diagnostic tests and imaging modalities used to evaluate renal function and identify renal pathology. Understand the interpretation of laboratory parameters, such as serum creatinine, blood urea nitrogen, urinalysis, and imaging findings.
- 4 - Understanding renal pharmacology: Gain familiarity with the pharmacological agents used in the management of renal diseases, including diuretics, antihypertensive drugs, and immunosuppressants. Understand their mechanisms of action, indications, contraindications, and potential adverse effects.
- 5 - Learning about renal replacement therapy: Understand the principles and modalities of renal replacement therapy, including dialysis (hemodialysis and peritoneal dialysis) and kidney transplantation. Gain knowledge about patient selection, complications, and long-term management of renal replacement therapy.
- 6 - Discussing common electrolyte and acid-base disorders: Acquire knowledge about the normal physiology of electrolytes and acid-base balance and the pathophysiology of common disturbances such as hyponatremia, hypernatremia, hyperkalemia, hypokalemia, acidosis, and alkalosis. Understand their clinical manifestations, diagnostic approaches, and treatment strategies.
- 7 - Understanding the management of renal emergencies: Develop skills in recognizing and managing renal emergencies, including acute kidney injury, urinary tract obstruction, and kidney stones. Understand the principles of acute resuscitation, fluid and electrolyte management, and interventions to preserve renal function.
- 8 - Discussing renal disease prevention and health promotion: Gain knowledge about preventive measures and health promotion strategies for maintaining optimal renal health. Understand the importance of lifestyle modifications, such as maintaining a healthy diet, adequate fluid intake, and regular exercise, in preventing renal diseases.
- 9 - Understanding ethical and legal considerations in renal care: Discuss ethical issues related to renal care, including organ donation and transplantation, end-of-life decisions, and allocation of limited resources. Understand the legal aspects of renal care, including regulatory frameworks, informed consent, and patient rights
- 10 - . To know the structure and function of each component of the nephron

Intended Learning Outcomes

Knowledge and Understanding	<ul style="list-style-type: none"> * To be able to Explain the basic anatomy of the renal system (i.e. kidneys, ureter, bladder and urethra) * To be able to Explain the development of the renal system and abnormalities that may arise during development Explain the development of the renal system and abnormalities that may arise during development * Describe the microscopic structure of the renal system, * Describe the normal physiological functions of the renal system and specifically its importance in maintain homeostasis. * Apply the basic scientific knowledge regarding the metabolism of proteins and amino acids and show how defects can lead to a disease * Identify different types of injuries to the renal system and explain the mechanism of how different disease affect the renal structure by disrupting its function, * Describe the psychosocial impact of the renal diseases (on patient, family and society as a whole) in relation to Pakistan * Describe how renal diseases the psychosocial aspects
Intellectual Skills	<ul style="list-style-type: none"> * Interpret the basic blood and radiological investigations (Urine detail report, urea and electrolytes, arterial blood gases and radiological investigations in diagnosing renal diseases and function of the renal system)

Course Contents

<ol style="list-style-type: none"> 1 - Macroscopic and microscopic (histology) structure of the urinary system: kidney, ureter and bladder and urethra, 2 - Posterior abdominal wall and lumbar region 3 - Developmental anatomy of the urinary system and its abnormalities, 4 - Functions of the renal system (acid-base balance, hormonal, filtration etc.) 5 - Glomerular filtration 6 - Renal circulation and autoregulation 7 - Tubular reabsorption & secretions 8 - Mechanism of concertation of urine 9 - Micturition 10 - Urinary incontinence 11 - Epidemiology of renal diseases 12 - Dietary requirements of patients suffering from renal diseases 13 - Metabolism of protein and amino acids; urea cycle 14 - Metabolism of minerals: sodium, potassium, chloride and phosphate 15 - Pathophysiological principles of renal diseases
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Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Labs exam		20
Final exam		80

Books and References

Essential books	Langmans medical embryology. Junguira histology Robbins pathology Snell anatomy Guyton physiology
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MDCN3422 Neuroscience (2)

Course type	Major Needs	Level	3	hours (theoretical)	4	hours (practical)	0
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Course Objectives

- 1 - Neurochemistry and Neuropharmacology: Explore the chemical basis of neural communication and the effects of drugs on the nervous system
- 2 - Neurological Disorders: Study the pathology, diagnosis, and treatment of various neurological disorders such as Alzheimers disease, Parkinsons disease, stroke, epilepsy, and multiple sclerosis.
- 3 - Neural Plasticity and Learning: Understand how the brain changes structurally and functionally in response to experiences and learning.
- 4 - Ethical Considerations in Neuroscience: Discuss the ethical implications of neuroscience research and clinical practice
- 5 - Learn about the electrical and chemical signaling mechanisms within the nervous system.
- 6 - Study the anatomy of the brain, spinal cord, and peripheral nervous system

Intended Learning Outcomes

Knowledge and Understanding	<ul style="list-style-type: none"> * Identify and describe the structural anatomy of the diencephalon, brainstem and reticular formation * Describe the vegetative and hormonal functions of the central nervous system * Describe and Understand the pathophysiological mechanisms of sleep and epilepsy in parallel with the pharmacology of sedatives and that of the antiepileptic drugs * Describe the anatomy of the limbic system and Understand the physiological mechanisms underlying behavior, motivation, and emotions * Describe the neural circuits implicated in speech, learning, and memory and correlating them with the pathology and pharmacology of the neurodegenerative diseases of the CNS * Know the biochemical structure of myelin and Understand the immunological basis of demyelinating disorders of the nervous system * Comprehend the neurobiology of mental disorders in order to Understand the mechanistic actions of the different antidepressant and antipsychotic medications * Describe the anatomy and physiology of the peripheral nervous system and integrate them
Intellectual Skills	<ul style="list-style-type: none"> * Integrate the basic anatomical & physiological facts of nervous system with clinical data * Correlate functional alterations of common pathological conditions and diseases of nervous system with clinical data. * Correlate the Role of Hypothalamus in: Endocrine Regulation, Thermoregulation and Food & Water Intake * Use problem solving skills in a variety of practical and clinical situations related to nervous system
Professional Skills	<ul style="list-style-type: none"> * Compare the structure of Hypothalamus and Thalamus * Analyze the CSF * Analyze Motivation and Behavior. * Test for disorders of the Motor Cortex (Convulsions & Epilepsy) * Test for Brain complex functions of the cognition: (Attention, Recognition, and Planning) * Comment about the role of Dopamine, Glutamate and GABA in Parkinson Disease * Comment on observed demonstrations on the effect of some drugs on nervous system functions and comment on the graph
General Skill	<ul style="list-style-type: none"> * Respect superiors, colleagues and any other members of the health profession * Communicate ideas and arguments effectively * Be prepared for the lifelong learning needs of the medical profession Nervous System * Work constructively and cooperatively within a team. * Practice self and peer evaluation & Manage time effectively in Nervous System.

Course Contents

- 1 - Anatomy of the Hypothalamus and Thalamus
- 2 - The Role of Hypothalamus in: - Endocrine Regulation - Thermoregulation - Food & Water Intake
- 3 - Drugs used for Regulation of Temperature and Food Intake
- 4 - Disorders of the Motor Cortex (Convulsions & Epilepsy)
- 5 - The Role of Glutamate and GABA in the Epileptic process Experimental Results
- 6 - Treatment of Epilepsy. (Anti-Epileptic Drugs)
- 7 - Basal Ganglia and the Regulation of Motor Activity
- 8 - Role of Dopamine, Glutamate and GABA in Parkinsons Disease. Experimental Results
- 9 - Degenerative Disorders of the Basal Ganglia
- 10 - Treatment of Parkinsons Disease
- 11 - Complex Functions of the Brain Cognition: (Attention, Recognition, Planning)
- 12 - Memory: Short Term and Long Term
- 13 - Brain Stem and Reticular Formation
- 14 - Sleep and Wakefulness
- 15 - Sedatives and Hypnotics
- 16 - The Process of Learning (Understanding & Speaking)
- 17 - Anatomy of Limbic system
- 18 - Physiology of Emotions
- 19 - CNS Stimulants & Drugs of Abuse
- 20 - Motivation and Behavior
- 21 - Treatment of Dementia & Drugs for Schizophrenia
- 22 - Prions and slow viruses Rabies and Arboviruses
- 23 - Sphingolipids & Myelin metabolism
- 24 - Demyelinating diseases of the CNS
- 25 - Drugs for Depression
- 26 - Immunological Diseases of the CNS
- 27 - Encephalitis
- 28 - Physiology of Peripheral Nervous System
- 29 - Immunological diseases of the PNS
- 30 - Polio Virus and Enteroviruses Toxoplasmosis, Malaria, Hydatid Disease
- 31 - Peripheral Neuropathy & Tumors of the PNS

Teaching and Learning Methods

- 1 - Lectures, where professors or experts in the field deliver presentations on various topics
- 2 - laboratory sessions where students engage in hands-on activities.
- 3 - Small group discussions or tutorials are used to encourage active participation and critical thinking
- 4 - multimedia resources, such as videos, interactive online modules, and virtual reality applications
- 5 - Case Studies: Case studies present students with real or hypothetical neurological cases, challenging them to analyze and diagnose the conditions based on their knowledge
- 6 - Problem-Based Learning (PBL)

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Paper One Exam		40 %
Paper Two Exam		40%
Practical Sessions		20 %

Books and References

Recommended books

- Clinical anatomy by systems, R.S. Snell, (latest edition)
- Grants Atlas of Anatomy or any other reasonable colored atlas of Human Anatomy
- Neuroscience 6th Edition by Dale Purves , George J. Augustine , David Fitzpatrick
- Biochemistry – Chapme, Harvey and Ferrier, LIPPINCOTT, WILLIAMS & WILKINS, (latest edition)
- Pharmacology, Lippincott's Illustrated Review, (latest edition)
- Basic Histology, by L.Carlos Junqueira, Jose Carneiro, Robert O. Kelley, (latest edition)
- Basic Pathology, Kumar, W.B. Saunders, (latest edition)
- Review of Medical Microbiology and Immunology, Levinson, W. (latest edition)
- Roitt's Essential Immunology, thirteenth Edition by Ivan M. Roitt , Peter J. Delves, D. Butron and S. J. Martin 2017.

MDCN3521

Neuroscience (1)

Course type

Major Needs

Level

3

hours (theoretical)

5

hours (practical)

0

Course Objectives

- 1 - Introduction to Neuroscience: Gain a fundamental understanding of the structure and function of the nervous system.
- 2 - Neuroanatomy: Study the anatomy of the brain, spinal cord, and peripheral nervous system.
- 3 - Neurophysiology: Learn about the electrical and chemical signaling mechanisms within the nervous system.
- 4 - Developmental Neuroscience: Explore the development of the nervous system from embryonic stages to adulthood
- 5 - Sensory Systems: Understand how the brain processes information from various sensory modalities such as vision, hearing, touch, taste, and smell.
- 6 - Motor Systems: Study the neural mechanisms involved in controlling movement and coordination
- 7 - Cognitive Neuroscience: Examine the relationship between the brain and higher cognitive functions like memory, attention, language, and decision-making

Intended Learning Outcomes

Knowledge and Understanding	<ul style="list-style-type: none"> * Identify and describe the gross anatomy of the central nervous system, including its blood supply as well as the ventricular system * Describe the anatomy of meninges, CSF circulations and various infections leading to meningitis * Understand the neural signaling, synaptic transmission, and the different neurotransmitter systems (synthesis, mechanism of action and final destination) * Understand the anatomical-physiological basis of upper and lower motor neurons and the complex circuits involved in motor control * Understand the somatic sensory system, the different afferent fibers, their pathway, thalamic relay and cortical integration * Thoroughly understand the mechanism of nociception, its types, pathway, central integration as well as the array of its therapeutic management * Describe the anatomy of the eye and the physiology of the visual system and its central integration and the different pathologies afflicting the eye * Understand the mechanisms of hearing and balance and the anatomy of the relevant organs and nerves * Describe the anatomy of the tongue and palate and understand the mechanism of deglutition through assimilating the anatomy and function of bulbar cranial nerves * Describe the anatomy of neck triangles and the blood supply and nerves of the neck
Intellectual Skills	<ul style="list-style-type: none"> * Integrate the basic anatomical & physiological facts of the central nervous system with clinical data * Correlate functional alterations of common pathological conditions and diseases of the central nervous system with clinical data * Use problem solving skills in a variety of practical and clinical situations related to the central nervous system.
Professional Skills	<ul style="list-style-type: none"> * Compare the structure of somatic and autonomic reflex arcs * Analyze the CSF * Comment on the effect of drugs that affect autonomic function on cardiac and intestinal muscles, and their effect in vivo on heart rate and blood pressure * Determine the effect of the autonomic nervous system on the regulation of the various organ systems.
General Skill	<ul style="list-style-type: none"> * Respect superiors, colleagues and any other members of the health profession * Communicate ideas and arguments effectively. * Be prepared for the lifelong learning needs of the medical profession. * Work constructively and cooperatively within a team * Practice self and peer evaluation & Manage time effectively

Course Contents

- 1 - Gross Anatomy of the Nervous System (Brain and Spinal cord), Skull & Meninges
- 2 - Ventricular System, CSF and Blood Supply of the NS
- 3 - Histology of the Nervous System (Central & PNS)
- 4 - Functional Anatomy of the Central Nervous System
- 5 - Physiology of Brain Circulation & CSF Formation
- 6 - Development of the Nervous System Development of the Head and Neck
- 7 - Bacterial Meningitis and Brain Abscess
- 8 - Viral Meningitis & Viral Encephalitis Tetanus and Botulism
- 9 - Main Functions of Cranial and Spinal nerves
- 10 - Special Metabolism of the Brain Neurotransmitters: Types and Life Cycle
- 11 - Anatomy of Brain Stem (Medulla Oblongata. Pons, MB)
- 12 - Autonomic Nervous System: - Sympathetic & Para-Sympathetic. - Cholinergic and Adrenergic. - Life Cycle of Adrenaline & Acetylcholine
- 13 - Autonomic Drugs
- 14 - Anatomy of the Motor Cortex, Basal Ganglia and cerebellum Spinal Cord and its Tracts (Ascending and descending)
- 15 - Cortical and Sub-Cortical Motor Centers & Pathways Upper & Lower motor neurons Physiology
- 16 - Cerebrum and Control of Movement Cerebellum and Control of Balance
- 17 - Malformation, Edema & Parenchymal Injury
- 18 - Malformation, Edema & Parenchymal Injury
- 19 - Cerebrovascular Diseases Degenerative Disorders of the CNS-1
- 20 - Anatomy of cranial nerves
- 21 - Cerebrovascular Diseases Degenerative Disorders of the CNS-1
- 22 - Types of Receptors, Sensations and Sense Organs Somatic Sensory System (Receptors, Transduction, Pathways)
- 23 - Pain Sensation & Anaesthesia
- 24 - Opioids and Opioid Antagonists Analgesics
- 25 - Local Anaesthetics General Anaesthetics
- 26 - Development of the Face, Eye and Ear
- 27 - Visual System: Neurophysiology of Vision, Retina & Visual Pathways
- 28 - Diseases of the Eye Drugs used in Ophthalmic Diseases
- 29 - Physiology of Auditory System
- 30 - Vestibular System (Rotational and Linear Movement)
- 31 - Diseases of the Auditory & Vestibular Systems Neoplasms of the CNS
- 32 - Chemical Sensations: Taste and Smell
- 33 - Reflexes: (Somatic & Autonomic)

Teaching and Learning Methods

- 1 - Lectures, where professors or experts in the field deliver presentations on various topics. They provide an overview of the content, introduce key concepts, and explain complex theories and principles.
- 2 - laboratory sessions where students engage in hands-on activities.
- 3 - Discussions: Small group discussions or tutorials are used to encourage active participation and critical thinking.
- 4 - multimedia resources, such as videos, interactive online modules, and virtual reality applications

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Paper One Exam		50 %
Paper Two Exam		30 %
Practical Sessions		20 %

Books and References

Recommended books	Snell's Clinical Neuroanatomy, (latest edition) Grants Atlas of Anatomy or any other reasonable colored atlas of Human Anatomy Before we are born. By K.L. Moore and T.V.N. Persaud, (latest Edition) Textbook of Medical Physiology, by Guyton and Hall, (latest edition) Pharmacology, Lippincott's Illustrated Review, (latest edition) Basic and clinical pharmacology, Katzung and Trevor, (latest edition) Basic Histology, by L.Carlos Junqueira, Jose Carneiro, Robert O. Kelley, (latest edition) Wheater's Functional Histology by, H.G. Buikitt B. Young, J.W. Heath, (latest edition) Basic Pathology, Kumar, W.B. Saunders, (latest edition) Review of Medical Microbiology and Immunology, Levinson, W. (latest edition)
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MDCN3423	Boold & Lymphoreticular System							
Course type	Major Needs	Level	3	hours (theoretical)	4	hours (practical)	0	

Course Objectives

- 1 - Describe the constituents of blood, their origin and function
- 2 - Discuss the structure and function of the lymph-reticular system.
- 3 - Describe the important aspects of hemoglobin genetics and abnormal hemoglobin
- 4 - Understand the basic classification systems of anemia, their laboratory and clinical features, public health aspects, and their management
- 5 - Understand the classification of neoplastic diseases of hematopoietic cells, methods for their diagnosis and their natural history and general guidelines for their management.
- 6 - Describe the regulatory mechanisms of normal Hemostasis, abnormalities that lead to bleeding disorders, pathologic aspects that cause thrombotic disorders and how are these conditions being treated.

