

Ministry of Higher Education and Scientific Research
Scientific Supervision and Scientific Evaluation Apparatus
Directorate of Quality Assurance and Academic Accreditation
Accreditation Department

Academic Program and Course Description Guide

University of Al-Kafeel | College of Health and Medical Technologies

Department of Medical Laboratory Technologies

Academic Year 2026 / 2027

ACADEMIC PROGRAM DESCRIPTION — OVERVIEW

Introduction:

An academic programme constitutes a coordinated and organised package of courses comprising procedures and experiences arranged as course syllabi, the primary purpose of which is to build students' knowledge and develop their cognitive, skill-based, and attitudinal competencies in a particular specialisation. The academic programme description provides a concise summary of the programme's principal characteristics and its courses, identifying the skills to be imparted to students in accordance with the programme's objectives and the expected learning outcomes. This guide — in its second edition — includes an academic programme description following an update of the previous guide's vocabulary and sections, in light of new developments in the educational system in Iraq and globally. The importance of writing academic programme and course descriptions to ensure the quality of the educational process cannot be overstated.

Academic Program Description Form

University Name: **Alkafeel**

Academic Program Description Form

University Name: **Alkafeel**

Faculty/Institute: **College of Health & Medical Technology**

Scientific Department: **Medical Laboratory Techniques**

Academic or Professional Program Name: **B.Sc.**

Final Certificate Name: **B.Sc. of Medical Laboratory Techniques**

Academic System: **Courses**

Description Preparation Date: **11 \ 9 \2026**

File Completion Date: **19 \ 9 \2026**

Signature:

Head of Department Name:

Dr. Qassim M. H. Alfaham

Date: 27\ 9 \2026

Signature:

Scientific Associate Name: Proff.

Dr. Sddiq G. J. Al-Muhanna

Date: 27\ 9 \2026

The file is checked by: Ali Najeh Abbas

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance Department:

Date: 27\ 9 \2026

Signature:

27/9/2026

Approval of the Dean

Key Concepts and Terminology:

Academic Programme Description	Provides a concise summary of the programme's vision, mission, and objectives, including a precise description of the targeted learning outcomes at the level of each course within the programme.
Course Description	Provides a concise summary of the most important characteristics of the course and the learning outcomes the student is expected to achieve, demonstrating whether maximum benefit from learning opportunities has been attained.
Programme Vision	An ambitious image of the academic programme's future — to be a developed, inspiring, motivating, realistic, and applicable programme.
Programme Mission	Clarifies the objectives and the activities required to achieve them concisely, and defines the trajectories of programme development and its future directions.
Programme Objectives	Statements that describe what the academic programme intends to achieve over a specified period; these must be measurable and observable.
Curriculum Structure	All courses/subjects included in the academic programme in accordance with the approved learning system (semester, annual, Bologna pathway), whether compulsory or elective.
Learning Outcomes	A coherent set of knowledge, skills, and values acquired by the student after successfully completing the academic programme. Learning outcomes must be specified for each course.
Teaching and Learning Strategies	Strategies used by faculty members to develop student teaching and learning; these are plans followed to achieve the learning objectives of the programme.

Programme Details

University	Al-Kafeel University
College / Institute	College of Health and Medical Technologies
Department	Department of Medical Laboratory Technologies
Programme Name	Bachelor of Medical Laboratory Technologies
Final Degree	Bachelor's Degree in Medical Laboratory Technologies
Study System	Semester
Description Date	11/9/2025
File Completion Date	19/9/2025

Programme Vision	Accrediting standards of education and scientific research methodology, and applying them within Islamic values.
Programme Mission	Providing a distinguished academic body specialised in medical laboratory technology, conducting all pathological analyses, and committed to all professional and Islamic values and principles.
Programme Objectives	1. Attaining the highest levels of quality in education commensurate with the labour market.

	2. Preparing academically, professionally, and ethically distinguished human resources that contribute to developing the educational and pedagogical process. 3. Producing solid scientific research that contributes to solving medical and health problems in the country. 4. Developing educational programmes in line with quality standards. 5. Strategic partnership with public and private sector institutions in scientific research, training, development, and consultancy. 6. Establishing training courses and programmes that contribute to community service.
Programme Accreditation	Has the programme obtained programme accreditation? No

Programme Structure

Programme Structure	Courses: 58 | Credit Units: 193 | Percentage: 100% | Type: Core
Summer Training	Courses: 2 | Status: Fulfilled | Percentage: 100% | Type: Core

