**وصف المواد**

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| * **Course Number: 0308314**
 | * **Course Title:** Pathology
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This course deals with the causes and mechanisms of human diseases, therefore it is one of main foundations of medicine and it serves to bridge basic medical disciplines with clinical sciences. Moreover, it introduces the basic concepts, terminology, etiology, and characteristics of pathological processes. Abnormal system and the resulted disease, heart, blood vessels and blood disease.

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| * **Course Number: 0308211**
 | * **Course Title: anatomy**
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To have a sound knowledge of the structure of the human body to comprehend the Paramedical profession.

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| * **Course Number: 0308222**
 | * **Course Title: Biochemistry**
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This course deals with structure and properties of biomolecules, such as amino acids, proteins, carbohydrates, lipids, and nucleic acids. The focus of this course will be on the relationship between protein structure and its biological function, generation and storage of metabolic energy, main metabolic pathways and their key steps. In addition, the role of phospholipids in determining the properties of biological membranes and their function will be discussed. The principal objective of the course is for students to acquire knowledge and understanding of current concepts in the subject of the course and to develop critical thinking skills.

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| * **Course Number:** 0308**223**
 | * **Course Title:** Biochemistry practical
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The course introduces the students into the basic strategies in identification based on the biochemical and enzymatic activities at biological and non-biological fluids. It also deals with the management of the collection, separation and preparation of samples and how the results are reported and recorded.

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| Course Number: 0308313 | * **Course Title: Clinical Biochemistry 1**
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Discuss advanced principles of clinical chemistry as well as acquisition, management and application of laboratory data. It also studies methods of quantitating clinically significant analysis, including pathophysiology of related disease states.

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| Course Number: 0308413 | * **Course Title: Clinical Biochemistry II**
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Recent advances and progressive technology applications and instrumentation used in

clinical chemistry will be discussed in addition to more in-depth study of related subjects such as protein purification and characterization.

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| * **Course Number: 0308315**
 | * **Course Title: C**linical chemistry I practical
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The course introduces the students into the basic strategies in metabolic disorders identification based on the biochemical and enzymatic activities at biological fluids. it also deals with the management of the collection, separation and preparation of samples and how the results are reported and recorded.

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| * **Course Number:** 0308313
 | * **Course Title: *C***linical chemistry I
 |

 This course deals with of biomolecules, such as amino acids, proteins, carbohydrates, lipids, and nucleic acids. The focus of this course will be on the relationship between protein structure and its biological function, generation and storage of metabolic energy, main metabolic pathways and their key steps. In addition, the disorders in metabolic pathways and the correlated disease associated with them.

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| * **Course Number:** 0308**415**
 | * **Course Title:** clinical chemistry II practical
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The course introduces the students into the basic strategies in organ disorders identification based on the biochemical and enzymatic activities at biological fluids. it also deals with the management of the collection, separation and preparation of samples and how the results are reported and recorded.

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| * **Course Number:** 0308413
 | * **Course Title:** clinical chemistry II
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This course introduces the students to the study of clinical aspects of assessment of organ function and dysfunction. It also deals with the endocrine function and analysis of disorders in liver ,cardiac, kidney, GI and pancreatic function test. Moreover, it discusses the Therapeutic drug monitoring, and tumor markers practices.

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| * **Course Number: 0308447**
 | * **Course Title: clinical endocrinology**
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Course will cover mode of action, anatomy and physiology of all endocrinal glands in human body, as well as mechanism of action for all their hormonal products. In addition, course materials are oriented to increase the acknowledgment level of medical laboratory students about clinical endocrinology; diagnosis of main clinical cases/diseases related for hormonal imbalances, as well as assays of hormonal concentration.

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| Course Number: 0308353 | * **Course Title: Clinical Immunology and Serology**
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This course is applied clinical immunology and serology for clinical laboratory practice

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| Course Number: 0308433 | * **Course Title: Clinical Microbiology**
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This course is designed to introduce the student of MLS to diagnostic microbiology

practice, purpose, phelosophy, organization, safety measures, selection, collection,

and processing of specimens from specific diseases, isolation of disease cause,

identification, and selection of therapy, with emphesis on automation, and fungal

diagnostic techniques.