Intended Learning Outcomes

Knowledge and Understanding	<ul style="list-style-type: none"> * Identify and describe the macroscopic appearance of different parts of the blood and lymphoreticular system * Describe the microscopic appearance of different parts of the blood and lymphoreticular system * Understand the molecular and cellular basis of common diseases of blood and lymphoreticular system * Recognize the different types and causes of bleeding disorders
Intellectual Skills	<ul style="list-style-type: none"> * Integrate the basic anatomical & physiological facts of blood and lymphoreticular system with clinical data
Professional Skills	<ul style="list-style-type: none"> * Identify common diseases of peripheral blood, bone marrow and lymph nodes.
General Skill	<ul style="list-style-type: none"> * Respect superiors, colleagues and any other members of the health profession. * Communicate ideas and arguments effectively * Work constructively and cooperatively within a team

Course Contents

1 - Hematopoiesis Histology of blood cells
2 - Blood: composition, function, volume and viscosity General overview of homeostatic process
3 - RBCs structure, Hemoglobin and Iron metabolism
4 - Molecular biology of globin chain synthesis
5 - Introduction to anemia, classification
6 - Biochemistry of Coagulation
7 - Drugs used for anemia
8 - Bleeding Disorders
9 - Anticoagulants & Antiplatelet Agents
10 - Lymphatic system
11 - Histology of lymphoid tissue
12 - WBC Disorders
13 - WBC Disorders
14 - Immunological diseases of blood and lymphatic system
15 - Immunomodulators

Teaching and Learning Methods

1 - Theoretical interactive lectures
2 - practical lab sessions

Teaching and Learning Methods for the Disabled Students

1 - Lectures
2 - Help each student according to his needs and his condition

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
paper 1 exam	60	30
paper 2 exam	60	50
practical exam	60	20

Books and References

- | | |
|-------------------|--|
| Essential books | - Clinical anatomy by systems, R.S. Snell. (latest edition) |
| | - Human Physiology (An Integrated Approach), D U Silverthorn. (latest edition) |
| | - Pharmacology, Lippincott's Illustrated Review. (latest edition) |
| | - Basic Pathology, Kumar, W.B. Saunders. (latest edition) |
| | - Review of Medical Microbiology and Immunology, Levinson, W. (latest edition) |
| Recommended books | - Lehninger Principles of Biochemistry, Lehninger, Nelson and Cox (latest edition) |

MDCN3624 Skin and Locomotor System

Course type	Major Needs	Level	3	hours (theoretical)	6	hours (practical)	0
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Course Objectives

- | | |
|---|--|
| 1 | - Understand the anatomy, physiology, and histology of the musculoskeletal system and skin |
| 2 | - Describe the structure and function of bones, joints, muscles, and skin layers |
| 3 | - Explain the processes involved in musculoskeletal and skin development |

Intended Learning Outcomes

- | | |
|------------------------------------|--|
| Knowledge and Understanding | <ul style="list-style-type: none">* Demonstrate a solid understanding of the anatomical structures, physiological functions, and histological features of the musculoskeletal system and skin* Recognize and describe common musculoskeletal and skin conditions encountered in clinical practice, including their signs, symptoms, and underlying pathophysiology.* Recognize the characteristics of microorganisms that cause infections of the locomotor system and skin, their pathogenicity and methods of identification |
|------------------------------------|--|

Course Contents

- 1 - Anatomy of Bones and joints of Shoulder girdle
- 2 - Histology of Skin and Muscle Histology of Cartilage & Bones
- 3 - Structure and Function of different components in the Skin-Physiology
- 4 - The Role of the Skin in Thermoregulation and Water Regulation-physiology
- 5 - Brachial plexus anatomy
- 6 - Cubital fossa, Bones of forearm and hand Muscles, vessels and nerves of forearm Elbow, wrist, carpus and fingers joints The Hand -Palm and dorsum of the hand Pelvis/ innominate bones of the lower limb, The thigh compartments, muscles and nerves, Lumbo-sacral plexus and vascular structures of lower limb Popliteal fossa, Muscles, vessels and nerves of the leg, The region of the Ankle, The foot bones, joints and muscles The foot as functional unit The Vertebral Column, Bones & Joints The spinal Muscles, Blood Vessels, & Nerves, The Spinal Cord
- 7 - Development of Skeletal Muscles Development of Limbs and Vertebra
- 8 - Biochemical & Metabolic basis of diseases related to Collagen & Elastin Metabolism Biochemistry of Melanin & effect of UV Radiation (Characteristic of Melanin) --- (Tyrosine Metabolism Albinism)
- 9 - Calcification, Bone turn over, Vitamin D effect, Osteoporosis, Rickitts. Glycogen Storage Diseases
- 10 - Diseases with Abnormal Matrix Osteomyelitis and Paget Disease
- 11 - Arthritis. Bone Tumors
- 12 - Diseases of Skeletal Muscles. Soft Tissue Tumors
- 13 - NSAIDs & Paracetamol (Acetaminophen). Disease modifying Anti-Rheumatic Drugs. Drugs used for Gout Skeletal Muscle Relaxants
- 14 - Acute and Chronic Inflammatory Dermatoses, Blistering Diseases Skin Tumors
- 15 - Bacterial Infections of Skin Parasitic Infections of Skin Viral Infections of Skin Fungal Infections of Skin
- 16 - Pharmaceutical preparations of Skin disorders: Drugs for Eczema, Acne, Seborrheic dermatitis, Vitiligo & Psoriasis. Drugs used for Leprosy and Leishmania
- 17 - Immunological diseases of Skin and Locomotor system

Teaching and Learning Methods

- 1 - Theoretical sessions
- 2 - Practical sessions

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
First paper- Normal	End of module	45
Practical Exam	End of module	25
Second paper- Abnormal	End of module	30

Books and References

- Recommended books
- Clinical anatomy by systems, R.S. Snell, (latest edition)
 - Human Physiology (An Integrated Approach), D U Silverthorn (latest edition)
 - Lehninger Principles of Biochemistry, Lehninger, Nelson and Cox (latest edition)
 - Pharmacology, Lippincott's Illustrated Review, (latest edition)
 - Basic Histology, by L.Carlos Junqueira, Jose Carneiro, Robert O. Kelley, (latest edition)
 - Basic Pathology, Kumar, W.B. Saunders, (latest edition)
 - Review of Medical Microbiology and Immunology, Levinson, W. (latest edition)

Course Objectives

- 1 - Introduce students to the clinical environment: Familiarize students with the clinical setting, including hospitals, clinics, and other healthcare facilities, to provide an understanding of the structure, organization, and functioning of healthcare systems.
- 2 - Introduce medical history-taking and physical examination
- 3 - Introduction to medical terminology and documentation Students should learn to accurately and efficiently document patient encounters, including medical histories, physical examination findings, and treatment plan:
- 4 - Introduce common medical conditions and diseases
- 5 - Development of synaptic thinking and interpretation of clinical data
- 6 - Development of communication skills with teaching staff, peers, seniors, hospital staff...etc

Intended Learning Outcomes

Knowledge and Understanding

- * Communicate effectively and empathetically with patients, families, and healthcare team members.
- * Medical History-Taking and Documentation
- * Conduct a focused and systematic physical examination.
- * Perform accurate and reliable vital sign measurements
- * Demonstrate knowledge of common medical conditions, including their pathophysiology, clinical presentation, and basic management approaches.
- * Constructing provisional diagnosis and differential diagnosis by integration of clinical data

Course Contents

- 1 - Medical History-Taking
- 2 - Physical Examination Skills
- 3 - Approaches to formulating differential diagnoses and developing a problem list.
- 4 - Common Medical Conditions
- 5 - Clinical Rotations

Teaching and Learning Methods

- 1 - Lectures: Traditional lectures are often used to present foundational knowledge and concepts related to clinical medicine.
- 2 - Case-based Learning: Case-based learning involves presenting clinical cases or scenarios for students to analyze and discuss.
- 3 - Small Group Discussions
- 4 - Clinical Skills Workshops: Clinical skills workshops allow students to practice and refine their clinical skills, such as history-taking, physical examination techniques, and basic medical procedures.
- 5 - Clinical Rotations and Preceptorships

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Theoretical MCQ exam	2hr	100

Books and References

Course note Macleods Clinical Examination

Course Objectives

- 1 - Obtain a complete and/or focused medical history from patients
- 2 - Perform physical examinations on patients
- 3 - Documentation of patient health information in a concise, complete way
- 4 - • Order appropriate investigations and interpret its results for the common or important diseases
- 5 - Develop a problem list and differential diagnosis based on the history, physical findings and initial investigations.
- 6 - Recognize life threatening emergencies and initiate appropriate primary intervention

Intended Learning Outcomes

Knowledge and Understanding	* • Understand how to recognize the sick medical patient and how to diagnose and treat common emergency and nonemergency medical presentations
Intellectual Skills	* • Understand the role of decision making in the clinical environment and the main theoretical models of decision making
Professional Skills	* • Reflect how patient safety may be compromised by poor decision making and ineffective healthcare environments and create strategies to overcome these
General Skill	* Communicate ideas and arguments effectively * Respect superiors, colleagues and any other members of the health profession.

Course Contents

- 1 - General Approach to the Medical Patient
- 2 - Communication with Patients
- 3 - Medical Respiratory Diseases
- 4 - Medical Cardiac Diseases
- 5 - Medical Gastrointestinal and Liver Diseases
- 6 - Medical Infectious Diseases
- 7 - Medical Nephrology and urological Diseases
- 8 - Medical Fluid, electrolytes, blood gas Diseases
- 9 - Medical Gastrointestinal Diseases
- 10 - Medical Neurological Diseases
- 11 - Medical Endocrine Diseases
- 12 - Medical Rheumatology Diseases
- 13 - Medical Hematology and Oncology Diseases

Teaching and Learning Methods

- 1 - Lectures
- 2 - Theoretical interactive lectures
- 3 - case scenario simulation of common clinical cases
- 4 - Bed-side teaching
- 5 - videos and simulation labs

Teaching and Learning Methods for the Disabled Students

1 -	Lectures
2 -	Help each student according to his needs and his condition

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
multiple choice exam	120	50
practical OSCE exam	60	20
static osce exam	60	20
case history and long case	50	10

Books and References

Essential books	CURRENT Diagnosis & Treatment in internal medicine kumar and clark in internal medicine
Recommended books	macleod for clinical examination

MDCN4212	CARDIOLOGY						
Course type	Major Needs	Level	4	hours (theoretical)	2	hours (practical)	0

Course Objectives

1 -	• Communicate with patients and their families effectively
2 -	• Obtain a complete and/or focused cardiovascular history from patients.
3 -	• Perform cardiovascular physical examination on patients.
4 -	• Order appropriate investigations and interpret its results for the common or important diseases
5 -	• Recognize common and important abnormal clinical findings
6 -	• Develop a problem list and differential diagnosis based on the history, physical findings and initial investigations
7 -	• Provide patient education for their health problems
8 -	• Recognize life threatening cardiovascular emergencies and initiate appropriate primary intervention

Intended Learning Outcomes

Knowledge and Understanding	* • Understand how to recognize the sick cardiovascular patient and how to diagnose and treat common cardiovascular emergency and nonemergency presentations.
Intellectual Skills	* • Understand the role of decision making in the clinical environment and the main theoretical models of decision making.
Professional Skills	* • Reflect how patient safety may be compromised by poor decision making and ineffective healthcare environments and create strategies to overcome these.

Course Contents

- 1 - • General Approach to the cardiovascular Patient
- 2 - • Communication with cardiovascular Patients
- 3 - • Acute Coronary Syndrome
- 4 - • Hypertention
- 5 - • Valvular Heart Diseases
- 6 - • Cardiomyopathies
- 7 - • ECG reading
- 8 - • Cardiovascular Emergencies
- 9 - • Pericardial Diseases
- 10 - • Infective Endocarditis
- 11 - • Myocarditis

Teaching and Learning Methods

- 1 - Seminars.
- 2 - Bed-side teaching
- 3 - Outpatient clinics
- 4 - lectures

Teaching and Learning Methods for the Disabled Students

- 1 - lectures
- 2 - Help each student according to his needs and his condition

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Attendance	0	10
case history	10	10
multiple choice exam	60	60
practical exam	60	20

Books and References

Course note	lectures
Essential books	CURRENT Diagnosis & Treatment in cardiology
Other References (Periodical, web sites, etc.)	500 ecg

Knowledge and Skills Matrix

Main Course Contents	Study Week	Knowledge and Understanding	Intellectual Skills	Professional Skills	General Skill
Communication with cardiovascular Patients	1	knowledge main cardiac symptoms	able to analyze patient complains		
Acute Coronary Syndrome	2+3	able to differentiate between types of acs	can diagnose a case with IHD		
Hypertention	4+5	understand definitions of hypertensive patient and how to diagnose it	able to diagnose a patient came with danger features of HTN	able to prescribe appropriate medications	
Valvular Heart Diseases	6+7	knowledge different valvular lesions and their complications	understand consequences of valvular diseases		
Cardiomyopathies	8+9	knowledge of common disorders affect cardiac muscles	able to suspect these diseases before their progression		
ECG reading	10+11	understand basics of electrical pathophysiology of heart	able to interpret an ecg		use ecg in diagnosing acs
Cardiovascular Emergencies	12+13	knowledge of common emergent cardiac conditions	able to approach to these cases efficiently		rapid recognition of these cases improve patient mortality and morbidity outcomes

MDCN4213

Ophthalmology

Course type

Major Needs

Level

4

hours (theoretical)

2

hours (practical)

0

Course Objectives

- 1 - • Obtain a complete and/or focused medical history from patients
- 2 - • Perform physical examinations especially direct ophthalmoscope on patients
- 3 - • Order appropriate investigations and interpret its results for the common or important diseases
- 4 - • Recognize common and important abnormal clinical findings.
- 5 - • Develop a problem list and differential diagnosis based on the history, physical findings and initial investigations
- 6 - • Recognize life-threatening emergencies and initiate appropriate primary intervention
- 7 - • Continually reevaluate management plans based on the progress of the patient's condition

Intended Learning Outcomes

Knowledge and Understanding	* Describe the anatomy of the eye and eyelids
	* Discuss types of glaucoma
	* Discuss types of retina detachment (RD) and age-related macular degeneration (ARMD)
General Skill	* Describe a normal eye exam
	* Discuss Refractive Errors

Course Contents

1 - • Ocular anatomy and physiology
2 - • Ocular history and examination
3 - • Cataract
4 - • Visual pathway
5 - • Clinical optics
6 - • Uveitis
7 - • Ocular trauma
8 - • Strabismus
9 - • Conjunctivitis and lid disease
10 - • Pupil
11 - • Ocular pharmacology
12 - • Red eye
13 - • Glaucoma
14 - • Cornea and sclera
15 - • Lacrimal system and orbit
16 - • Retinal vascular diseases
17 - • Ocular manifestation of systemic disease
18 - • Retina and choroid
19 - • Refractive error and practice

Teaching and Learning Methods

1 - Lectures
2 - Case discussions
3 - Clinical rounds
4 - Surgical observation
5 - Assessments and feedback

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Attendance and discussion		20
Final Exam	End of semester	80

Books and References

Essential books	Ophthalmology Lecture notes
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MDCN4423	Orthopedics						
Course type	Major Needs	Level	4	hours (theoretical)	4	hours (practical)	0

Course Objectives

- 1 - Obtain a complete and/or focused Orthopedic history from patients.
- 2 - Perform Orthopedic physical examination on patients
- 3 - • Order appropriate investigations and interpret its results for the common or important diseases
- 4 - • Develop a problem list and differential diagnosis based on the history, physical findings and initial investigations