Programme Course List

Year / Level	Course Code	Course Name	Credit Hours
Year 1 / Semester 1	—	General Chemistry	5
Year 1 / Semester 1	—	Medical Terminology	1
Year 1 / Semester 1	—	Human Biology 1	5
Year 1 / Semester 1	—	Laboratory Equipment 1	4
Year 1 / Semester 1	—	Professional Conduct	2
Year 1 / Semester 1	—	Human Rights and Democracy	2
Year 1 / Semester 1	—	Arabic Language	2
Year 1 / Semester 2	—	General Chemistry 2	5
Year 1 / Semester 2	—	Anatomy	5
Year 1 / Semester 2	—	Human Biology 2	5
Year 1 / Semester 2	—	Laboratory Equipment 2	4
Year 1 / Semester 2	—	Computer Principles 1	2
Year 1 / Semester 2	—	Medical Terminology 2	2
Year 2 / Semester 1	—	Medical Bacteriology 1	4
Year 2 / Semester 1	—	Clinical Biochemistry 1	4
Year 2 / Semester 1	—	Human Physiology 1	4
Year 2 / Semester 1	—	Histology 1	4
Year 2 / Semester 1	—	Molecular Biology	4
Year 2 / Semester 1	—	Medical Parasitology 1	4
Year 2 / Semester 1	—	Ba'ath Party Crimes in Iraq	2
Year 2 / Semester 1	—	Computer 2	2
Year 2 / Semester 1	—	Arabic Language	2
Year 2 / Semester 2	—	Medical Bacteriology 2	4

Year 2 / Semester 2	—	Clinical Biochemistry 2	4
Year 2 / Semester 2	—	Human Physiology 2	4
Year 2 / Semester 2	—	Histology 2	4
Year 2 / Semester 2	—	Medical Parasitology and Entomology 2	4
Year 2 / Semester 2	—	Descriptive Biostatistics	2
Year 3 / Semester 1	—	Histopathology	2
Year 3 / Semester 1	—	Hematology	2
Year 3 / Semester 1	—	Medical Mycology	4
Year 3 / Semester 1	—	Metabolic Disorders	4
Year 3 / Semester 1	—	Medical Genetics 1	4
Year 3 / Semester 1	—	Immunology 1	4
Year 3 / Semester 1	—	Advanced Laboratory Techniques	2
Year 3 / Semester 2	—	Histopathology 2	2
Year 3 / Semester 2	—	Hematology 2	2
Year 3 / Semester 2	—	Medical Virology	4
Year 3 / Semester 2	—	Clinical Endocrinology	4
Year 3 / Semester 2	—	Medical Genetics 2	4
Year 3 / Semester 2	—	Immunology 2	4
Year 3 / Semester 2	—	Analytical Biostatistics	3
Year 4 / Semester 1	—	Clinical Immunology 1	4
Year 4 / Semester 1	—	Diagnostic Bacteriology 1	4
Year 4 / Semester 1	—	Clinical Enzymology 1	4
Year 4 / Semester 1	—	Diagnostic Parasitology 1	4
Year 4 / Semester 1	—	Blood Transfusion	4
Year 4 / Semester 1	—	Pathology	4
Year 4 / Semester 1	—	Professional Ethics	2
Year 4 / Semester 1	—	Research Methods	1
Year 4 / Semester 2	—	Clinical Immunology 2	4
Year 4 / Semester 2	—	Diagnostic Bacteriology 2	4
Year 4 / Semester 2	—	Stem Cell & Embryology	2
Year 4 / Semester 2	—	Diagnostic Parasitology 2	4
Year 4 / Semester 2	—	Clinical Chemistry	4
Year 4 / Semester 2	—	Antibiotic Resistance & Infection Control	4
Year 4 / Semester 2	—	Laboratory Management	1
Year 4 / Semester 2	—	Graduation Project	6

YEAR ONE — COURSE DESCRIPTIONS

Medical Terminology 1

1.Course Name

Medical Terminology 1
2.Semester / Year
2026/2027 — Semester 1 / One Year
3.Date of Preparation
1/9 /2026
4.Attendance Modes
In Person Education
5.Total Hours / Units
15 hours / 1 credit units
6.Course Responsible
Name: Assist. Prof Mohsen Gilb Abass

7. Course Objectives	**General Objective:** To introduce students to the language of medicine, covering word-building techniques, prefixes, suffixes, and root terms used in clinical settings. • To enable students to decode, construct, and correctly apply medical terms across all body systems and specialisations
8.Teaching & Learning Strategies	• • Information presentation using diverse presentation methods • Opinion exchange and discussion (individual and group) with the instructor • Cooperative learning strategy • Training-based learning strategy

9. Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
1	4		Introduction: Defining Medical Terminology, Techniques of Medical Word Building, Word Elements	Lecture	Oral & Written Exam
2	4		Common Prefixes, Common Suffixes, Body Structure Key Terms, Levels of Organisation: Cell, Tissue, Organ, System	Lecture	Oral & Written Exam
3	4		Pathology and Abnormal Conditions: Tumours, Infection and Inflammation, Symptoms, Disease	Lecture	Oral & Written Exam

4	4		Integumentary (Skin) System	Lecture	Oral & Written Exam
5	4		Musculoskeletal System	Lecture	Oral & Written Exam
6	4		Digestive System and Cardiovascular System	Lecture	Oral & Written Exam
7	4		Blood, Lymph and Immune System	Lecture	Oral & Written Exam
8	4		Mid-Course Examination	Lecture	Oral & Written Exam
9	4		Nervous System and Special Senses	Lecture	Oral & Written Exam
10	4		Review	Lecture	Oral & Written Exam
11	4		Urinary System and Reproductive System	Lecture	Oral & Written Exam
12	4		Gynaecology, Pregnancy, Embryology and Childbirth	Lecture	Oral & Written Exam
13	4		Childhood, Growth and Development	Lecture	Oral & Written Exam
14	4		Medical Record Activity and Writing a Diagnostic Report	Lecture	Oral & Written Exam
15	4		Revision / Final Review	Lecture	Oral & Written Exam

Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).
Required Textbooks (if available)	
Main References	
Supporting References	
Electronic References	

General Chemistry 1

1.Course Name
General Chemistry 1
2.Semester / Year
2026/2027 — Semester 1 / One Year
3.Date of Preparation
1/9 /2026
4.Attendance Modes
In Person Education
5.Total Hours / Units
90 hours / 4 credit units
6.Course Responsible
Name: Assist. Dr Zamen Abd Alhusain Abady Assist. Lecture Zahraa Yahya Jawad

7. Course Objectives	**General Objective:** To provide students with fundamental knowledge of general and organic chemistry as a basis for understanding clinical and analytical chemistry in the laboratory. • To understand atomic structure, the periodic table, types of chemical reactions, solution preparation, acid-base theory, and spectroscopy. • To identify and apply knowledge of organic chemistry including hydrocarbons, alcohols, aldehydes, ketones, carboxylic acids, and amines.
8.Teaching & Learning Strategies	• Information presentation using diverse presentation methods • Opinion exchange and discussion (individual and group) with the instructor • Cooperative learning strategy • Training-based learning strategy

9. Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
1	4		Introduction to Chemistry: Matter, Atomic Structure, Periodic Table, Isotopes, Atomic Mass	Lecture	Oral & Written Exam
2	4		Analytical Chemistry: Methods of Analysis, Types of Solutions, Preparation of Standard Solutions	Lecture	Oral & Written Exam

3	4		Molar Solution, Normal Solution, Parts Per Million (ppm)	Lecture	Oral & Written Exam
4	4		Acid-Base Theory, Types of Chemical Reactions, pH, Neutralisation Reaction	Lecture	Oral & Written Exam
5	4		Periodic Table, Equilibrium Constant, Buffer Solution	Lecture	Oral & Written Exam
6	4		Acid-Base Titration, Oxidation-Reduction Reaction	Lecture	Oral & Written Exam
7	4		Spectroscopy: Optical Spectroscopy, Beer-Lambert Law	Lecture	Oral & Written Exam
8	4		Mid-Course Examination	Lecture	Oral & Written Exam
9–10	4		Structure of Carbon Compounds: Alkanes, Alkenes, Alkynes, Halogen Compounds	Lecture	Oral & Written Exam
11	4		Alcohols: Classification, Properties, Reactions	Lecture	Oral & Written Exam
12	4		Aldehydes and Ketones: Properties, Reactions	Lecture	Oral & Written Exam
13–14	4		Carboxylic Acid, Aromatic Hydrocarbons	Lecture	Oral & Written Exam
15	4		Amines: Properties, Chemical Reactions	Lecture	Oral & Written Exam

Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).
Required Textbooks (if available)	
Main References	
Supporting References	
Electronic References	

Laboratory Equipment 1

1.Course Name
Laboratory Equipment 1
2.Semester / Year
2026/2027 — Semester 1 / One Year
3.Date of Preparation
1/9 /2026
4.Attendance Modes
In Person Education
5.Total Hours / Units
45 hours / 4 credit units
6.Course Responsible
Name: Assist. Pro . Mohamed Redha Ahmed Hashim