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| * **Course Number:** 0308
 | * **Course Title:** Diagnostic Microbiology practical
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 The course introduces the students into the basic strategies in bacterial identification based on the morphological appearance, biochemical and enzymatic activities. it also deals with the management of the collection, Transportation Preservation and Disposal of samples and how the results are reported and recorded.

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| * **Course Number: 0308432**
 | * **Course Title: Diagnostic Microbiology I**
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Instruction in the theory, practical application, and pathogenesis of clinical microbiology,

including collection, setup, identification, susceptibility testing, and reporting procedures. The

laboratory exercises will provide the student with the most comprehensive experiences

possible, but will rely mainly on the commonly measured differential characteristics of select

bacterial groups.

The structure of microorganisms including the pathogenic properties of bacteria, fungi, and

viruses are examined in detail. Basic genetic and molecular biological concepts are

integrated and connected to clinical manifestations of disease.

Students acquire an understanding of the physiological and virulence properties of

microorganisms and epidemiological factors contributing to human infectious disease; and

an introduction to the activities and uses of antimicrobial agents for asepsis and treatment.

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| * **Course Number:** 0308242
 | * **Course Title:** Diagnostic Microbiology
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The course deals with the Principles of disease and epidemiology and the Mechanism of Pathogenicity and it also deals with the management of the collection, Transportation Preservation and Disposal of samples. it also introduces the students to Pathogenic Bacteria

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| * **Course Number:** 0308343
 | * **Course Title:** Diagnostic parasitology practical
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This course is designed to introduce the students to diagnostic medical parasitology including parasite diagnostic stages and methods, parasite life cycles, and processing of clinical samples. Key diagnostic features of the various parasites will be emphasized.​

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| * **Course Number:** 0308242
 | * **Course Title:** Diagnostic Microbiology
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| * **Course Number:** 0308341
 | * **Course Title:** diagnostic parasitology
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this course deals with protozoan, helminth and arthropodal pathogenic parasites. It focuses on the morphology, anatomy, physiology, life cycle, pathogenicity, diagnosis tests, treatment and control.

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| * **Course Number:** 030824
 | * **Course Title:** General Microbiology practical
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 The course introduces the students into safety measures, microscopy, preparation, staining and cultivation of bacteria. It also deals with the practical aspect of media preparation and the effect of pH, temperature, tonicity factors on the microbial growth.

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| * **Course Number:** 0308242
 | * **Course Title:** General Microbiology
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The course introduces the students into prokaryotic and eukaryotic microorganisms in term of the classification, the structures and functions of prokaryotic and eukaryotic microbes and viruses but will emphasize bacteria. It also deals with the microbial growth, nutrition and metabolisms.

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| * **Course Number:**0308344
 | * **Course Title:**Hematology IPractical
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The course introduces students to blood and its components specifically the formed cellular elements including erythrocytes, leukocytes and thrombocytes. The primary purpose of this laboratory practice is to provide a better understanding of the most important basics, techniques, and test procedures, that are applied in routine hematology studies. In the lab, students are trained on blood withdrawing, hematocrit determination, reticulocyte preparation, ESR, blood film preparation and examination, and the interpretation of test results towards diagnosis of blood diseases and disorders.

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| * **Course Number:**0308343
 | * **Course Title:** Hematology I
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Course will provide students with a background in blood and its components, and specifically the formed cellular elements including erythrocytes, leukocytes and thrombocytes. A detailed description of these elements will be provided with a major emphasis on their generation, structure, function and metabolism. A portion of the course will be focus on certain laboratory procedures for enumeration, examination, and identification of blood cellular components.

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| * **Course Number:** 0308444
 | * **Course Title:** Hematology II Practical
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Course involves the practical application and technical performance of blood bank procedures required for blood donation and blood components preparation, handling, storage and transfusion. It introduces the basics of immune-hematology principles and applications including blood grouping, antiglobulin (Coombs) test, and pre-transfusion testing; including: cross matching, antibodies screening and identification.

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| * **Course Number:** 0308443
 | * **Course Title:** Hematology II
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This is a three credit hours theory course that provide students with the basics of immunohematology principles and applications including blood donation, blood components preparation, blood grouping, pre-transfusion testing, transfusion therapy, and adverse reaction to blood donation and transfusion.

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| * **Course Number: 0308214**
 | * **Course Title: Histology**
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To Understand the basics of tissue preparation and study.

To list and understand the basics of light and electron microscopes.

To comprehend to the basic structure and function of the cell.