Intended Learning Outcomes

- | | |
|------------------------------------|--|
| Knowledge and Understanding | * • Understand how to recognize the sick medical patient and how to diagnose and treat common emergency and nonemergency medical presentations. |
| Intellectual Skills | * • Understand the role of decision making in the clinical environment and the main theoretical models of decision making. |
| Professional Skills | * • Reflect how patient safety may be compromised by poor decision making and ineffective healthcare environments and create strategies to overcome these. |

Course Contents

- 1 - • General Approach to the Orthopedic Patient
- 2 - • Communication with Orthopedic Patients
- 3 - • Orthopedic Emergencies
- 4 - • Anatomy of Musculoskeletal system
- 5 - • Fractures and dislocations
- 6 - • Knee Joint Diseases
- 7 - • Ankle Joint Diseases
- 8 - • Shoulder Joint Diseases
- 9 - • Hip Joint Diseases
- 10 - • Common pediatric orthopedic problems

Teaching and Learning Methods

- 1 - Morning report
- 2 - Seminars
- 3 - Bed-side teaching
- 4 - Outpatient clinics

Teaching and Learning Methods for the Disabled Students

- 1 - Lectures
- 2 - Help each student according to his needs and his condition

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Attendance	0	10
case history	10	5
log book	0	5
multiple choice exam	120	60
static osce exam	60	20

Books and References

Course note	Tutorials / Lectures
Essential books	CURRENT Diagnosis & Treatment in Orthopedics
Recommended books	Apleys Concise System of Orthopaedics and Fractures

Knowledge and Skills Matrix

Main Course Contents	Study Week	Knowledge and Understanding	Intellectual Skills	Professional Skills	General Skill
Introduction to orthopedics and principles of fractures	1	How to take a proper history and to do physical examination	To know the principles of orthopedic X-Ray		To identify the general investigations of orthopedics
Bone and Joint Infections	2+3	Diagnose different types of fractures.- Classify fractures.- Identify the signs and symptoms of bone and joint infections	To identify the mechanism of fractures		Outline the treatment ways
Hip disorders and Developmental Dysplasia of the Hip (DDH).	4	Outline the etiological theories		Demonstrate the clinical skills necessary for clinical diagnosis	Outline treatment measures
Knee Problems	5	Classify Knee Disorders Investigations of knee disorders			How to examine the Knee
Hand	6+7	Understand important anatomical aspects Identify hand infections			Outline the treatment principles for hand problems
Spine	8+9	Classify spinal disorders High light the importance of neurological findings		Examine the spine.	Treatment plan for different spinal disorders
Shoulder and elbow joints	10+11	Classify shoulder and elbow disorders		Demonstrate clinical skills in finding abnormal signs	Plan treatment protocols for disorders affecting these joints
Ankle and Foot	12+13	To know the normal gait and stand Investigate disorders of the ankle and foot		Demonstrate clinical skills in finding abnormal signs	To treat the most common disorders of the area

Complications of fractures	14+15	To know the early general and local complications To know the late complications	How to diagnose the complications		How to treat the complications
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MDCN4221	Urology						
Course type	Major Needs	Level	4	hours (theoretical)	2	hours (practical)	0

Course Objectives

- 1 - Knowledge Acquisition: The course aims to provide students with a comprehensive understanding of the anatomy, physiology, and pathophysiology of the urology related structures.
- 2 - Surgical Skills Development: Students should acquire the necessary surgical skills and techniques required for performing various procedures within the specialty.
- 3 - Patient Evaluation and Diagnosis: The course aims to teach students how to evaluate and diagnose patients presenting with a wide range of urological conditions.
- 4 - Collaboration and Multidisciplinary Care: Urology surgeons often work as part of a multidisciplinary team, especially in cases involving complex conditions or comorbidities

Intended Learning Outcomes

Knowledge and Understanding	* Knowledge Acquisition: Acquire a comprehensive understanding of the anatomy, physiology, and pathology of the urinary system, as well as the principles and practices of urological care.
Intellectual Skills	* Diagnostic Skills: Develop the ability to obtain a thorough urological history from patients, perform appropriate physical examinations, and interpret relevant diagnostic tests and imaging studies.
Professional Skills	* Patient Care: Develop the ability to provide comprehensive, compassionate, and patient-centered urological care, considering the physical, emotional, and psychosocial aspects of patients and their families.
General Skill	* Diagnostic Skills: Develop the ability to obtain a thorough urological history from patients, perform appropriate physical examinations, and interpret relevant diagnostic tests and imaging studies.

Course Contents

- 1 - Basic Anatomy and Physiology of the Urinary System
- 2 - Urological Investigations and Diagnostic Techniques
- 3 - Benign Prostatic Hyperplasia (BPH) and Lower Urinary Tract Symptoms (LUTS)
- 4 - Urinary Tract Infections and Inflammatory Conditions
- 5 - Urologic Oncology: Prostate, Bladder, Kidney, and Testicular Cancers
- 6 - Urinary Stone Disease: Diagnosis, Management, and Surgical Approaches
- 7 - Urologic Trauma: Evaluation and Surgical Interventions
- 8 - Male Sexual Health and Erectile Dysfunction
- 9 - Male Infertility and Assisted Reproductive Techniques
- 10 - Female Urology: Incontinence, Prolapse, and Urinary Tract Fistulas
- 11 - Urologic Emergencies: Acute Scrotum, Priapism, and Urosepsis
- 12 - Urologic Complications and Management Strategies

Teaching and Learning Methods

- 1 - Clinical Rotations: students work in Urology surgery departments under the guidance and supervision of experienced surgeon
- 2 - Moring Rounds: participation in surgical grand rounds, where interesting or challenging surgical cases are presented and discussed by faculty and students.
- 3 - Lectures: Traditional lectures are commonly used to present fundamental concepts, principles, and theoretical knowledge related to ENT surgery
- 4 - Case-based Learning: This approach involves presenting students with clinical cases that require surgical interpretation and analysis

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Theoretical multiple-choice question (MCQ) exam	1 Hours	100

Books and References

Essential books	Campbell-Walsh Urology Smith and Tanaghos General Urology
Recommended books	Clinical Manual of Urology

MDCN4102 General surgery (1) (Junior)

Course type Major Needs Level 4 hours (theoretical) 10 hours (practical) 0

Course Objectives

- 1 - Knowledge acquisition: The course aims to provide students with a comprehensive understanding of the principles, theories, and concepts related to General Surgery.
- 2 - Diagnostic skills: Students are taught how to evaluate patients with surgical conditions, interpret diagnostic tests and imaging studies, and arrive at a proper diagnosis. They learn to identify surgical emergencies and develop the ability to prioritize and manage patients accordingly.
- 3 - Surgical skills development: Students acquire hands-on experience and technical skills necessary for performing common surgical procedures. This includes learning aseptic techniques, suturing, knot tying, and using surgical instruments. They may also have opportunities to observe or assist in surgeries performed by experienced surgeons.
- 4 - Patient management: The course aims to train students in managing pre-operative, intra-operative, and post-operative care of surgical patients.

Intended Learning Outcomes

Knowledge and Understanding	* Demonstrate knowledge and understanding of the anatomical structures, physiological functions, and pathophysiological processes relevant to General Surgery.
Intellectual Skills	* Apply principles of evidence-based medicine to evaluate and diagnose surgical conditions, and formulate appropriate management plans.
Professional Skills	* Develop proficiency in performing basic surgical procedures, including wound closure, suturing techniques, and minor surgical interventions.
General Skill	* Acquire skills in pre-operative assessment, including patient history-taking, physical examination, and ordering and interpreting relevant investigations.

Course Contents

- 1 - Introduction to General Surgery: includes overview of the field of General Surgery, history-taking, physical examination, and ordering and interpreting relevant investigations.
- 2 - Surgical Lectures: Didactic lectures covering essential topics in General Surgery, including specific surgical conditions, principles of surgical management, and surgical techniques.
- 3 - Surgical Skills Workshops: which includes hands-on training to develop and improve surgical skills, and simulation-based training using surgical models or virtual reality platforms to practice basic and advanced surgical procedures.
- 4 - Clinical rotations in surgical departments or surgical specialty services, providing opportunities for direct patient care, observation of surgeries, and participation in patient management.

Teaching and Learning Methods

- 1 - Lectures: Didactic lectures delivered by experienced surgeons or faculty members provide an overview of the theoretical concepts, principles, and surgical techniques relevant to General Surgery.
- 2 - Clinical Rotations: Clinical rotations allow students to gain firsthand experience by observing surgeries, participating in patient care, and assisting in surgical procedures under supervision.
- 3 - Simulation-based Learning: Simulation-based learning uses realistic virtual or physical environments to replicate surgical scenarios
- 4 - Case-based discussions to analyze and discuss surgical cases, including pre-operative evaluation, surgical decision-making, and post-operative management
- 5 - Moring Rounds: participation in surgical grand rounds, where interesting or challenging surgical cases are presented and discussed by faculty and students

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Theoretical multiple-choice question (MCQ) exams	2 Hours	50
OSCE (Objective Structured Clinical Examination) static stations	45 minutes	20
OSCE (Objective Structured Clinical Examination) dynamic stations	45 minutes	20
Clinical rotations attendance		10

Books and References

Essential books	Bailey & Loves Short Practice of Surgery, 27th Edition Browns Introduction to the Symptoms & Signs of Surgical Disease
Recommended books	Schwartzs Principles of Surgery Surgical Recall

Knowledge and Skills Matrix

Main Course Contents	Study Week	Knowledge and Understanding	Intellectual Skills	Professional Skills	General Skill
Introduction to General Surgery, Lectures, Surgical Skills Workshops, and Clinical rotations	8 Weeks	Demonstrate knowledge and understanding of the anatomical structures, physiological functions, and pathophysiological processes relevant to General Surgery	Apply principles of evidence-based medicine to evaluate and diagnose surgical conditions, and formulate appropriate management plans	Develop proficiency in performing basic surgical procedures, including wound closure, suturing techniques, and minor surgical interventions.	Acquire skills in pre-operative assessment, including patient history-taking, physical examination, and ordering and interpreting relevant investigations

MDCN4231 Dermatology

Course type Major Needs Level 4 hours (theoretical) 2 hours (practical) 0

Course Objectives

- 1 - Understand the Anatomy and Physiology of the Skin: Students should develop a comprehensive understanding of the structure, function, and biology of the skin, including its layers, appendages, and immunological properties
- 2 - Identify and Diagnose Dermatological Conditions: Students should learn to recognize and diagnose common dermatological conditions, including infectious, inflammatory, neoplastic, and autoimmune skin disorders, through clinical examination, history-taking, and appropriate use of diagnostic tools
- 3 - Understand Dermatopathology: Students should gain knowledge of dermatopathology, including the interpretation of skin biopsies, histological patterns, and immunohistochemistry, to aid in the diagnosis and management of dermatological conditions
- 4 - Learn Principles of Dermatological Therapy: Students should understand the principles and modalities of dermatological therapy, including topical treatments, systemic medications, phototherapy, laser therapy, and surgical interventions, and their indications, contraindications, and potential adverse effects
- 5 - Develop Clinical Skills in Dermatology: Students should acquire skills in performing dermatological procedures, such as skin biopsies, cryotherapy, suturing, and wound management, as well as performing and interpreting dermatological tests, including patch testing and skin allergy testing
- 6 - Understand Dermatological Emergencies: Students should be familiar with dermatological emergencies, including Stevens-Johnson syndrome, toxic epidermal necrolysis, severe drug reactions, and acute allergic reactions, and develop skills in their recognition, management, and referral
- 7 - Develop Patient Communication and Counseling Skills: Students should acquire effective communication skills to establish rapport with patients, convey diagnoses, treatment plans, and prognosis, and provide counseling on sun protection, skincare, and management of chronic skin conditions
- 8 - Understand Dermatological Research and Evidence-Based Practice: Students should be familiar with research methodologies in dermatology, critically appraise scientific literature, and understand the importance of evidence-based practice in dermatological care and treatment decisions
- 9 - Promote Ethical and Professional Conduct: Students should uphold ethical principles, respect patient autonomy, maintain confidentiality, and demonstrate professionalism in their interactions with patients, colleagues, and the healthcare team

Intended Learning Outcomes

Knowledge and Understanding

- * Students should demonstrate a comprehensive understanding of the anatomy, physiology, and histology of the skin, including its layers, appendages, vascular supply, and immune responses
- * Students should be able to identify and classify common dermatological conditions, including infectious diseases, inflammatory disorders, neoplastic conditions, autoimmune diseases, and genetic skin disorders. They should possess knowledge of the etiology, pathogenesis, clinical features, and differential diagnosis of these conditions
- * Students should develop an understanding of dermatopathology, including the interpretation of skin biopsy specimens, recognition of characteristic histological patterns, immunohistochemistry, and molecular diagnostics in dermatological diseases
- * Students should learn and apply various diagnostic techniques used in dermatology, such as dermatoscopy, skin scraping, KOH examination, patch testing, and skin allergy testing. They should understand the indications, limitations, and interpretation of these diagnostic tools
- * Students should acquire knowledge of the principles and modalities of dermatological therapy, including topical medications, systemic therapies, phototherapy, laser treatment, cryotherapy, and surgical interventions. They should understand the indications, contraindications, potential side effects, and monitoring requirements for these treatment modalities

Intellectual Skills

- * Students should develop the ability to critically analyze and evaluate clinical information, research findings, and diagnostic results to formulate accurate diagnoses, differential diagnoses, and treatment plans for dermatological conditions
- * Students should be able to synthesize and integrate patient history, physical examination findings, laboratory results, and diagnostic tests to develop logical and evidence-based management strategies for dermatological conditions
- * Students should develop skills in generating and narrowing down differential diagnoses based on clinical features, laboratory findings, and histopathological data, and employing a systematic approach to arrive at accurate diagnoses
- * Students should be able to interpret and analyze diagnostic test results, including dermatopathology reports, laboratory findings, and imaging studies, to guide clinical decision-making and treatment planning
- * Students should apply critical appraisal skills to evaluate and incorporate relevant scientific literature, guidelines, and clinical research into their practice, ensuring evidence-based dermatological care and treatment decisions

Professional Skills

- * Students should develop skills in conducting comprehensive dermatological patient assessments, including history-taking, physical examinations, and appropriate use of diagnostic tools, to gather relevant information for accurate diagnosis and treatment planning
- * Students should acquire proficiency in performing dermatological procedures, such as skin biopsies, cryotherapy, suturing, and wound management, ensuring patient safety, comfort, and optimal outcomes
- * Students should be able to develop individualized treatment plans for dermatological conditions, considering patient-specific factors, evidence-based guidelines, and therapeutic options. They should also demonstrate skills in monitoring treatment response and adjusting management as necessary

Professional Skills	<ul style="list-style-type: none"> * Students should develop effective patient communication skills, including the ability to explain diagnoses, treatment options, and prevention strategies in clear and understandable language. They should provide appropriate counseling on sun protection, skincare, medication adherence, and self-care * Students should acquire skills in accurate and comprehensive clinical documentation, including medical history, physical examination findings, treatment plans, and progress notes, ensuring proper communication, continuity of care, and legal and ethical standards
General Skill	<ul style="list-style-type: none"> * Students should develop critical thinking skills to analyze and evaluate complex dermatological cases, research literature, and emerging trends, allowing them to make informed clinical decisions and adapt to varying patient presentations * Students should acquire problem-solving skills in the context of dermatology, enabling them to identify and address clinical challenges, consider alternative approaches, and develop creative solutions for the management of dermatological conditions * Students should cultivate strong interpersonal skills, enabling them to interact with patients, colleagues, and other healthcare professionals with respect, empathy, cultural sensitivity, and professionalism * Students should acquire skills in efficiently managing and organizing dermatological information, including patient data, research literature, and clinical guidelines, to facilitate effective decision-making, continuity of care, and documentation * Students should demonstrate proficiency in utilizing relevant technological tools and platforms used in dermatology practice, including electronic health records, imaging software, telemedicine platforms, and mobile applications for dermatological assessment and monitoring * Students should develop skills in managing their time effectively, prioritizing tasks, and organizing resources to optimize productivity and maintain workflow efficiency in a dermatology setting

Course Contents

<ol style="list-style-type: none"> 1 - Introduction to Dermatology 2 - Dermatological Anatomy and Physiology 3 - Diagnostic Techniques in Dermatology 4 - Dermatological Conditions 5 - Dermatological Procedures and Therapies 6 - Dermatological Emergencies and Urgent Conditions 7 - Dermatological Disorders in Specific Populations 8 - Dermatological Research and Innovations 9 - Professional Skills and Practice Management
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Teaching and Learning Methods