7. Course Objectives	**General Objective:** To introduce students to the principal instruments used in medical laboratories, including their principles, operation, calibration, and maintenance. • To understand the operating principles of microscopes, spectrophotometers, centrifuges, autoclaves, biosafety cabinets, and incubators..
8.Teaching & Learning Strategies	• Information presentation using diverse presentation methods • Opinion exchange and discussion (individual and group) with the instructor • Cooperative learning strategy • Training-based learning strategy

9. Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
1–2	4		General Introduction and Ordinary (Simple) Microscope	Lecture	Oral & Written Exam
3	4		Light Microscopes: Simple and Compound Microscopes	Lecture	Oral & Written Exam
4	4		Light Microscopes: Bright-Field, Dark-Field, Phase-Contrast, Fluorescence Microscopes	Lecture	Oral & Written Exam
5–6	4		Electron Microscope: Parts, Principle, Magnification and Resolution, Applications	Lecture	Oral & Written Exam

7	4		Spectrophotometer: Parts, Principle, Calibration, Uses and Care	Lecture	Oral & Written Exam
8–9	4		Centrifugation: Parts, Principle, Types and Applications, Care and Safety	Lecture	Oral & Written Exam
10–11	4		Autoclave: Principle and Applications, Care and Safety	Lecture	Oral & Written Exam
12–13	4		Microbiological Safety Cabinet: Types, Principle, Applications, Maintenance	Lecture	Oral & Written Exam
14	4		Incubator: Types, Principle and Applications, Care	Lecture	Oral & Written Exam
15	4		Balance: Types, Parts, Applications, Advantages, Disadvantages	Lecture	Oral & Written Exam

Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).
Required Textbooks (if available)	
Main References	
Supporting References	
Electronic References	

Professional Conduct

1.Course Name
Professional Conduct
2.Semester / Year
2026/2027 — Semester 1 / One Year
3.Date of Preparation
1/9 /2026
4.Attendance Modes
In Person Education
5.Total Hours / Units
15 hours / 2 credit units

6.Course Responsible	
Name: Assist. Lecture Ameer Haider Razak	
7. Course Objectives	**General Objective:** To introduce students to the science of biology, cell theory, classification of living organisms, genetics, and the study of bacteria and viruses. • To understand cell structure, organelles, cell division (mitosis and meiosis), and the basic principles of inheritance and gene expression. • To identify the classification and characteristics of bacteria, viruses, viroids, prions, and bacteriophages.
8.Teaching & Learning Strategies	• Information presentation using diverse presentation methods • Opinion exchange and discussion (individual and group) with the instructor • Cooperative learning strategy • Training-based learning strategy

9. Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
1	4		Principles of Professional Ethics Through Stages of Civilisational Development	Lecture	Oral & Written Exam
2	4		Professional Conduct: Definition, Concept, Practical Applications; Relationships between Employees and Their Supervisors	Lecture	Oral & Written Exam
3	4		Characteristics of Healthcare Workers: Appearance, Conduct and Commitment; Legal and Moral Rights	Lecture	Oral & Written Exam
4	4		Behavioural Patterns: Human, Interactive, and Collective; Nature, Motives, and Interpretations	Lecture	Oral & Written Exam
5	4		Communication Methods: Verbal and Non-Verbal; Types, Impacts, Designing Effective Communication	Lecture	Oral & Written Exam
6	4		Behavioural Tendencies and Inclinations: Definition, Classification, Influencing Factors	Lecture	Oral & Written Exam
7	4		Values, Customs and Traditions: Definition, Classification, Influencing Factors	Lecture	Oral & Written Exam
8	4		Personality Patterns: How to Deal with Them; Personality Types and Relationships	Lecture	Oral & Written Exam

9	4		Laboratory Safety: Instructions and Equipment	Lecture	Oral & Written Exam
10	4		Types of Laboratories, Laboratory Instruments, and Sample Collection Tools	Lecture	Oral & Written Exam
11	4		Infection-Related Instruments and Methods for Infection Prevention	Lecture	Oral & Written Exam
12	4		Sterilisation: Physical and Chemical Sterilisation Methods	Lecture	Oral & Written Exam
13	4		Occupational Hazards in Medical Laboratories and Prevention Methods	Lecture	Oral & Written Exam
14	4		Occupational Safety: Prevention from Work Hazards and Accidents; Prevention from Microbial and Chemical Contamination	Lecture	Oral & Written Exam
15	4		Revision	Lecture	Oral & Written Exam

Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).
Required Textbooks (if available)	
Main References	
Supporting References	
Electronic References	

Human Biology 1

1.Course Name
Human Biology 1
2.Semester / Year
2026/2027 — Semester 1 / One Year
3.Date of Preparation
1/9 /2026
4.Attendance Modes

In Person Education
5.Total Hours / Units
45 hours / 4 credit units
6.Course Responsible
Name: Assist. Pro . Muhsen Gilab Abass

7. Course Objectives	**General Objective:** To introduce students to the science of biology, cell theory, classification of living organisms, genetics, and the study of bacteria and viruses. • To understand cell structure, organelles, cell division (mitosis and meiosis), and the basic principles of inheritance and gene expression. • To identify the classification and characteristics of bacteria, viruses, viroids, prions, and bacteriophages.
8.Teaching & Learning Strategies	• Information presentation using diverse presentation methods • Opinion exchange and discussion (individual and group) with the instructor • Cooperative learning strategy • Training-based learning strategy

9. Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
1	4		Definition of Biology, Science of Biology, Importance of Studying Biology, Cell Theory, Structure of Cells	Lecture	Oral & Written Exam
2	4		Classification of Living Organisms: The Kingdoms, Categories of Classification	Lecture	Oral & Written Exam
3–4	4		Cell Structure, Organelles and Functions, Physical Properties of Cells	Lecture	Oral & Written Exam
5	4		Cell Membrane: Structure, Functions, Endocytosis, Exocytosis	Lecture	Oral & Written Exam
6	4		Chemical Composition of Cells, Biochemistry of the Cell	Lecture	Oral & Written Exam
7	4		Prokaryotic and Eukaryotic Cells: Differences, Characteristics and Comparison	Lecture	Oral & Written Exam
8	4		Characteristics of Living Organisms: Evolution, Adaptation, Respiration, Homeostasis	Lecture	Oral & Written Exam
9	4		Cell Division: Mitosis	Lecture	Oral & Written Exam

10	4		Cell Division: Meiosis	Lecture	Oral & Written Exam
11	4		Inheritance: Genetic Concepts and Principles	Lecture	Oral & Written Exam
12	4		Gene Expression: Concepts, Mechanism of Action	Lecture	Oral & Written Exam
13	4		Organ Systems: Digestive, Circulatory, Respiratory, Urinary, Muscular, Nervous Systems	Lecture	Oral & Written Exam
14	4		Viruses, Viroids, Prions, Bacteriophages, Viral Life Cycle, Characteristics, Shapes, Viral Diseases	Lecture	Oral & Written Exam
15	4		Kingdom Monera: Phylum Schizophyta (Bacteria) — Classification, Structure, Morphology, Growth	Lecture	Oral & Written Exam

Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).
Required Textbooks (if available)	

Human Biology 2

1.Course Name
Human Biology 2
2.Semester / Year
2026/2027 — Semester 1 / One Year
3.Date of Preparation
1/9 /2026
4.Attendance Modes
In Person Education
5.Total Hours / Units

45 hours / 4 credit units
6.Course Responsible
Name: Assist. Pro . Muhsen Gilab Abass

Course Objectives	**General Objective:** To extend students' knowledge of the biological world, covering pathogenic bacteria, protists, fungi, animals (invertebrates and vertebrates), helminths, and waste management. • To study the classification and medical importance of protists (amoebae, trypanosomes, Plasmodium), fungi, helminths, and arthropods. • To understand scientific methods and their application in biological research.
Teaching & Learning Strategies	• Information presentation using diverse presentation methods • Opinion exchange and discussion (individual and group) with the instructor • Cooperative learning strategy • Training-based learning strategy

9. Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
1	4		Harmful Activity of Bacteria, Bacterial Diseases in Humans and Animals, Control of Bacterial Diseases	Lecture	Oral & Written Exam
2	4		Kingdom Protista: Simple Algae and Harmful Effects of Algae	Lecture	Oral & Written Exam
3	4		Kingdom Protista: Protozoa — Classification of Protozoa	Lecture	Oral & Written Exam
4	4		Phylum Sarcodina (Amoebae); Phylum Somatizing: Trypanosomes, Giardia	Lecture	Oral & Written Exam
5	4		Phylum Sporozoans: Plasmodium	Lecture	Oral & Written Exam
6	4		Kingdom Fungi: Classification, Reproduction	Lecture	Oral & Written Exam
7	4		Harmful Activities of Fungi	Lecture	Oral & Written Exam
8	4		Yeasts and Yeast-like Fungi: Characteristics, Classification, Candida	Lecture	Oral & Written Exam
9	4		Kingdom Animalia: Classification, Invertebrates and Vertebrates, Importance to Human Disease	Lecture	Oral & Written Exam
10	4		Human Body: Protection, Support and Locomotion	Lecture	Oral & Written Exam
11	4		Human Body DE fences: Immunity, Antigen, Antibody; Hormones and Enzymes	Lecture	Oral & Written Exam