To describe different types of basic tissues (Epithelium, connective tissue, Muscle and nervous tissues).

To describe special types of connective tissue (cartilage and bone).

To discus the basic molecular aspects of certain cellular and tissue components (Membrane, Cytoskeleton, Martix).

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| * **Course Number: 0308211**
 | * **Course Title: Human anatomy**
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 This course will cover main aspects of human anatomy; starting from overview of main anatomical terminology, tissue calcifications and surface anatomy. After that, course will cover gross anatomy for each human body systems (including; Skeletal, Muscular, Nervous, Circulatory, Respiratory, Digestive, Urinary, and Reproductive. Systems).

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| * **Course Number: 0308232**
 | * **Course Title: Human Physiology I**
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 course will cover basics of general human physiology, as well as essential mechanisms and functions of human body systems; cardiovascular system, nervous system and muscle physiology. Course will focus on different levels of organization for understanding of body functions; molecular, cellular to tissue and organ levels. In addition, the course will provide students with a minor level of understanding in clinical-physiology related for mentioned systems. Wishing that students finally will understand well normal and abnormal functions of the human body systems.

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| * **Course Number: 0308332**
 | * **Course Title: Human Physiology II**
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The course will cover some basic physiological subjects related for NS; special senses (vision, hearing, taste, tactile and smell), as well as, autonomic nervous system. In addition, the course will cover basics of essential mechanisms and functions for some human body systems; physiology of respiratory system, renal systems and digestive system. In fact, during the course, students will be provided with a minor level of understanding in clinical-physiology related for mentioned subjects. Wishing that students finally will understand well normal and abnormal functions of the human body systems

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| * **Course Number: 0308341**
 | * **CourseTitle: Medical Parasitology**
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This course deals with innate and acquired defense mechanisms. It focuses on the involvement of the immune system in various disease states and clinical conditions. It also provides an introduction to the principles of antigen-antibody reactions and their application in many laboratory tests.

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| * **Course Number: 0308341**
 | * **CourseTitle: Medical Parasitology**
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This Medical Parasitology course, also known as Human Parasitology, which is the study of parasites that infect humans. The course provides information about the epidemiology of human parasitic infections, life cycles, routs of transmission, and the prevention and control measures.

It focuses on the routinely used laboratory diagnostic methods, clinical picture, and treatment.

Lectures will cover the fundamentals and diagnostic methods for each parasite. The practice and the importance of medical parasitology are explored through examples on waterborne and foodborne outbreaks.

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| * **Course Number:** 0308322
 | * **Course Title: Medical Virology**
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This is an introductory course in virology and mycology for the medical laboratory

sciences students. It covers basic principles of viral and fungal classification,

structures, life cycles, host-parasite interactions, and clinical diseases. The

laboratory part covers basic techniques in virology and mycology.

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| * **Course Number:** 0308322
 | * **Course Title:** Molecular Genetics
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This is a three credit hours theory course that explores nucleic acids structures (DNA and RNA), genome organization in prokaryotes and eukaryotes, DNA replication, DNA repair, DNA transcription, translation, regulation of gene expression, RNA processing and modifications, protein synthesis and folding, and molecular biology of cancer.

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| * **Course Number:**
 | * **Course Title:** Pathology
 |

This course deals with the causes and mechanisms of human diseases, Therefore it is one of main foundations of medicine and it serves to bridge basic medical disciplines with clinical sciences. Moreover, it introduces the basic concepts, terminology, etiology, and characteristics of pathological processes. Abnormal system and the resulted disease, heart, blood vessels and blood disease.

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| * **Course Number:**
 | Course Title: Human physiology 101 |

This course is designed to provide students with a comprehensive understanding of the physiological mechanisms that govern the functioning of the human body and lay a strong foundation for students to analyze and interpret physiological processes, essential for their roles in diagnosing, treating, and monitoring patients. This course will focus on the physiological process in the from general physiology of cells to the physiological process in the human integumentary, musculoskeletal, and cardiovascular systems.

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| * **Course Number:**
 | **Course Title: Human physiology 101** |

The Physiology 102 course for offers an in-depth exploration of the human body's intricate mechanisms and functions. This foundational course aims to equip students with a comprehensive understanding of physiological processes in the nervous, respiratory, gastrointestinal urinary and reproductive systems, enabling them to effectively comprehend and analyze various medical conditions and technological interventions.