<ol style="list-style-type: none"> 1 - Lectures 2 - Case-Based Learning 3 - Small-Group Discussions 4 - Dermatopathology Sessions 5 - Clinical Rotations 6 - Dermatology Ward Rounds 7 - Dermatology Clinics 8 - Dermatological Procedures Workshops 9 - Virtual Dermatology Modules 10 - Dermatology Conferences and Guest Lectures
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Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
First exam	6th week	20
attendance	At the end of the course	10
Research	8th week	20
Final exam	At the end of the course	50

Books and References

Essential books	Clinical Dermatology by Thomas P. Habif
Recommended books	Dermatology: An Illustrated Colour Text by David Gawkrödger and Michael R. Ardern-Jones
Other References (Periodical, web sites, etc.)	American Academy of Dermatology (AAD) https://www.aad.org Dermatology Online Journal (DOJ) https://escholarship.org/uc/derm

MDCN4225	Medical Imaging						
Course type	Major Needs	Level	4	hours (theoretical)	2	hours (practical)	0

Course Objectives

- 1 - Knowledge acquisition: The course aims to provide students with a comprehensive understanding of the principles, techniques, and applications of radiology
- 2 - Skill development: Students are trained in the practical aspects of radiology, including positioning and handling of patients, operating radiographic equipment, and obtaining high-quality images. They also learn about image processing, manipulation, and enhancement techniques
- 3 - Image interpretation: Students should be able to develop the ability to interpret radiographic images accurately.
- 4 - Communication and teamwork: Radiologists often work as part of a multidisciplinary team, so the course emphasizes the development of effective communication skills. Students learn how to convey radiological findings clearly and concisely to other healthcare professionals, collaborate in patient care, and participate in multidisciplinary discussions.
- 5 - Professionalism and ethics: Students are introduced to ethical considerations and professional responsibilities in radiology, including patient privacy, informed consent, and radiation safety

Intended Learning Outcomes

Knowledge and Understanding	* Knowledge: Students should demonstrate a comprehensive understanding of radiographic imaging modalities, including their principles, advantages, limitations, and app
Intellectual Skills	* Diagnostic Skills: Develop the ability to use radiological imaging as a diagnostic tool effectively, correlating imaging findings with clinical information to make accurate diagnoses and contribute to patient management plans
Professional Skills	* Technical Skills: Acquire proficiency in the practical aspects of radiology, including patient positioning and handling, operation of radiographic equipment, and obtaining high-quality images
General Skill	* Image Interpretation: Apply knowledge and critical thinking skills to interpret radiographic images accurately, identify normal anatomical structures, recognize pathological conditions, and differentiate between various disease processes and injuries.

Course Contents

- 1 - Introduction to Diagnostic Radiology: History, Scope, and Importance
- 2 - Radiographic Techniques: Principles and Equipment
- 3 - X-ray Imaging: Interpretation and Common Findings
- 4 - CT Imaging: Abdomen and Pelvis
- 5 - CT Imaging: Chest and Cardiovascular System
- 6 - MRI Imaging: Brain and Spinal Cord
- 7 - MRI Imaging: Musculoskeletal System
- 8 - Ultrasound Imaging: Abdominal and Pelvic Organs
- 9 - Interventional Radiology: Principles and Techniques
- 10 - Nuclear Medicine Imaging: Principles and Applications
- 11 - Chest Radiology: Interpretation and Imaging of Pulmonary Diseases

Teaching and Learning Methods

- 1 - Lectures: Traditional lectures are commonly used to present fundamental concepts, principles, and theoretical knowledge related to radiology.
- 2 - Clinical Rotations: students work in radiology departments under the guidance and supervision of experienced radiologists.
- 3 - Case-based Learning: This approach involves presenting students with clinical cases that require radiological interpretation and analysis
- 4 - Hands-on Training: Students often have opportunities to practice radiographic positioning and imaging techniques in a supervised setting

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Theoretical multiple-choice question (MCQ) exams	1 Hours	100

Books and References

Essential books	Grainger & Allison's Diagnostic Radiology: A Textbook of Medical Imaging
Recommended books	Learning Radiology: Recognizing the Basics Fundamentals of Diagnostic Radiology

MDCN4433 Community medicine

Course type	Major Needs	Level	4	hours (theoretical)	4	hours (practical)	0
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Course Objectives

- 1 - Understand the concepts and principles of community medicine, including social determinants of health, epidemiology, and healthcare delivery systems.
- 2 - Develop skills in conducting community health assessments, planning and implementing health promotion programs, and evaluating their impact.
- 3 - Apply knowledge of community medicine to identify health disparities, design interventions, and advocate for equitable healthcare policies.

Intended Learning Outcomes

Knowledge and Understanding	<ul style="list-style-type: none"> * Comprehend the social determinants of health and their influence on individual and population health outcomes. * Understand the principles of epidemiology and its application in disease surveillance, outbreak investigation, and health needs assessment. * Gain knowledge of healthcare systems, policy development, and the role of community medicine in addressing public health challenges
Intellectual Skills	<ul style="list-style-type: none"> * Analyze and interpret health data to identify patterns, trends, and risk factors within populations. * Critically evaluate the effectiveness of public health interventions and evidence-based practices * Apply critical thinking skills to assess the impact of social, environmental, and behavioral factors on health disparities and develop strategies for health promotion
Professional Skills	<ul style="list-style-type: none"> * Conduct community health assessments and apply epidemiological methods to identify health needs and prioritize interventions. * Design, implement, and evaluate community-based health promotion programs and interventions. * Collaborate effectively with interdisciplinary teams and community stakeholders to address health disparities and improve population health.

Course Contents

1 - Introduction to Community Medicine
2 - Health Promotion and Disease Prevention
3 - Epidemiology and Biostatistics
4 - Healthcare Systems and Policy
5 - Environmental Health and Occupational Health
6 - Communicable Diseases and Outbreak Management
7 - Non-Communicable Diseases and Risk Factors
8 - Health Education and Health Promotion

Teaching and Learning Methods

1 - Lectures
2 - Small Group Activities
3 - Small Group Discussions
4 - Seminars
5 - Self-Directed Study

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Quizes		30
Mid term		30
Final exam		40

Books and References

Recommended books	<p>"Community Medicine: A Students Manual" by S. N. Chugh</p> <p>Textbook of Community Medicine" by J. C. Das</p> <p>Parks Textbook of Preventive and Social Medicine" by K. Park</p>
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Course Objectives

- 1 - Explain the basic principles and philosophy of Family Practice
- 2 - Apply holistic and comprehensive health care in the context of continuity of care and promotive, preventive, curative, and rehabilitative care through an organized team approach
- 3 - Give the rationale for trained family physicians at the Primary Health Care level for improved healthcare
- 4 - Explain the extended role of family physicians in providing care to individuals, families, and communities

Intended Learning Outcomes

Knowledge and Understanding	<ul style="list-style-type: none"> * Define the principles of Family Medicine in the context of provision of health care to improve health status of individuals, families and communities * Describe basic principles of consultation, counseling and referral
Intellectual Skills	<ul style="list-style-type: none"> * Explain the basic Principles of Family Medicine Appreciate the role of physician in health promotion and prevention at individual level and community level * Recognize the disease pattern in different age groups and sexes
Professional Skills	<ul style="list-style-type: none"> * Demonstrate satisfactory ability to use oral and written skills to communicate with patients stakeholders in PHC * Analyze and interpret statistical data and information of PHC to manage health related problems of individual and community
General Skill	<ul style="list-style-type: none"> * Demonstrate good rapport and applies good effective communication skills * Employ the principles of problem solving and produce an appropriate decision-making

Course Contents

- 1 - 1. Introduction to Family Medicine, Introduction to Family Medicine and Health System
- 2 - Family Medicine Main Health Problems and approach (lectures, Case discussions)
- 3 - Consultation Skills Workshop
- 4 - Breaking Bad News Workshop
- 5 - Evidence Based Medicine Workshop
- 6 - Audit (Practice of Audit in PHCC)
- 7 - Field (Practice of Family Medicine in PHCC)

Teaching and Learning Methods

- 1 - Lecture
- 2 - Tutorial
- 3 - Skill laboratory
- 4 - Practical/Fieldwork

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Midterm Written (MCQs) Exam	1 hr	20
Final Written MCQs) Exam	2 hr	35
Final OSCE	1 hr	25
Clinical Field Assessment		10
Case Discussion		5
Audit Report		5

Books and References

Course note	Swansons Family Medicine Review Essentials of Family Medicine
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MDCN4232	Health Economics						
Course type	Major Needs	Level	4	hours (theoretical)	2	hours (practical)	0

Course Objectives

<ol style="list-style-type: none"> 1 - Understand the fundamental principles and concepts of health economics and their application to healthcare systems. 2 - Develop skills in economic evaluation and analysis to inform healthcare decision-making, resource allocation, and policy development 3 - Apply economic theories and frameworks to critically analyze healthcare financing, cost-effectiveness, and healthcare delivery models
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Intended Learning Outcomes

Knowledge and Understanding	<ul style="list-style-type: none"> * Comprehend the basic principles of health economics, including supply and demand, market dynamics, and efficiency in healthcare. * Understand the concepts of healthcare financing, insurance, and risk pooling, and their implications for healthcare access and affordability. * Gain knowledge of economic evaluation methods, such as cost-effectiveness analysis and cost-benefit analysis, and their role in informing healthcare decision-making
Intellectual Skills	<ul style="list-style-type: none"> * Critically analyze economic factors influencing healthcare delivery, including reimbursement systems, payment models, and provider incentives * Evaluate the economic impact of healthcare interventions, technologies, and policies on population health outcomes and healthcare costs. * Apply economic theories and frameworks to assess healthcare systems efficiency, equity, and sustainability and propose strategies for improvement
Professional Skills	<ul style="list-style-type: none"> * Apply economic evaluation methods, such as cost-effectiveness analysis and cost-benefit analysis, to assess healthcare interventions and programs * Analyze healthcare markets, insurance systems, and financing mechanisms to understand their impact on healthcare access, quality, and affordability. * Collaborate effectively with healthcare stakeholders to address resource allocation challenges and optimize healthcare delivery

Course Contents

- 1 - Introduction to Health Economics
- 2 - Supply and Demand in Healthcare
- 3 - Healthcare Financing and Insurance
- 4 - Economic Evaluation in Healthcare
- 5 - Healthcare Delivery and Efficiency
- 6 - Healthcare Policy and Reform
- 7 - Equity and Access in Healthcare

Teaching and Learning Methods

- 1 - Lectures
- 2 - Seminars
- 3 - Small Group Activities
- 4 - Self-Directed Study
- 5 - Small Group Discussions

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Quizes		30
Mid term		30
Final examination		60

Books and References

Recommended books "Health Economics and Policy" by James W. Henderson, Thomas E. Getzen
"The Economics of Health and Health Care" by Sherman Folland, Allen C. Goodman, Miron Stano
"Health Economics" by Jay Bhattacharya, Timothy Hyde, Peter Tu

MDCN5811 Gynecology and Obstetrics (1) (Junior)

Course type Major Needs Level 5 hours (theoretical) 8 hours (practical) 0

Course Objectives

- 1 - Understand the normal anatomy and physiology of the female reproductive system, including the menstrual cycle, conception, pregnancy, and childbirth.
- 2 - Recognize and manage high-risk pregnancies, including complications such as gestational diabetes, preeclampsia, and multiple pregnancies.
- 3 - Acquire knowledge and skills related to antenatal care, including prenatal screening, ultrasound examination, and management of common pregnancy-related issues.
- 4 - Develop proficiency in conducting normal deliveries and managing obstetric emergencies, such as postpartum hemorrhage, shoulder dystocia, and fetal distress.
- 5 - Demonstrate effective communication skills and provide compassionate care to women, respecting their autonomy, privacy, and cultural beliefs.
- 6 - Identify and manage common gynecological conditions such as menstrual disorders, pelvic pain, infections
- 7 - Provide counseling and education on contraception methods, their mechanisms of action, effectiveness, and appropriate use.

Intended Learning Outcomes

Knowledge and Understanding

- * Demonstrate a comprehensive understanding of the normal anatomy and physiology of the female reproductive system.
- * Explain the etiology, pathophysiology, and natural history of common gynecological conditions and obstetric complications.
- * Describe the principles and indications for various diagnostic procedures, medical treatments, and surgical interventions in OB/GYN.
- * Perform a thorough history and physical examination of women, including gynecological and obstetric evaluations.
- * Recognize and interpret findings from diagnostic tests, such as laboratory investigations, imaging studies, and fetal monitoring.
- * Demonstrate proficiency in conducting normal vaginal deliveries and managing common obstetric emergencies
- * Provide comprehensive antenatal care, including risk assessment
- * Manage high-risk pregnancies and complications effectively, ensuring the well-being of both the mother and fetus
- * Demonstrate effective communication skills when interacting with patients, families, and healthcare teams.
- * Provide counseling and education on contraception methods, their mechanisms of action, effectiveness, and appropriate use.

Course Contents

- 1 - Introduction : includes overview of the field of obstetric and gynecology, history-taking, physical examination, and ordering and interpreting relevant investigations.
- 2 - Lectures: Didactic lectures covering essential topics in obstetric and gynecology
- 3 - Attending In-patient Floors and learn clinical assessment, examination and management methods supervised by consultants and fellows
- 4 - Attending the delivery room and learn clinical assessment , examination and management of normal labour, attending operative deliveries and caesarean sections
- 5 - Attending in operation theatres for observing gynaecological procedures & operations.

Teaching and Learning Methods

- 1 - Didactic Lectures: Lectures are used to deliver foundational knowledge and theoretical concepts in OB/GYN. Faculty members present information on anatomy, physiology, pathophysiology, and management approaches through structured presentations. Lectures may include multimedia resources, case discussions, and interactive elements to engage students.
- 2 - Problem-Based Learning (PBL): PBL is an active learning approach that involves presenting students with clinical scenarios or problems related to OB/GYN. Students work in small groups to identify and analyze the issues, develop hypotheses, and propose solutions based on available evidence. Facilitators guide the process and stimulate discussion and self-directed learning.
- 3 - Clinical Skills Training: Clinical skills training focuses on developing practical skills essential for OB/GYN practice
- 4 - Simulation-Based Training: Simulation-based training involves using simulated patient scenarios, mannequins, and task trainers to replicate clinical situations
- 5 - Clinical Rotations and Clerkships: Clinical rotations and clerkships provide students with direct exposure to patient care in OB/GYN settings. Under supervision, students participate in obstetric and gynecological evaluations, prenatal care, labor and delivery, and postpartum care. They engage in clinical discussions, observe procedures, and learn from experienced clinicians.
- 6 - Case-Based Learning: Case-based learning involves presenting students with real or hypothetical patient cases that require analysis and problem-solving. Students review medical records, interpret diagnostic tests, and formulate management plans based on the presented cases

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Theoretical MCQ exam	2 hrs	50
OSCE Static	1 hr	15
OSCE Dynamic	1 hr	25
Clinical rotation attendance	6 weeks.	10

Books and References

Course note Hacker & Moores Essentials of Obstetrics and Gynecology
Illustrated obstetrics and Gynaecology

MDCN5214 Hematology and Oncology

Course type Major Needs Level 5 hours (theoretical) 2 hours (practical) 0

Course Objectives

- 1 - be familiar with the diagnosis, evaluation, and management of hematologic malignancies
- 2 - recognize principles of new developments in biologic therapy of cancer
- 3 - recognize the latest advances in cancers of the lung, the breast, and the gastrointestinal tract
- 4 - Analyse and discuss issues related to diverse personal, disease and treatment characteristics and their potential impact on the cancer journey

Intended Learning Outcomes

- | | |
|------------------------------------|---|
| Knowledge and Understanding | <ul style="list-style-type: none">* understand red cell disorders* understand both established information and recent clinical advances in coagulopathies, anticoagulant and thrombolytic therapies* understand the most recent advances in the pharmacology and toxicology of anti-neoplastic drugs* understand the principles of management of gynecologic and other genito-urinary malignancies |
| General Skill | <ul style="list-style-type: none">* Communicate ideas and arguments effectively |

Course Contents

- 1 - Hemoglobinopathies and sickle cell disorders
- 2 - Classification of anemias
- 3 - Bone marrow failure syndromes
- 4 - Leukopenia and leukocytosis/ WBC disorders
- 5 - Lymph nodes disorders and lymphoma
- 6 - Tumour lysis syndrome and haematological emergencies
- 7 - Thrombophilias and antiphospholipid syndromes
- 8 - Acute leukemias and myelodysplastic syndromes
- 9 - Chemotherapeutic agents
- 10 - Febrile neutropenia

Teaching and Learning Methods

- 1 - doctors lectures notes
- 2 - case scenario simulation of common clinical cases
- 3 - Bed-side teaching
- 4 - videos and simulation labs

Teaching and Learning Methods for the Disabled Students

- 1 - Lectures
- 2 - Help each student according to his needs and his condition

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
multiple choice exam	120	60
quizzes	15	30
case presentation	10	10

Books and References

Course note	doctors lectures notes
Essential books	Robbins and Cotran Pathologic basis of disease TENTH Edition Robbins and Cotran Pathologic basis of disease tenth Edition

MDCN5423

Neurology

Course type

Major Needs

Level

5

hours (theoretical)

4

hours (practical)

0

Course Objectives

- 1 - Understanding Neuroanatomy: Medical students should develop a solid understanding of the structure and function of the nervous system, including the brain, spinal cord, and peripheral nerves. This includes learning about different regions, pathways, and connections within the nervous system.
- 2 - Recognizing Neurological Disorders: Students should become familiar with the common neurological disorders encountered in clinical practice, such as stroke, epilepsy, neurodegenerative diseases (e.g., Alzheimers disease, Parkinsons disease), multiple sclerosis, and peripheral neuropathies
- 3 - Performing a Neurological Examination: Medical students should learn how to conduct a comprehensive neurological examination, which includes assessing cranial nerves, motor and sensory function, coordination, reflexes, and mental status
- 4 - Interpreting Diagnostic Tests: Students should gain knowledge and skills in interpreting diagnostic tests commonly used in neurology, such as brain imaging (MRI, CT scans), electroencephalography (EEG), nerve conduction studies, and lumbar puncture
- 5 - Developing Differential Diagnoses: Students should learn how to generate a differential diagnosis for patients presenting with neurological symptoms, considering both common and rare conditions.
- 6 - Formulating Management Plans: Medical students should develop the ability to formulate management plans for patients with neurological disorders.