12	4		Helminths: Characteristics and Classification	Lecture	Oral & Written Exam
13	4		Flatworms (Platyhelminthes), Roundworms (Nematoda): Classification, Harmful Activities to Humans	Lecture	Oral & Written Exam
14	4		Management of Industrial, Agricultural and Medical Waste	Lecture	Oral & Written Exam
15	4		Scientific Methods: Steps and Examples	Lecture	Oral & Written Exam

Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).
Required Textbooks (if available)	
Main References	
Supporting References	
Electronic References	

Human Rights and Democracy

1.Course Name
Human Rights and Democracy
2.Semester / Year
2026/2027 — Semester 1 / One Year
3.Date of Preparation
1/9 /2026
4.Attendance Modes
In Person Education
5.Total Hours / Units
30 hours / 2 credit units
6.Course Responsible
Name: Assist. Lecture Ghazal Abd Alrazaq

Course Objectives	**General Objective:** To introduce students to the concept of human rights through history, international conventions, constitutional guarantees, and contemporary democratic freedoms. • To understand the development of human rights, international declarations and conventions, and their application in Iraqi constitutional law. • To distinguish civil, political, economic, social, and cultural rights, and to understand the concept of democracy and its various forms.
Teaching & Learning Strategies	• Information presentation using diverse presentation methods • Opinion exchange and discussion (individual and group) with the instructor • Cooperative learning strategy • Training-based learning strategy

9. Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
1	4		Human Rights: Definition, Objectives; Human Rights in Ancient Civilization's (Mesopotamia)	Lecture	Oral & Written Exam
2	4		Human Rights in Divine Revelations, with Emphasis on Human Rights in Islam; Human Rights in International Law	Lecture	Oral & Written Exam
3	4		Regional Recognition of Human Rights: European Convention on Human Rights 1952; American Convention	Lecture	Oral & Written Exam
4	4		Human Rights in Iraqi Constitutions: Theory vs. Reality; The Relationship between Human Rights and Freedoms	Lecture	Oral & Written Exam
5	4		Economic, Social, Cultural, Civil and Political Human Rights	Lecture	Oral & Written Exam
6	4		Modern Human Rights: Right to Development, Right to a Clean Environment, Right to Solidarity	Lecture	Oral & Written Exam
7	4		Guarantees for Respecting and Protecting Human Rights at the National Level: Constitutional and Legal Guarantees	Lecture	Oral & Written Exam
8	4		Constitutional Oversight Guarantees; Freedom of the Press and Public Opinion; Role of Civil Society Organisations	Lecture	Oral & Written Exam
9	4		General Theory of Freedoms: Origin of Rights and Freedoms; Position of Legislation on Declared Rights and Freedoms	Lecture	Oral & Written Exam

10	4		Equality: Historical Development of the Concept; Modern Development of the Idea; Equality Between the Sexes	Lecture	Oral & Written Exam
11	4		Democracy: Definition and Types; Concepts of Democracy; Democracy in the Third World	Lecture	Oral & Written Exam
12	4		Democratic Systems in the World; Classification of Public Freedoms: Fundamental, Religious, Intellectual Freedoms	Lecture	Oral & Written Exam
13	4		Freedom of Security; Freedom of Movement; Freedom of Education; Freedom of the Press; Freedom of Assembly	Lecture	Oral & Written Exam
14	4		Freedom of Property; Freedom of Commerce and Industry; Women's Rights	Lecture	Oral & Written Exam
15	4		Political Parties and Public Freedoms; Scientific and Technological Progress and Public Freedoms	Lecture	Oral & Written Exam

Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).
Required Textbooks (if available)	
Main References	
Supporting References	
Electronic References	

General Chemistry 2

1.Course Name
General Chemistry 2
2.Semester / Year
2026/2027 — Semester 1 / One Year
3.Date of Preparation
1/9 /2026

4.Attendance Modes
In Person Education
5.Total Hours / Units
45hours / 4 credit units
6.Course Responsible
Name: Assist. Dr Zamen Abd Alhusain Abady Assist. Lecture Zahraa Yahya Jawad