Intended Learning Outcomes

Knowledge and Understanding	<ul style="list-style-type: none">* Understanding the structure and function of the nervous system, including neuroanatomy and neurophysiology.* Knowledge of common neurological disorders, their etiology, pathophysiology, and clinical presentations.* Understanding the principles of neuroimaging techniques and their interpretation in diagnosing neurological conditions.* Familiarity with the basic principles of neuropharmacology and the use of medications in neurological treatment.* Knowledge of the different diagnostic tests used in neurology, such as electroencephalography (EEG), electromyography (EMG), and lumbar puncture, and their indications and interpretation.* Understanding the principles of neurological examination, including assessment of cranial nerves, motor and sensory functions, and reflexes* Knowledge of the common neurological emergencies and appropriate management strategies.* Knowledge of the major neurodegenerative diseases, such as Alzheimers disease and Parkinsons disease, and their management.
Intellectual Skills	<ul style="list-style-type: none">* Clinical Reasoning: Develop the ability to critically analyze patient information, including medical history, examination findings, and diagnostic tests, to arrive at accurate diagnoses and formulate appropriate management plans* Problem Solving: Apply knowledge of neurology principles and concepts to identify and solve clinical problems related to neurological disorders.* Data Interpretation: Analyze and interpret clinical and investigative data, such as neuroimaging studies, EEG recordings, or laboratory results, to understand the underlying pathophysiology and make informed clinical decisions.* Decision Making: Make evidence-based decisions in the management of neurological conditions, weighing the risks and benefits of different treatment options and considering individual patient factors.* Clinical Judgment: Develop the ability to make sound judgments and decisions based on clinical experience and knowledge of neurology, considering patient preferences, ethical considerations, and the overall context of care.
Professional Skills	<ul style="list-style-type: none">* Clinical Assessment: Demonstrate proficiency in conducting comprehensive neurological assessments, including history-taking, physical examination, and interpretation of relevant findings* Diagnostic Skills: Develop the ability to accurately diagnose and classify various neurological disorders based on clinical presentations, examination findings, and diagnostic test results.* Treatment Planning: Formulate evidence-based management plans for patients with neurological conditions, considering the available treatment options, potential risks and benefits, and individual patient factors.

Course Contents

<ol style="list-style-type: none">1 - Introduction to Neurology2 - Neuroanatomy3 - Neurological Examination4 - Common Neurological Disorders5 - Neurological Diagnostics6 - Neurological Emergencies7 - Neuropharmacology

Teaching and Learning Methods

- 1 - Lectures
- 2 - Small Group Discussions
- 3 - Case-Based Learning
- 4 - Bedside Teaching
- 5 - Clinical Skills Simulation

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Final examination	1 hr	100

MDCN5215	Vascular and Cardiothoracic Surgery						
Course type	Major Needs	Level	5	hours (theoretical)	2	hours (practical)	0

Course Objectives

- 1 - Integrate basic science knowledge-including anatomy, physiology and pathology to the practice of vascular surgery
- 2 - Perform and analyze a complete medical history and physical examination

Intended Learning Outcomes

Knowledge and Understanding	<ul style="list-style-type: none">* Integrate basic science knowledge-including anatomy, physiology and pathology to the practice of vascular surgery.* Recognize the clinical manifestations, complications, diagnostic modalities, outcomes and treatment plans for common and/or important vascular surgical problems, with special emphasis on emergencies and malignancies.
Intellectual Skills	<ul style="list-style-type: none">* Perform and analyze an emergency-directed examination for patients with common vascular surgical emergencies* Interpret patient symptoms and physical findings in terms of their anatomic, pathologic and functional diagnostic significances
Professional Skills	<ul style="list-style-type: none">* Perform full physical examination appropriate to age and gender in acute and chronic clinical conditions* Provide first aid measures (Resuscitate) for emergency patients; injured and /or critically-ill
General Skill	<ul style="list-style-type: none">* Respect Patients confidentiality and deliver care in an honest, considerate and compassionate manner

Course Contents

- 1 - compartment syndrome
- 2 - aneurysms
- 3 - lower limb amputations
- 4 - acute ischemia
- 5 - chronic ischemia
- 6 - atherosclerosis
- 7 - mesentric ischemia
- 8 - ulcers and diabetic foot
- 9 - peripheral arterial disease

Teaching and Learning Methods

- 1 - Lectures
- 2 - videos and simulation labs
- 3 - Bed-side teaching

Teaching and Learning Methods for the Disabled Students

- 1 - Help each student according to his needs and his condition
- 2 - Lectures

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
multiple choice exam	120	60
Attendance		10
quizzes	15	30

Books and References

Course note doctors lectures notes

MDCN5213	Forensic medicine						
Course type	Major Needs	Level	5	hours (theoretical)	2	hours (practical)	0

Course Objectives

- 1 - Understanding the role of forensic medicine: Exploring the purpose and importance of forensic medicine in the legal system, including its role in investigating and preventing crime, identifying victims, and providing expert witness testimony in court.
- 2 - Knowledge of forensic pathology: Developing a comprehensive understanding of forensic pathology, including the study of autopsies, determining causes and mechanisms of death, forensic toxicology, and the interpretation of post-mortem findings.
- 3 - Forensic investigation techniques: Learning the various techniques and methods used in the investigation of crime scenes, including evidence collection, preservation, analysis, and documentation.
- 4 - Forensic identification and anthropology: Understanding the techniques used to identify victims and perpetrators of crimes, including fingerprinting, DNA profiling, forensic odontology, and forensic anthropology.
- 5 - Documentation and reporting: Developing skills in accurately and effectively documenting findings, writing forensic reports, and presenting expert testimony in court.
- 6 - Legal aspects of forensic medicine: Understanding the legal framework surrounding forensic medicine, including relevant laws, regulations, and legal processes related to criminal investigations, post-mortem examinations, and the role of the forensic medical examiner within the legal system.
- 7 - Ethical considerations: Discussing ethical considerations in forensic medicine, including patient confidentiality, consent, and the professional responsibilities of forensic practitioners.
- 8 - Interdisciplinary collaboration: Recognizing the importance of interdisciplinary collaboration between forensic medicine professionals, law enforcement agencies, legal professionals, and other relevant stakeholders in the criminal justice system.

Intended Learning Outcomes

Knowledge and Understanding	<ul style="list-style-type: none"> * Explain various medicolegal aspects of malpractice & ethics * Describe different medicolegal aspects of living and dead individuals regarding personal identification, diagnosis of death, causes and manner of death, postmortem changes * Explain medicolegal aspects of blood grouping and DNA in forensic field * Examine and write a proper primary report for a cases of wounds and injuries * Explain medicolegal aspects of different cases of sexual offences
Intellectual Skills	<ul style="list-style-type: none"> * Recognize common ethical dilemmas and suggest a proper solution. * Analyze different malpractice problems. * Analyze and recognize a clinical forensic cases
Professional Skills	<ul style="list-style-type: none"> * Identify living and dead individuals * Estimate time pass since death through assessment of postmortem changes * Identify different mechanisms and manners of death * Examine different wounds and injuries and write a proper primary report.
General Skill	<ul style="list-style-type: none"> * Know when and how to ask for senior consultation * Achieve informed consent from the patient or the patients surrogate for the treatment plan * Utilize IT skills and biostatistics properly to present significant work

Course Contents

<ol style="list-style-type: none"> 1 - Introduction in forensic medicine: Terminology & different medicolegal systems 2 - Thanatology 3 - Identification of living and dead individuals 4 - Wounds and its interpretation 5 - Sexual offences and its legal aspects 6 - Medico-legal aspects of infanticide 7 - Violent asphyxia 8 - Bodies recovered from water 9 - Child abuse 10 - Medicolegal aspects of pregnancy, abortion, delivery 11 - Medicolegal aspects of mental diseases 12 - Medical ethics & Malpractice
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Teaching and Learning Methods

<ol style="list-style-type: none"> 1 - Lectures 2 - Tutorials and case-based discussion 3 - Practical sessions

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Assignment		20
Final exam		60
Practical exam		20

Books and References

Essential books	Keith Simpson Forensic medicine
Other References (Periodical, web sites, etc.)	Forensic medicine Encyclopedia

MDCN5210 Ear, Nose & Throat

Course type	Major Needs	Level	5	hours (theoretical)	2	hours (practical)	0
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Course Objectives

- 1 - Knowledge Acquisition: The course aims to provide students with a comprehensive understanding of the anatomy, physiology, and pathophysiology of the ear, nose, throat, and related structures.
- 2 - Surgical Skills Development: Students should acquire the necessary surgical skills and techniques required for performing various procedures within the specialty.
- 3 - Patient Evaluation and Diagnosis: The course aims to teach students how to evaluate and diagnose patients presenting with a wide range of ENT conditions.
- 4 - Collaboration and Multidisciplinary Care: ENT surgeons often work as part of a multidisciplinary team, especially in cases involving complex conditions or comorbidities

Intended Learning Outcomes

Knowledge and Understanding	* Knowledge: Demonstrate a comprehensive understanding of the anatomy, physiology, and pathophysiology of the ear, nose, throat, and related structures
Intellectual Skills	* Diagnostic Skills: Develop the ability to evaluate and diagnose patients presenting with a variety of ENT conditions
Professional Skills	* Decision-Making: Develop the ability to assess patients and make appropriate surgical decisions based on a comprehensive evaluation of indications, contraindications, risks, and benefits of surgical interventions.
General Skill	* Patient Management: Demonstrate competence in managing patients throughout the surgical care continuum

Course Contents

- 1 - Hearing loss & Vertigo
- 2 - Orientation and Introduction: history & physical examination
- 3 - Chronic rhinosinusitis & Acute rhinosinusitis
- 4 - Acute and chronic otitis media & complications
- 5 - Foreign bodies in ENT
- 6 - Adenoids. acute and chronic tonsillitis, chronic sore throat
- 7 - Neck masses, pharyngeal tumors
- 8 - Epistaxis and facial trauma stridor and tracheostomy
- 9 - Hoarseness of voice, laryngeal tumors Acute & chronic otitis externa

Teaching and Learning Methods

- 1 - Decision-Making: Develop the ability to assess patients and make appropriate surgical decisions based on a comprehensive evaluation of indications, contraindications, risks, and benefits of surgical interventions.
- 2 - Clinical Rotations: students work in ENT surgery departments under the guidance and supervision of experienced surgeon
- 3 - Moring Rounds: participation in surgical grand rounds, where interesting or challenging surgical cases are presented and discussed by faculty and students.
- 4 - Lectures: Traditional lectures are commonly used to present fundamental concepts, principles, and theoretical knowledge related to ENT surgery
- 5 - Case-based Learning: This approach involves presenting students with clinical cases that require surgical interpretation and analysis

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Theoretical multiple-choice question (MCQ) exams	1 Hours	100

Books and References

Essential books	Baileys Head and Neck Surgery: Otolaryngology
Recommended books	Cummings Otolaryngology: Head and Neck Surgery
	Color Atlas of ENT Diagnosis
	Color Atlas of ENT Diagnosis

MDCN5821	Pediatrics (1) (Junior)						
Course type	Major Needs	Level	5	hours (theoretical)	8	hours (practical)	0

Course Objectives

- 1 - To build a foundation of basic knowledge, skills, and attitudes
- 2 - to provide quality care for children
- 3 - to serve as advocates for children and families.

Intended Learning Outcomes

Knowledge and Understanding	<ul style="list-style-type: none">* Describe the basic knowledge of growth and development (physical, physiologic, and psychosocial) and its clinical application from birth through childhood.* List the common pediatric acute and chronic illnesses.* List the common types of problems seen in ambulatory pediatrics.
Intellectual Skills	<ul style="list-style-type: none">* Obtain an appropriate history of patients and families if needed.* Perform proper physical examination.* Interpret data collected* Provide a prioritized problem list
Professional Skills	<ul style="list-style-type: none">* Respect and understanding of the roles and relationship of primary care and specialty care providers* Demonstrate personal qualities of reliability and dependability
General Skill	<ul style="list-style-type: none">* Adhere to the attendance policy.* Demonstrate interpersonal skills necessary to maintain professionalism, communicate appropriately with patients, their families, and other medical and paramedical personnel involved in patient care.

Course Contents

<ol style="list-style-type: none">1 - Introduction to history taking and physical examination in children2 - Basic Newborn Care3 - Anemia in Children4 - CNS Infections5 - Common Pediatric Behavioral Problems6 - Cystic Fibrosis7 - Common Pediatric Emergencies8 - immunization9 - Urinary tract infection10 - Introduction to Adolescent Medicine11 - Fluid and Electrolyte Management12 - Asthma13 - Approach and Introduction to Allergic Disorder14 - Nephrotic syndrome15 - Rickets16 - Approach and introduction to Immunodeficiency17 - Diarrhea and Malabsorption18 - Juvenile Idiopathic Arthritis19 - Renal Failure, Acute and Chronic20 - Diabetes Mellitus21 - Introduction to Medical Genetics and Metabolic Disorders I22 - Introduction to Medical Genetics and Metabolic Disorders II23 - Child Abuse and Neglect24 - Common Neonatal Problems25 - Respiratory Infections
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Teaching and Learning Methods

<ol style="list-style-type: none">1 - Lectures2 - Laboratory/Studio3 - Tutorial

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Student presentations		30
Log book (case presentations)		30
Final Exam	2 hr	40

Books and References

Course note	Nelson's Essential Pediatrics Illustrated Textbook of Pediatrics UpToDate
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MDCN5224	Neurosurgery							
Course type	Major Needs	Level	5	hours (theoretical)	2	hours (practical)	0	

Course Objectives

- 1 - Understand the anatomy and physiology of the central nervous system: The course should provide a comprehensive understanding of the structure and function of the brain, spinal cord, and peripheral nerves
- 2 - Develop proficiency in neurosurgical techniques: Students should learn and master various neurosurgical techniques, including diagnostic procedures, surgical interventions, and postoperative management
- 3 - Acquire knowledge of neurosurgical diseases and conditions: The course should cover a wide range of neurosurgical diseases and conditions, including brain tumors, vascular disorders, traumatic brain and spinal cord injuries, neurodegenerative diseases, and congenital anomalies
- 4 - Learn to diagnose and evaluate patients with neurological disorders: Students should be able to perform a thorough neurological examination, interpret diagnostic tests such as MRI and CT scans, and make accurate diagnoses based on clinical findings and imaging studies
- 5 - Develop effective communication and teamwork skills: Neurosurgery often requires a multidisciplinary approach, involving collaboration with other healthcare professionals. Students should learn effective communication skills to interact with patients, families, colleagues, and other members of the healthcare team
- 6 - Understand ethical and legal considerations in neurosurgery: The course should address ethical issues related to neurosurgical practice, including patient autonomy, informed consent, end-of-life decisions, and confidentiality. Students should also be familiar with legal and regulatory aspects of neurosurgery
- 7 - Gain proficiency in neurosurgical procedures through practical training: The course should provide hands-on experience through practical training, such as surgical simulations, cadaveric dissections, and supervised surgical rotations in the operating room
- 8 - Understand the principles of neurosurgical research and evidence-based practice: Students should be familiar with research methodologies, study designs, and statistical analysis relevant to neurosurgery. They should also understand the importance of evidence-based practice in guiding clinical decisions
- 9 - Develop decision-making skills in neurosurgical management: The course should emphasize the development of critical thinking and decision-making skills in the management of neurosurgical patients, including determining the appropriate surgical approach, selecting the most suitable treatment options, and managing complications

Intended Learning Outcomes

Knowledge and Understanding	<ul style="list-style-type: none">* Students should demonstrate a comprehensive understanding of the anatomy of the central nervous system, including the brain, spinal cord, and peripheral nerves, including their structures, functions, and interconnections* Students should possess knowledge of the fundamental principles of neurophysiology, including the electrical properties of neurons, synaptic transmission, neural signaling, and the organization of neural circuits* Students should be able to identify, classify, and describe the etiology, pathophysiology, clinical presentation, and natural history of various neurosurgical diseases and conditions, such as brain tumors, cerebrovascular diseases, epilepsy, neurodegenerative disorders, and traumatic brain and spinal cord injuries* Students should have an understanding of the pharmacological agents commonly used in neurosurgery, including anesthetics, analgesics, neuromuscular blocking agents, antiepileptic drugs, and neuroprotective medications, including their mechanisms of action, dosages, and potential adverse effects* Students should understand the basic principles of research methodology, study design, and statistical analysis in neurosurgery. They should be able to critically appraise scientific literature, apply evidence-based practice in clinical decision-making, and interpret and communicate research findings
Intellectual Skills	<ul style="list-style-type: none">* Students should be able to critically analyze complex neurosurgical cases, evaluate diagnostic findings, and formulate evidence-based treatment plans, considering the available scientific literature, patient-specific factors, and potential risks and benefits* Students should develop effective problem-solving skills in the context of neurosurgical practice, including the ability to identify and address clinical challenges, anticipate and manage potential complications, and make informed decisions in dynamic and time-sensitive situations* Students should demonstrate the ability to integrate clinical information, including history, physical examination findings, imaging results, and laboratory data, to arrive at accurate diagnoses, formulate differential diagnoses, and develop appropriate management plans for patients with neurosurgical conditions* Students should possess strong analytical skills, enabling them to critically evaluate research studies, interpret complex neuroimaging findings, and analyze surgical outcomes data to inform clinical practice and advance the field of neurosurgery* Students should demonstrate proficiency in technical skills related to neurosurgical procedures, including surgical techniques, instrument handling, and precision in executing surgical maneuvers
Professional Skills	<ul style="list-style-type: none">* Students should develop and demonstrate the technical skills necessary to perform neurosurgical procedures safely and effectively, including surgical techniques, instrument handling, suturing, and hemostasis* Students should possess the skills to conduct thorough neurological examinations, including obtaining a detailed medical history, performing neurological tests, interpreting imaging studies, and formulating accurate diagnoses* Students should learn how to effectively communicate with patients and their families, explaining diagnoses, treatment options, potential outcomes, and risks involved, and obtaining informed consent for surgical interventions* Students should develop the ability to work collaboratively with other healthcare professionals, such as neurologists, radiologists, anesthesiologists, and physical therapists, to provide comprehensive care and ensure optimal patient outcomes

Professional Skills	<ul style="list-style-type: none"> * Students should demonstrate a commitment to providing patient-centered care, respecting patients autonomy, cultural and socioeconomic backgrounds, and preferences, and involving them in shared decision-making processes * Students should develop leadership skills, including the ability to effectively lead a surgical team, delegate tasks, manage resources, and make informed decisions in complex and dynamic clinical situations * Students should cultivate a commitment to lifelong learning, engaging in continuous professional development activities, attending conferences, participating in research, and staying up-to-date with advancements in neurosurgery to provide the best possible care to patients
General Skill	<ul style="list-style-type: none"> * Students should be able to identify and address clinical challenges, develop innovative solutions, and adapt to unexpected situations during neurosurgical practice * Students should acquire effective communication skills, including listening, speaking, and writing, to effectively communicate with patients, families, colleagues, and other healthcare professionals * Students should develop strong interpersonal skills, including empathy, compassion, cultural sensitivity, and the ability to establish rapport and build trust with patients and their families * Students should demonstrate the ability to work effectively as part of a multidisciplinary team, collaborating with other healthcare professionals to provide comprehensive and coordinated care to neurosurgical patients * Students should recognize the importance of lifelong learning and engage in continuous professional development, staying updated with the latest advancements, research, and best practices in neurosurgery * Students should develop the ability to adapt to changing circumstances, handle stress, and maintain resilience in challenging situations inherent to neurosurgical practice

Course Contents

1 - Introduction to Neurosurgery
2 - Neuroanatomy
3 - Neurophysiology and Neuropathology
4 - Neuroimaging
5 - Neurosurgical Techniques and Procedures
6 - Neurosurgical Diseases and Conditions
7 - Neurocritical Care
8 - Pediatric Neurosurgery
9 - Neurosurgical Research and Innovation
10 - Professional and Communication Skills

Teaching and Learning Methods

- 1 - Lectures
- 2 - Case-Based Learning
- 3 - Surgical Simulations
- 4 - Clinical Rotations
- 5 - Small-Group Discussions
- 6 - Surgical Observations
- 7 - Team-Based Learning
- 8 - Online Resources and e-Learning
- 9 - Research Projects
- 10 - Presentations and Grand Rounds

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
First exam	6th week	20
attendance	At the end of the course	10
Research	8th week	20
Final exam	At the end of the course	50

Books and References

Essential books	Greenbergs Textbook of Neurosurgery by Mark S. Greenberg
Recommended books	Principles and Practice of Neurosurgery by Setti Rengachary and Richard G. Ellenbogen Handbook of Neurosurgery by Mark S. Greenberg
Other References (Periodical, web sites, etc.)	(https://www.aans.org/) American Association of Neurological Surgeons (AANS) Neurosurgical Atlas https://www.neurosurgicalatlas.com

MDCN5216		Pediatric Surgery					
Course type	Major Needs	Level	5	hours (theoretical)	2	hours (practical)	0

Course Objectives

- 1 - Understand the unique anatomical, physiological, and developmental aspects of pediatric patients as they relate to surgical conditions.
- 2 - Recognize and describe the clinical manifestations and presentations of common pediatric surgical conditions.
- 3 - Understand the pathophysiology, natural history, and complications associated with various pediatric surgical diseases.
- 4 - Acquire comprehensive knowledge of common pediatric surgical conditions, including congenital anomalies, pediatric trauma, pediatric oncology, and pediatric surgical emergencies.
- 5 - Develop proficiency in conducting comprehensive pediatric surgical histories and physical examinations.
- 6 - Understand the principles of surgical management for common pediatric surgical conditions, including indications, techniques, and outcomes.

Intended Learning Outcomes

Knowledge and Understanding

- * Develop proficiency in conducting thorough pediatric surgical histories and physical examinations.
- * Acquire skills in interpreting relevant diagnostic tests and imaging studies commonly used in pediatric surgical evaluations.
- * Recognize and diagnose common pediatric surgical conditions, including congenital anomalies, pediatric trauma, and pediatric surgical emergencies.
- * Understand the principles of preoperative, intraoperative, and postoperative management specific to pediatric surgical patients.
- * Gain exposure to a variety of pediatric surgical procedures and develop an understanding of the indications, techniques, and potential complications associated with these procedures.

Course Contents

- 1 - Introduction to Pediatric Surgery
- 2 - Pediatric Surgical Anatomy and Physiology
- 3 - Congenital anomalies
- 4 - Pediatric oncology
- 5 - Trauma
- 6 - Pediatric surgical emergencies
- 7 - Diagnostic Approaches in Pediatric Surgery
- 8 - Introduction to common pediatric surgical procedures, including appendectomy, hernia repair, circumcision, and pyloromyotomy
- 9 - Postoperative care and management of pediatric surgical patients, including pain management, wound care, and prevention of complications

Teaching and Learning Methods

- 1 - Lectures
- 2 - Case-based learning
- 3 - Surgical observation and scrubbing
- 4 - Clinical rotations
- 5 - Case presentations and discussions

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Attendance		20
Final Exam	End of semester	80

Books and References

Course note	University lectures
Recommended books	"Essentials of Pediatric Surgery" by Peter Mattei and Robert Carachi "Pediatric Surgery: Diagnosis and Management" by Mark Davenport and John G. R. H. Davidson

MDCN5217	Endocrinology and Metabolic Disorders						
Course type	Major Needs	Level	5	hours (theoretical)	2	hours (practical)	0

Course Objectives

- 1 - The regulation of hormone synthesis and secretion
- 2 - common endocrine disorders and how to diagnose it
- 3 - management of overproduction or reduction of different hormones
- 4 - Take a full history from patients and make a differential diagnosis
- 5 - perform complete physical examination to patients

Intended Learning Outcomes

- | | |
|------------------------------------|---|
| Knowledge and Understanding | * Understand the regulation and physiological effect of different hormones |
| | * Discuss the major disorders associated with selected endocrine gland |
| | * Describe different methods for diagnosis of endocrine-related disorders |
| Intellectual Skills | * Explain the symptoms for the disorders associated with hormonal imbalance |
| Professional Skills | * Interpret hormone test results to diagnose the cause of medical condition |
| General Skill | * Ability to analyze and solve problems related to hormone tests |

Course Contents

- 1 - Introduction to Endocrinology
- 2 - Hormones & Hormone Action
- 3 - medical disorders of Hypothalamus & Pituitary Gland
- 4 - medical disorders of thyroid and parathyroid
- 5 - medical disorders of growth
- 6 - medical disorders of adrenal gland
- 7 - medical disorders of male and female reproductive system
- 8 - medical disorders of metabolic bone disease

Teaching and Learning Methods

- 1 - interactive lectures
- 2 - videos and simulation labs
- 3 - Bed-side teaching
- 4 - case scenario simulation of common clinical cases

Teaching and Learning Methods for the Disabled Students

- 1 - Lectures
- 2 - Help each student according to his needs and his condition

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
multiple choice exam	120	60
case history and long case	50	15
presentations	20	10
quizzes	20	15

Books and References

Course note	doctors lectures notes
Essential books	Greenspan's Basic & Clinical Endocrinology Williams Textbook of Endocrinology (12th edition, 2011) by Shlomo Melmed, Kenneth S. Polonsky, P. Reed Larsen & Henry M. Kronenberg, Elsevier
Recommended books	CURRENT Diagnosis & Treatment in endocrinology

MDCN5622	Psychiatry & Behavioral disorders							
Course type	Major Needs	Level	5	hours (theoretical)	6	hours (practical)	0	

Course Objectives

- 1 - Engage with a patient and establish and maintain rapport including demonstrating the use of cognitive empathy, respect, sensitivity to the developmental level of the patient, cultural awareness, recognition of the social determinants of health, and seeking to understand the conceptual context of the illness.
- 2 - Conduct a psychiatric diagnostic workup in an organized prioritized manner. This should include: acquiring and organizing the psychiatric history; performing the Mental Status Examination; assessing pertinent features of the physical exam; developing a differential diagnosis; determining need for further diagnostic studies; developing an initial plan of care (including discharge planning from the time of admission); and, documenting this in a written report.
- 3 - Describe and employ DSM-5 criteria for the diagnosis of patients in the context of complex clinical presentations while taking into account the clinical history, life stressors, challenging psychosocial situations, and patient personality variables
- 4 - Explain the range of psychiatric interventional therapeutics for various treatment options: psychopharmacologic agents, electroconvulsive therapies, psychotherapies (including fundamentals of psychodynamic, behavioral and cognitive approaches) and psychosocial interventions.
- 5 - Identify psychiatric emergencies in the clinical setting and describe appropriate interventions for same.

Intended Learning Outcomes

Knowledge and Understanding	<ul style="list-style-type: none">* Understanding Psychiatric Disorders: Acquire knowledge of various psychiatric disorders, including their etiology, clinical presentations, diagnostic criteria, and natural course.* Neurobiology of Mental Illness: Understand the neurobiological basis of psychiatric disorders, including the role of neurotransmitters, genetics, and brain circuitry in the development and manifestation of mental illnesses.* Psychopathology: Develop a comprehensive understanding of the symptoms, signs, and psychopathological features of different psychiatric disorders, such as mood disorders, anxiety disorders, psychotic disorders, personality disorders, and substance use disorders.* Diagnostic Skills: Learn the skills necessary to conduct psychiatric interviews, gather relevant clinical information, and make accurate psychiatric diagnoses based on standardized diagnostic criteria, such as the DSM-5 (Diagnostic and Statistical Manual of Mental Disorders).* Treatment Modalities: Gain knowledge of various treatment modalities available for psychiatric disorders, including psychopharmacology, psychotherapy approaches (such as cognitive-behavioral therapy), electroconvulsive therapy (ECT), and other somatic treatments.* Psychiatric Emergencies: Understand the assessment and management of psychiatric emergencies, such as suicidal behavior, acute psychosis, mania, severe anxiety, and aggression.
Intellectual Skills	<ul style="list-style-type: none">* Perform mental status assessments and psychiatric evaluations while caring for patients who exhibit symptoms of a psychiatric disorder* Hypothesize the relationship between selected medical conditions and psychiatric symptoms* Write the results of a comprehensive psychiatric history and evaluation in an accurate, organized and systematic manner* Orally present psychiatric findings in a clear and effective manner to patients, family members, and appropriate medical personnel* Design a treatment plan that demonstrates: 1) familiarity with the biological, psychological and social aspects of treatment planning, and 2) awareness of the patient, family and community resources* Summarize the indications, basic mechanisms of action, common side effects and important drug interactions of each class of commonly used psychotropic medication
Professional Skills	<ul style="list-style-type: none">* Demonstrate communication consistent with professional, ethical, practice when working with other professionals, patients, families, carers, carer groups and non-government organisations: identifying the roles and responsibilities of these partners to improve continuity of care in a transition across selected practice context.* Demonstrate understanding of the principles of interprofessional practice and discusses the impact upon collaboration with people with lived experience and their supporters.* Describe the principles of quality improvement and discuss their application to improve recovery-oriented care within a selected service setting

Course Contents

- 1 - • Introduction to Psychiatry.
- 2 - • Psychiatric interview.
- 3 - • Psychiatric assessment (MAA-GAF).
- 4 - • Mental state examination.
- 5 - • Depression and related Mood disorders.
- 6 - • Schizophrenia and related Psychotic disorders
- 7 - • Anxiety and related disorders.
- 8 - • Somatic Symptom and Related Disorders
- 9 - • Eating disorders.
- 10 - • Factitious and related disorders.
- 11 - • Sexual and gender identity disorders
- 12 - • Personality disorders.
- 13 - • Sleep disorders.
- 14 - • Amnestic and Dissociative disorders.
- 15 - • Substance-Related and Addictive Disorders
- 16 - • Psychopharmacology.
- 17 - • Psychotherapy.

Teaching and Learning Methods

- 1 - Lectures
- 2 - Clinical rotations
- 3 - Case based learning
- 4 - Small group discussion

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Final examination	3 hours	100

Books and References

- Recommended books
- "Kaplan and Sadocks Comprehensive Textbook of Psychiatry" by Benjamin J. Sadock, Virginia A. Sadock, and Pedro Ruiz.
 - "The American Psychiatric Association Publishing Textbook of Psychiatry" edited by Laura Weiss Roberts and Philip R. Muskin.
 - "Diagnostic and Statistical Manual of Mental Disorders (DSM-5)" published by the American Psychiatric Association.
 - "Oxford Textbook of Psychiatry" edited by Michael G. Gelder, Nancy C. Andreasen, Juan J. Lopez-Ibor, and John R. Geddes.

Knowledge and Skills Matrix

Main Course Contents	Study Week	Knowledge and Understanding	Intellectual Skills	Professional Skills	General Skill
<ul style="list-style-type: none"> Introduction to Psychiatry. Psychiatric interview 	1 week	1,2	1,2	1,2	
<ul style="list-style-type: none"> Psychiatric assessment (MAA-GAF). Mental state examination. 	Week 2	1,2,3	1,2	1,2,3	
<ul style="list-style-type: none"> Depression and related Mood disorders. 	Week 3	1,2,3,4	1,2,3	1,2,3	
<ul style="list-style-type: none"> Schizophrenia and related Psychotic disorders 	4	1,2,3,4	1,2,3	1,2,3	
<ul style="list-style-type: none"> Anxiety and related disorders. 	Week 5	1,2,3,4	1,2,3	1,2	
<ul style="list-style-type: none"> Somatic Symptom and Related Disorders 	Week 6	1,2,3,4	1,2,3	1,2,3	
<ul style="list-style-type: none"> Eating disorders. 	Week 7	1,2,3,4	1,2,3	1,2,3	
<ul style="list-style-type: none"> Factitious and related disorders. 	Week 8	1,2,3, 4	1,2,3	1,2,3	
<ul style="list-style-type: none"> Sexual and gender identity disorders. 	Week 9	1,2,3,4	1,2,3	1,2	
<ul style="list-style-type: none"> Personality disorders. 	Week 10	1,2,3,4	1,2,3	1,2	
<ul style="list-style-type: none"> Sleep disorders. 	Week 11	1,2,3	1,2,3	1,2,3	
<ul style="list-style-type: none"> Amnestic and Dissociative disorders. 	Week 12	1,2,3,4	1,2,3	1,2	
<ul style="list-style-type: none"> Substance-Related and Addictive Disorders 	Week 13	1,2,3,4	1,2,3	1,2	
<ul style="list-style-type: none"> Psychopharmacology 	Week 14	1,2,3	1,2	1,2	
<ul style="list-style-type: none"> Psychotherapy. 	Week 15	1,2,3	1,2	1,2	

MDCN6612 Gynecology and Obstetrics (2) (Senior)

Course type Major Needs Level 6 hours (theoretical) 6 hours (practical) 0

Course Objectives

- 1 - Develop skills in obtaining a comprehensive gynecological history and conducting a thorough physical examination.
- 2 - Learn to interpret diagnostic tests and imaging studies commonly used in gynecology, such as Pap smears, colposcopy, ultrasound, and biopsies.
- 3 - Acquire proficiency in performing gynecological procedures, including pelvic examinations, speculum examinations, and endometrial sampling.
- 4 - Develop skills in diagnosing and managing common gynecological conditions
- 5 - Acquire knowledge about the screening, diagnosis, and management of gynecological malignancies, including cervical, endometrial, and ovarian cancers.
- 6 - Understand the principles and techniques of various surgical procedures in gynecology, including laparoscopy, hysteroscopy, and cesarean section.
- 7 - Develop skills in the diagnosis and management of reproductive endocrine disorders, including infertility evaluation and assisted reproductive technologies.

Intended Learning Outcomes

- | | |
|------------------------------------|---|
| Knowledge and Understanding | <ul style="list-style-type: none"> * Describe the etiology, pathophysiology, and clinical features of common gynecological conditions and reproductive tract infections * Understand the principles and indications for various diagnostic tests, imaging studies, and laboratory investigations in gynecology. * Perform a comprehensive gynecological history and physical examination, including pelvic examinations and speculum examinations. * Interpret findings from diagnostic tests, such as Pap smears, colposcopy, ultrasound, and biopsies. * Diagnose and manage common gynecological conditions * Understand the principles of managing gynecological malignancies, including screening, diagnosis, staging, and treatment modalities. |
|------------------------------------|---|

Course Contents

- 1 - Lectures: Didactic lectures covering essential topics in gynaecology
- 2 - Introduction : includes overview of the field of obstetric and gynecology, history-taking, physical examination, and ordering and interpreting relevant investigations.
- 3 - Attending In-patient Floors and learn clinical assessment, examination and management methods supervised by consultants and fellows
- 4 - Attending the delivery room and learn clinical assessment m examination and management of normal labour, attending operative deliveries and caesarean sections
- 5 - Attending in operation theatres for observing gynaecological procedures & operations.

Teaching and Learning Methods

- 1 - Lectures: Traditional lectures can be useful for introducing and explaining foundational concepts, anatomy, physiology, and medical conditions related to gynecology.
- 2 - Case-based learning: Presenting real or hypothetical patient cases can help students apply their knowledge to practical scenarios.
- 3 - Clinical rotations: Practical exposure in a clinical setting is essential for gynecology education. Allowing students to observe and actively participate in patient care under the supervision of experienced clinicians
- 4 - Simulation: Using medical simulation allows students to practice clinical skills and procedures in a controlled environment.

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Theoretical MCQ exam	2 hrs	70
OSCE Static	1 hr	30

Books and References

Course note	Hacker & Moores Essentials of Obstetrics and Gynecology
	Gynecology by Ten teachers
	Illustrated obstetrics and Gynaecology

MDCN6215	Geriatric medicine					
Course type	Major Needs	Level	6	hours (theoretical)	2	hours (practical) 0

Course Objectives

- 1 - Understand the aging process: Gain a comprehensive understanding of the physiological, psychological, and social aspects of aging, including common age-related changes and the impact on health and well-being.
- 2 - Evaluate and manage chronic diseases in older adults: Develop the skills to assess and manage chronic medical conditions commonly seen in older adults, such as hypertension, diabetes, osteoarthritis, osteoporosis, cardiovascular diseases, and respiratory disorders
- 3 - Comprehensive geriatric assessment (CGA): Understand the principles and components of a comprehensive geriatric assessment, including functional status evaluation, cognitive assessment, mood evaluation, nutritional assessment, medication review, and social support evaluation.
- 4 - Identify common geriatric syndromes: Learn to recognize and diagnose common geriatric syndromes such as frailty, falls, cognitive impairment (including dementia), delirium, incontinence, and polypharmacy.
- 5 - Learn about age-related pharmacokinetic and pharmacodynamic changes, appropriate prescribing principles, and common medication-related issues in older adults
- 6 - Acquire knowledge and skills in providing palliative and end-of-life care for older adults, including pain and symptom management, advance care planning, communication about goals of care, and addressing psychosocial and spiritual needs.
- 7 - Geriatric rehabilitation and functional preservation
- 8 - Gain an understanding of the mental health challenges faced by older adults, including mood disorders, anxiety disorders, sleep disorders, and neurocognitive disorders, and learn appropriate assessment and management strategies.

Intended Learning Outcomes

Knowledge and Understanding

- * Comprehensive geriatric assessment
- * Diagnosis and management of common geriatric conditions
- * Medication management: Students will demonstrate knowledge of pharmacokinetic and pharmacodynamic changes in older adults
- * Communication and interpersonal skills
- * Knowledge of geriatric syndromes: Students will demonstrate an understanding of common geriatric syndromes, their etiology, clinical presentation, and management strategies
- * Geriatric rehabilitation and functional preservation

Course Contents

- 1 - Introduction to geriatric medicine
- 2 - Geriatric assessment and functional evaluation
- 3 - Common geriatric syndromes and conditions
- 4 - Chronic disease management in older adults
- 5 - Geriatric pharmacotherapy
- 6 - Geriatric psychiatry
- 7 - Palliative and end-of-life care
- 8 - Geriatric rehabilitation and functional preservation

Teaching and Learning Methods

- 1 - Lectures: Traditional lectures are commonly used to present core concepts, theories, and knowledge related to geriatric medicine.
- 2 - Case-based learning: This method involves presenting clinical cases or scenarios that reflect real-life situations encountered in geriatric care. Students analyze and discuss the cases, applying their knowledge to develop diagnostic and management strategies.
- 3 - Problem-based learning (PBL) encourages active learning, independent thinking, and teamwork.
- 4 - Simulation and role-playing: Simulations and role-playing scenarios can help students develop practical skills and improve their ability to manage complex situations in geriatric care.
- 5 - Small group discussions

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Final exam Theoretical mcq	2hrs	100

Books and References

Course note Pathys Principles and Practice of Geriatric Medicine
 Oxford Textbook of Geriatric Medicine
 Brocklehursts Textbook of Geriatric Medicine and Gerontology

MDCN6213	Accident and Emergency Medicine						
Course type	Major Needs	Level	6	hours (theoretical)	2	hours (practical)	0

Course Objectives

- 1 - • Communicate with patients and their families at Emergency room effectively
- 2 - Obtain a focused history from patients at Emergency room.
- 3 - • Perform physical examinations on patients
- 4 - • Documentation of patient health information in a concise, rapid way
- 5 - • Order appropriate and interpret its results for effectively at ER
- 6 - • Recognize common and important abnormal clinical findings
- 7 - • Develop a problem list and differential diagnosis based on the history, physical findings and initial investigations
- 8 - • Recognize life threatening emergencies and initiate appropriate primary intervention
- 9 - • Continually reevaluate management plans based on the progress of the patient's condition

Intended Learning Outcomes

- | | |
|------------------------------------|---|
| Knowledge and Understanding | <ul style="list-style-type: none"> * • Understand how to recognize the sick medical patient and how to diagnose and treat common emergency presentations * • Understand the role of decision making in the clinical environment and the main theoretical models of decision making * • Reflect how patient safety may be compromised by poor decision making and ineffective healthcare environments and create strategies to overcome these |
|------------------------------------|---|

Course Contents

- 1 - • Introduction to Emergency Medicine
- 2 - • General Approach to the Patients at Emergency Room
- 3 - • Communication with Patients at Emergency Room
- 4 - • Poly trauma –Head & Neck
- 5 - • Cardiovascular emergencies
- 6 - • Respiratory emergencies
- 7 - • Advanced cardiac life support
- 8 - • Basic Life Support (BLS)
- 9 - • Poly trauma –Abdomen & Chest
- 10 - • Shock
- 11 - • Wounds management
- 12 - • Approach to Coma
- 13 - • Poisoning /drug overdose

Teaching and Learning Methods

- 1 - Didactic lectures
- 2 - Bedside teaching
- 3 - Case-based learning
- 4 - Skills workshops

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Attendance and discussion		10
Log book		10
Final Exam	End of semester	80

Books and References

Course note	"Emergency Medicine: Diagnosis and Management" edited by Anthony F. T. Brown, Mike Cadogan, and David M. Cline
Essential books	"Pocket Emergency Medicine" edited by Richard D. Zane, Joshua M. Kosowsky, and Joel J. Heidelbaugh

MDCN6811 Internal Medicine (2) (Senior)

Course type	Major Needs	Level	6	hours (theoretical)	8	hours (practical)	0
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Course Objectives

- 1 - Interview patients and perform a complete and focused physical examination
- 2 - Consolidate their knowledge of abnormal physical findings
- 3 - Perform analysis of clinical and laboratory information
- 4 - Improve their presentation skills in describing the chief problems and a plan for treatment
- 5 - Periodically follow up patients status including interpretation of new findings
- 6 - Use and interpret laboratory and radiographic tests used in diagnosing common disease (able to read chest radiograph, EKG, spirometry, blood film, etc...)
- 7 - Recognize and manage situations related to common emergencies

Intended Learning Outcomes

Knowledge and Understanding	* Understand how to recognize the sick medical patient and how to diagnose and treat common emergency and nonemergency medical presentations.
Intellectual Skills	* Understand the role of decision making in the clinical environment and the main theoretical models of decision making
Professional Skills	* • Reflect how patient safety may be compromised by poor decision making and ineffective healthcare environments and create strategies to overcome these.
General Skill	* Respect superiors, colleagues and any other members of the health profession.

Course Contents

1 - •	General Approach to the Medical Patient
2 - •	Communication with Patients
3 - •	Advanced Medical Respiratory Diseases
4 - •	Advanced Medical Cardiac Diseases
5 - •	Advanced Medical Gastrointestinal and Liver Diseases
6 - •	Advanced Medical Infectious Diseases
7 - •	Advanced Medical Nephrology and urological Diseases
8 - •	Advanced Medical Gastrointestinal Diseases
9 - •	Advanced Medical Neurological Diseases
10 - •	Advanced Medical Endocrine Diseases
11 - •	Advanced Medical Rheumatology Diseases
12 - •	Advanced Medical Hematology and Oncology Diseases

Teaching and Learning Methods

1 -	interactive lectures
2 -	Bed-side teaching
3 -	videos and simulation labs
4 -	case scenario simulation of common clinical cases

Teaching and Learning Methods for the Disabled Students

1 -	Lectures
2 -	Help each student according to his needs and his condition

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
multiple choice exam	120	50
static osce exam	60	20
practical OSCE exam	60	20
case history and long case	50	10

Books and References

Course note	doctors lectures notes
Essential books	kumar and clark in internal medicine CURRENT Diagnosis & Treatment in internal medicine
Recommended books	macleod for clinical examination

Course Objectives

- 1 - Understand the fundamental principles of medical ethics: Explore the key principles that guide ethical decision-making in healthcare, such as autonomy, beneficence, non-maleficence, and justice
- 2 - Analyze ethical theories and frameworks: Examine various ethical theories and frameworks that can be applied to medical dilemmas, including utilitarianism, deontology, virtue ethics, and principlism
- 3 - Apply ethical principles to clinical scenarios: Develop the ability to identify and analyze ethical issues in clinical settings, and apply ethical principles and frameworks to resolve these dilemmas in a thoughtful and systematic manner
- 4 - Evaluate the impact of cultural, social, and religious factors on medical ethics: Recognize how cultural, social, and religious beliefs and practices influence ethical decision-making in healthcare, and explore strategies for navigating diverse perspectives
- 5 - Understand the legal and regulatory aspects of medical ethics: Explore the legal and regulatory frameworks that govern medical ethics, including informed consent, confidentiality, end-of-life care, and research ethics
- 6 - Explore contemporary ethical challenges in medicine: Investigate emerging ethical challenges in medicine, such as genetic testing, artificial intelligence in healthcare, organ transplantation, resource allocation, and global health disparities
- 7 - Foster critical thinking and ethical reasoning skills: Enhance critical thinking abilities to evaluate complex ethical issues, analyze arguments, and propose ethically justifiable solutions
- 8 - Enhance communication and ethical decision-making skills: Develop effective communication skills for discussing ethical issues with patients, families, and healthcare teams, and practice ethical decision-making in clinical simulations and case studies
- 9 - Understand the role of ethics committees and institutional review boards: Gain knowledge about the functions and responsibilities of ethics committees and institutional review boards (IRBs) in healthcare organizations, and understand the ethical review process
- 10 - Reflect on personal values and professional identity: Engage in self-reflection to explore personal values and beliefs, and examine how these may impact ethical decision-making and professional identity as a healthcare provider

Intended Learning Outcomes

Knowledge and Understanding	<ul style="list-style-type: none">* Demonstrate a comprehensive understanding of the fundamental principles of medical ethics, including autonomy, beneficence, non-maleficence, and justice* Explain different ethical theories and frameworks relevant to medical ethics, such as utilitarianism, deontology, virtue ethics, and principlism* Describe the legal and regulatory aspects of medical ethics, including informed consent, confidentiality, end-of-life care, and research ethics* Analyze the impact of cultural, social, and religious factors on ethical decision-making in healthcare* Identify and discuss contemporary ethical challenges in medicine, such as genetic testing, artificial intelligence in healthcare, organ transplantation, resource allocation, and global health disparities* Recognize the importance of ethical reflection, self-awareness, and ongoing learning in the development of ethical competence as a healthcare professional
Intellectual Skills	<ul style="list-style-type: none">* Analytical Thinking: Apply analytical thinking to identify and examine ethical issues and dilemmas in healthcare contexts* Problem-Solving: Develop problem-solving skills to propose ethically sound solutions to complex ethical dilemmas in healthcare* Evaluation and Judgment: Evaluate the strengths and weaknesses of ethical arguments and make reasoned judgments about ethical issues in medicine* Comparative Analysis: Conduct comparative analysis of different ethical theories and perspectives to understand their implications for medical ethics* Ethical Argumentation: Develop skills in constructing logical and persuasive ethical arguments to support a particular position or course of action
Professional Skills	<ul style="list-style-type: none">* Ethical Communication: Demonstrate effective communication skills for discussing and addressing ethical issues with patients, families, and healthcare teams* Informed Consent: Understand the concept of informed consent, including its ethical and legal requirements, and effectively communicate information to patients to obtain informed consent* Conflict Resolution: Develop skills in managing ethical conflicts and resolving disagreements within healthcare teams, while promoting collaboration and respect for diverse perspectives* Ethical Documentation: Demonstrate the ability to document ethical considerations, decisions, and justifications accurately and comprehensively in patient records* Ethical Leadership: Demonstrate ethical leadership skills by advocating for patient rights, ethical practices, and addressing ethical dilemmas within the healthcare organization* Ethical Reflection and Self-Awareness: Engage in self-reflection to identify personal biases, values, and beliefs that may influence ethical decision-making and demonstrate a commitment to ongoing professional development in medical ethics
General Skill	<ul style="list-style-type: none">* Ethical Awareness: Enhance ethical awareness by recognizing and understanding ethical dimensions in various healthcare scenarios and dilemmas* Empathy and Compassion: Develop empathy and compassion in understanding the experiences and perspectives of patients and other stakeholders affected by ethical decisions* Teamwork and Collaboration: Foster teamwork and collaboration skills to effectively work with multidisciplinary teams and stakeholders in addressing ethical challenges

General Skill

- * Adaptability and Flexibility: Cultivate adaptability and flexibility in ethical reasoning and decision-making to respond to changing healthcare contexts, values, and norms
- * Critical Thinking: Develop critical thinking skills to analyze and evaluate complex ethical issues, arguments, and evidence in medical ethics

Course Contents

- 1 - Introduction to Medical Ethics
- 2 - Fundamental Principles of Medical Ethics
- 3 - Informed Consent and Decision-Making
- 4 - Confidentiality and Privacy
- 5 - End-of-Life Care and Advance Directives
- 6 - Research Ethics
- 7 - Ethical Issues in Reproductive Medicine
- 8 - Ethical Challenges in Emerging Technologies
- 9 - Global Health Ethics
- 10 - Ethical Decision-Making in Clinical Scenarios
- 11 - Ethical Theories and Frameworks

Teaching and Learning Methods

- 1 - Lectures
- 2 - Interactive Discussions
- 3 - Case-Based Learning
- 4 - Role-Playing and Simulations
- 5 - Ethical Reflection and Journaling
- 6 - Group Projects
- 7 - Guest Speakers and Panel Discussions
- 8 - Ethical Case Conferences
- 9 - Field Visits and Experiential Learning

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
First exam	6th week	20
attendance	At the end of the course	10
Research	8th week	20
Final exam	At the end of the course	50

Books and References

Essential books	Principles of Biomedical Ethics by Tom L. Beauchamp and James F. Childress
Recommended books	Ethics and Values in Healthcare Management by Robert J. Lightfoot and Jeffrey P. Harrison The Oxford Handbook of Bioethics
Other References (Periodical, web sites, etc.)	American Medical Association (AMA) Ethics Resources Bioethics.net

Course Objectives

- 1 - Develop research skills and competencies necessary for independent inquiry and critical evaluation of scientific literature
- 2 - Apply theoretical knowledge and practical techniques to design and conduct a research project in a specific area of interest.
- 3 - Communicate research findings effectively through written reports, oral presentations, and scientific posters.

Intended Learning Outcomes

Knowledge and Understanding

- * Comprehend the research process, including hypothesis formulation, literature review, study design, and statistical analysis.
- * Understand ethical considerations in research, including informed consent, data protection, and adherence to research protocols.
- * Gain knowledge in the specific area of research focus, including relevant theories, concepts, and current evidence in the field.
- * Design and execute a research project, including data collection, analysis, and interpretation of findings.
- * Synthesize research findings and effectively communicate them through written reports, oral presentations, and scientific posters.

Intellectual Skills

- * Critically evaluate scientific literature, identify research gaps, and formulate research questions or hypotheses.

Professional Skills

- * Demonstrate proficiency in research methodologies, including study design, data collection, analysis, and interpretation.
- * Apply ethical principles in the conduct of research, including protection of human subjects and maintenance of data confidentiality.
- * Collaborate effectively with faculty mentors and research teams, demonstrating professionalism and teamwork in a research setting.

Course Contents

- 1 - Research Methodology
- 2 - Ethical Considerations in Research
- 3 - Data Collection and Analysis
- 4 - Research Project Planning and Execution
- 5 - Research Findings Communication
- 6 - Research Project Mentoring and Reflection

Teaching and Learning Methods

- 1 - Research methodology lectures
- 2 - Mentorship and supervision
- 3 - Workshops and seminars
- 4 - Research proposal development
- 5 - Progress presentations and discussions

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Research project presentation	End of graduation year	100

Books and References

Recommended books "How to Read a Paper: The Basics of Evidence-Based Medicine" by Trisha Greenhalgh
"Clinical Epidemiology: The Essentials" by Robert H. Fletcher, Suzanne W. Fletcher, and Grant S. Fletcher
"Introduction to Research: Understanding and Applying Multiple Strategies" by Elizabeth DePoy and Laura N. Gitlin

MDCN6821	Pediatrics (2) (Senior)							
Course type	Major Needs	Level	6	hours (theoretical)	8	hours (practical)	0	

Course Objectives

- 1 - Students acquire the knowledge of health promotion, disease prevention and management of common diseases in children (including new-borns).
- 2 - Students become proficient in basic clinical skills of history taking, physical examination, data interpretation and basic technical procedures as applied to children of different ages.
- 3 - Students develop an attitude of sympathetic care for the child patient and his parents.
- 4 - Students develop a desire for self-learning.
- 5 - Students are able to visualize the impact of the disease on the community as a whole and be able to study the genesis of epidemics and be able to plan prevention of those.
- 6 - The students are equipped with the knowledge and confidence to play the role of a teacher, supervisor and organizer in a primary health care setup.

Intended Learning Outcomes

Knowledge and Understanding	<ul style="list-style-type: none">* Student will be able to give description of common paediatric problems and diseases, in children at different ages.* Student will show an understanding of national programmes working for health promotion and disease prevention in children e.g. EPI, ARI etc.* Student will show an understanding of processes of growth and development in childhood and will be able to describe growth parameters and developmental milestones at different ages.* Student will demonstrate understanding of the importance of nutrition in children and be able to describe diets suitable for different ages and in different diseases
Intellectual Skills	<ul style="list-style-type: none">* Students will demonstrate his ability to obtain a relevant clinical history from a parent or an older child.* Student will demonstrate his ability to perform adequate clinical examination of a child of any age (including new-born)* Student will be able to interpret clinical and laboratory data arriving at a diagnosis* Student will be able to advise appropriate nutritional measures for healthy and sick children (Breast feeding, avoidance of bottle, proper weaning).
Professional Skills	<ul style="list-style-type: none">* Use of Growth chart* Giving Nebulizer therapy [Bronchodilator]* Lumbar Puncture
General Skill	<ul style="list-style-type: none">* The Student will show ability to provide general care of sick Paediatric patients and be able to carry out simple diagnostic tests in the side lab.

Course Contents

- 1 - Supervised History Taking session
- 2 - General Examination of a child
- 3 - Respiratory system examination
- 4 - Abdominal examination of child
- 5 - Musculoskeletal Examination of child
- 6 - Developmental assessment
- 7 - History taking: Child with Failure to thrive
- 8 - History taking: Child with jaundice
- 9 - History taking: Child Edema
- 10 - History taking: Child with respiratory symptoms
- 11 - History Taking: Child with gastroenterology symptoms
- 12 - General Pediatrics Rounds
- 13 - History taking: Child with Fever
- 14 - History Taking: Child with Seizure disorders
- 15 - History Taking: Child with joint pain
- 16 - Growth Assessment
- 17 - Student Presentations/Projects
- 18 - Out Patient Clinics
- 19 - NICU Rotation

Teaching and Learning Methods

- 1 - Lectures
- 2 - Tutorial
- 3 - Laboratory/Studio

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Case Discussion		10
Midterm Written (MCQs) Exam	1 hr	30
Final Written MCQs) Exam	2 hr	40
Final OSCE		20

Books and References

Essential books	Nelson's Essential Pediatrics
Recommended books	Pediatric Clinical Examination: Pocket Tutor Manual of Clinical Paediatrics (for Medical Students & Postgraduate Doctors) 6th Edition
Other References (Periodical, web sites, etc.)	UpToDate

MDCN6622 General Surgery (2) (Senior)

Course type	Major Needs	Level	6	hours (theoretical)	6	hours (practical)	0
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Course Objectives

- 1 - Knowledge acquisition: The course aims to provide students with a comprehensive understanding of the principles, theories, and concepts related to General Surgery.
- 2 - Surgical skills development: Students acquire hands-on experience and technical skills necessary for performing common surgical procedures.
- 3 - Decision-making and judgment: Students are encouraged to develop critical thinking skills to evaluate surgical options and make informed decisions. They learn to assess the risks and benefits of surgical interventions, consider alternative treatments, and develop a patient-centered approach to surgical care.
- 4 - Professionalism and ethics: The course emphasizes the importance of professionalism, ethical conduct, and effective communication skills in the surgical field. Students learn about patient confidentiality, informed consent, interdisciplinary collaboration, and the role of surgeons in the healthcare team.
- 5 - Continuity of care: Students are taught to provide longitudinal care to surgical patients, understanding the importance of follow-up visits, managing complications, and coordinating care across different healthcare settings.
- 6 - Teamwork and leadership: The course encourages students to work effectively as part of a surgical team, demonstrating leadership qualities and the ability to collaborate with other healthcare professionals.

Intended Learning Outcomes

Knowledge and Understanding	* Recognize the need for continued professional development and lifelong learning in the field of General Surgery, staying updated with advances in surgical techniques, technologies, and research
Intellectual Skills	* Develop critical thinking skills to identify and manage surgical emergencies, understanding the principles of triage, resuscitation, and timely intervention
Professional Skills	* Demonstrate professionalism and ethical behavior in the surgical setting, respecting patient autonomy, maintaining confidentiality, and exhibiting appropriate behavior towards colleagues and healthcare staff
General Skill	* Apply principles of perioperative care, including pre-operative optimization, intraoperative management, and post-operative monitoring and management

Course Contents

- 1 - Surgical Lectures: Didactic lectures covering essential topics in General Surgery, including specific surgical conditions, principles of surgical management, and surgical techniques
- 2 - Surgical Skills Workshops: which includes hands-on training to develop and improve surgical skills, and simulation-based training using surgical models or virtual reality platforms to practice basic and advanced surgical procedures
- 3 - Clinical rotations in surgical departments or surgical specialty services, providing opportunities for direct patient care, observation of surgeries, and participation in patient management

Teaching and Learning Methods

- 1 - Lectures: Didactic lectures delivered by experienced surgeons or faculty members provide an overview of the theoretical concepts, principles, and surgical techniques relevant to General Surgery. Lectures may include the use of multimedia presentations, visuals, and case studies to enhance understanding
- 2 - Clinical Rotations: Clinical rotations allow students to gain firsthand experience by observing surgeries, participating in patient care, and assisting in surgical procedures under supervision.
- 3 - Simulation-based Learning: Simulation-based learning uses realistic virtual or physical environments to replicate surgical scenarios.
- 4 - Case-based discussions to analyze and discuss surgical cases, including pre-operative evaluation, surgical decision-making, and post-operative management.
- 5 - Morning Rounds: participation in surgical grand rounds, where interesting or challenging surgical cases are presented and discussed by faculty and students.
- 6 - Bedside sessions provide valuable opportunities for faculty or senior surgeons to engage medical students in discussions focused on specific surgical cases, and application of history taking and physical examination skills.

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Theoretical multiple-choice question (MCQ) exams	2 Hours	50
OSCE (Objective Structured Clinical Examination) static stations	45 minutes	20
OSCE (Objective Structured Clinical Examination) dynamic stations	45 minutes	20
Clinical rotations attendance		10

Books and References

Course note	Schwartzs Principles of Surgery
Essential books	Bailey & Loves Short Practice of Surgery, 27th Edition Browns Introduction to the Symptoms & Signs of Surgical Disease
Recommended books	Surgical Recall

Knowledge and Skills Matrix

Main Course Contents	Study Week	Knowledge and Understanding	Intellectual Skills	Professional Skills	General Skill
Lectures, Surgical Skills Workshops, and Clinical rotations	6 weeks	Recognize the need for continued professional development and lifelong learning in the field of General Surgery, staying updated with advances in surgical techniques, technologies, and research	Develop critical thinking skills to identify and manage surgical emergencies, understanding the principles of triage, resuscitation, and timely intervention	Recognize the need for continued professional development and lifelong learning in the field of General Surgery, staying updated with advances in surgical techniques, technologies, and research	Identify and manage common surgical complications, understanding the principles of wound healing, infection control, and post-operative pain management

MDCN6223	Anesthesia						
Course type	Major Needs	Level	6	hours (theoretical)	2	hours (practical)	0

Course Objectives

- 1 - Understanding the principles of anesthesia: Developing a comprehensive understanding of the basic principles and concepts of anesthesia, including the pharmacology, physiology, and biochemistry involved in anesthetic management.
- 2 - Patient assessment and preparation: Gaining the knowledge and skills required to assess patients before anesthesia, including their medical history, physical examination, and relevant diagnostic investigations. Additionally, understanding the concept of preoperative fasting and the preparation of patients for anesthesia.
- 3 - Anesthetic techniques: Learning about the different types of anesthetic techniques and their appropriate applications, including general anesthesia, regional anesthesia, and sedation. Understanding the indications, contraindications, and potential complications associated with each technique
- 4 - Anesthesia equipment and monitoring: Acquiring knowledge and hands-on experience in using and maintaining anesthesia equipment, such as anesthesia machines, monitors, and airway management devices. Understanding the importance of monitoring vital signs, anesthesia depth, and other physiological parameters during anesthesia.
- 5 - Anesthetic drugs and their administration: Gaining familiarity with different anesthetic drugs, including their indications, pharmacokinetics, doses, and potential adverse effects. Learning various routes of drug administration, including intravenous, inhalational, and regional techniques.
- 6 - Perioperative care and management: Understanding the principles of perioperative care and management, including intraoperative fluid therapy, blood transfusion, pain management, and prevention and management of complications related to anesthesia.
- 7 - Anesthetic emergencies and crisis management: Developing knowledge and skills to recognize and manage common anesthetic emergencies, such as anaphylaxis, malignant hyperthermia, and cardiovascular collapse. Understanding the principles of crisis resource management and effective communication in emergency situations.
- 8 - Ethical and legal considerations: Discussing ethical principles related to anesthesia practice, including patient autonomy, informed consent, and professional codes of conduct. Understanding the legal aspects of anesthesia, including liability and malpractice issues.
- 9 - Professionalism and communication: Promoting professional behavior and effective communication skills with patients, families, and other healthcare professionals. Understanding the importance of teamwork and collaboration in the perioperative setting.

Intended Learning Outcomes

Knowledge and Understanding	<ul style="list-style-type: none">* Recognize the necessary medical information that relates to the conduct of Anesthesia* Understand how the specialty of anesthesia relates to other medical specialties and the necessity and ways of good communication with them* Be aware of different types of anesthesia available, and their case-matching* Be aware of the pharmacologic knowledge of drugs used during anesthesia* Understand the structure, function, and multidisciplinary role of Intensive care unit* Understand the basic scientific concepts underlying airway management and cardiopulmonary resuscitation.* Understand the basic concepts and aspects of intravascular access insertion
Intellectual Skills	<ul style="list-style-type: none">* Be able to integrate his knowledge from patient assessment and anesthetic drugs and procedures for the best safe match of care and creation of a management plan.* Be able to provide counselling to patients regarding their anesthetic care* Be able to communicate with other specialties involved in the total care of patients* Be able to apply, read and analyze data from monitoring equipment.* Be able to communicate with other specialties involved in the total care of patients.
Professional Skills	<ul style="list-style-type: none">* Have acquired adequate competency in securing vascular access* Have acquired competency in safe drug preparation and administration* Have acquired adequate competency of airway management skills.* Have acquired adequate competency of airway management skills.
General Skill	<ul style="list-style-type: none">* Be able to prioritize management issues in their plan* Be good at verbal and written communication about patients.* Be able to deal with technology of monitoring equipment* Be able to assume leadership roles in critical medical conditions.

Course Contents

<ol style="list-style-type: none">1 - Airway Management2 - Intravenous , Arterial and Central Lines3 - Regional anesthesia4 - Introduction to Anesthesia?Understanding the Concept First week Dr Ibraheem Qudaisat Building Knowledge and transferrable skills Assessment of attendance and participation + written5 - Pre-Operative patient Assessment. Preparation and Premedication6 - Fluid Management and Blood Transfusion7 - General anesthesia8 - Anesthesia Equipment9 - Monitoring in Anesthesia and Intensive Care10 - Emergency Anesthesia11 - Shock12 - Post operative assessment

Teaching and Learning Methods

<ol style="list-style-type: none">1 - Lectures2 - Hand on training in operating theaters

Students Assessment

<u>Assessment Method</u>	<u>TIME</u>	<u>MARKS</u>
Practical exam		20
Final exam		80

Books and References

Essential books	Textbook of Anaesthesia: Aitkenhead et al Clinical Anesthesiology : G. Edward Morgani jr et al
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