Course Objectives	**General Objective:** To extend students' knowledge of biochemical concepts including macromolecules, enzymes, vitamins, and an introduction to renewable energy and nanotechnology.
Teaching & Learning Strategies	• Information presentation using diverse presentation methods • Opinion exchange and discussion (individual and group) with the instructor • Cooperative learning strategy • Training-based learning strategy

9. Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
1–2	4		Carbohydrates: Definition, Biological Functions, Classification	Lecture	Oral & Written Exam
3–4	4		Lipids: Definition, Biological Functions, Classification	Lecture	Oral & Written Exam
5–6	4		Amino Acids and Proteins: Definition, Biological Functions, Classification	Lecture	Oral & Written Exam
7	4		Mid-Course Examination	Lecture	Oral & Written Exam
8–9	4		Nucleotides and Nucleic Acids: Definition, Classification of Nitrogenous Bases	Lecture	Oral & Written Exam
10	4		General Properties of Enzymes: Active Sites, Catalytic Efficiency	Lecture	Oral & Written Exam
11	4		Vitamins: Definition, Classification (Water- and Fat-Soluble), Sources, Deficiency Diseases	Lecture	Oral & Written Exam
12	4		Solar Energy Technology: Availability of Solar Radiation, Photovoltaic Devices	Lecture	Oral & Written Exam
13–14	4		Nanotechnology in Renewable Energy Systems; Nanotechnology for Hydrogen Production	Lecture	Oral & Written Exam
15	4		Revision	Lecture	Oral & Written Exam

Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).
Required Textbooks (if available)	
Main References	
Supporting References	
Electronic References	

Laboratory Equipment 2

1.Course Name
Laboratory Equipment 2
2.Semester / Year
2026/2027 — Semester 2 / One Year
3.Date of Preparation
1/9 /2026
4.Attendance Modes
In Person Education
5.Total Hours / Units
45hours / 4 credit units
6.Course Responsible
Name: Assist. Pro. Dr Muhamed Redha Ahmed Hashim

Course Objectives	**General Objective:** To extend students' practical knowledge of advanced laboratory instruments including microtomes, PCR machines, electrophoresis systems, automated analysers, and chromatography. • To operate and maintain specialised instruments including rotary microtomes, water baths, hot air ovens, PCR machines, and gel electrophoresis systems.
Teaching & Learning Strategies	• Information presentation using diverse presentation methods • Opinion exchange and discussion (individual and group) with the instructor • Cooperative learning strategy • Training-based learning strategy

9. Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
1–2	4		Microtome: Types — Rotary Microtome, Parts, Operation, Applications	Lecture	Oral & Written Exam
3	4		Water Bath: Principle, Parts, Types, Applications	Lecture	Oral & Written Exam
4	4		Hot Air Oven: Principles, Applications, Advantages, Disadvantages	Lecture	Oral & Written Exam

5	4		PCR Machine: Essential Components, Principles of PCR (Steps), Applications	Lecture	Oral & Written Exam
6	4		Gel Electrophoresis: Agarose Gel Electrophoresis — Principle, Equipment, Electrophoresis Procedure	Lecture	Oral & Written Exam
7–9	4		Automated Analysers: Types, Principle, Applications	Lecture	Oral & Written Exam
10	4		Complete Blood Count (CBC) Machine (Blood Count Analyser): Principle and Applications	Lecture	Oral & Written Exam
11–12	4		Chromatography Apparatus: Principle and Types — Paper Chromatography, Thin-Layer Chromatography	Lecture	Oral & Written Exam
13	4		Types and Uses of Filters	Lecture	Oral & Written Exam
14	4		Laboratory Test Tubes: Types and Applications	Lecture	Oral & Written Exam
15	4		Revision	Lecture	Oral & Written Exam

Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).
Required Textbooks (if available)	
Main References	
Supporting References	
Electronic References	

1. Anatomy

1.Course Name
Anatomy
2.Semester / Year
2026/2027 — Semester 2 / One Year
3.Date of Preparation
1/9 /2026
4.Attendance Modes
In Person Education
5.Total Hours / Units
45 hours / 3 credit units
6.Course Responsible
Name: Prof Dr. Ali Abd Alrazaq Saeed

Course Objectives	**General Objective:** To familiarise students with the basic medical information of anatomy as a cornerstone for understanding clinical sciences in their field of specialisation. • To study the fundamental principles of anatomy and to identify the structure, organisation, organs, and systems of the human body.
Teaching & Learning Strategies	• Information presentation using diverse presentation methods • Opinion exchange and discussion (individual and group) with the instructor • Cooperative learning strategy • Training-based learning strategy

9. Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
1	4		General Anatomy: Introduction, Level of Organisation, Anatomical Position, Body Regions and Cavities, Body Planes and Sections, Directional Terms	Lecture	Oral & Written Exam
2	4		Tissues and Membranes	Lecture	Oral & Written Exam
3	4		Body Regions: Upper Limb, Lower Limb, Thorax	Lecture	Oral & Written Exam
4	4		Abdomen, Pelvis, Head and Neck	Lecture	Oral & Written Exam

5	4		Body Systems: Musculoskeletal System — Bones, Joints and Muscles	Lecture	Oral & Written Exam
6	4		Digestive System: Digestive Tract, Accessories and Glands	Lecture	Oral & Written Exam
7	4		Cardiovascular System: Heart, Blood Vessels	Lecture	Oral & Written Exam
8	4		Lymphatic System	Lecture	Oral & Written Exam
9	4		Respiratory System	Lecture	Oral & Written Exam
10	4		Nervous System: Central Nervous System, Peripheral Nervous System	Lecture	Oral & Written Exam
11	4		Endocrine System	Lecture	Oral & Written Exam
12	4		Special Senses	Lecture	Oral & Written Exam
13	4		Urinary System	Lecture	Oral & Written Exam
14	4		Reproductive System	Lecture	Oral & Written Exam
15	4		Gynaecology, Pregnancy, Childbirth, Embryology, Childhood, Growth and Development	Lecture	Oral & Written Exam

Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).
Required Textbooks (if available)	
Main References	Gray's Anatomy; Netter Atlas; Medical Terminology
Supporting References	
Electronic References	

YEAR TWO — COURSE DESCRIPTIONS

1. Clinical Biochemistry 1

1.Course Name
Clinical Biochemistry 1

2.Semester / Year
2026/2027 — Semester 1 / Second Year
3.Date of Preparation
1/9 /2026
4.Attendance Modes
In Person Education
5.Total Hours / Units
60 hours / 6 credit units
6.Course Responsible
Name: Assist. Dr. Mouhamed Zuhair Hasan Assist . Lecture. Zahraa Yahya Jawad

7. Course Objectives	**General Objective:** To give students knowledge of biochemistry and to develop their skills in pathological analyses and understanding biochemical reactions in the body. • To understand biochemistry in the context of disease, nutrition, and the direct relationship with maintaining health and preventive medicine. • To apply biochemical principles to the study of carbohydrate metabolism, including ATP synthesis.
8.Teaching & Learning Strategies	• Information presentation using diverse presentation methods • Opinion exchange and discussion (individual and group) with the instructor • Cooperative learning strategy • Training-based learning strategy

9. Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
1	4		Introduction to Clinical Biochemistry	Lecture	Oral & Written Exam
2–3	4		Biochemistry and Metabolism in Illness and Recovery: Obesity, Stress, Exercise	Lecture	Oral & Written Exam
4–5	4		Nutritional Biochemistry: Dietary Effects on Health Maintenance and Preventive Medicine	Lecture	Oral & Written Exam
6–7	4		Biochemical Basis in All Diseases and Sciences	Lecture	Oral & Written Exam
8	4		Biochemistry of Water, pH, and Acid-Base Balance	Lecture	Oral & Written Exam
9	4		Biochemistry and Electrolytes	Lecture	Oral & Written Exam

10–11	4		Carbohydrate Metabolism: Monosaccharides, Disaccharides, Polysaccharides; Pentose Phosphate Pathway	Lecture	Oral & Written Exam
12	4		ATP Synthesis and the Role of ATP in Carbohydrate Reactions	Lecture	Oral & Written Exam
13–15	4		Lipids: Biosynthesis, Oxidation, Types of Lipids, Glycerol Metabolism	Lecture	Oral & Written Exam

Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).
Required Textbooks (if available)	
Main References	
Supporting References	
Electronic References	

2. Medical Bacteriology 1

1.Course Name
Medical Bacteriology 1
2.Semester / Year
2026/2027 — Semester 1 / Second Year
3.Date of Preparation
1/9 /2026
4.Attendance Modes
In Person Education
5.Total Hours / Units
60 hours / 6 credit units
6.Course Responsible
Name: Assist. Dr. Muhanad Kadhim Ali

7.Course Objectives	**General Objective:** To enable the student to identify pathogenic microorganisms, how to diagnose them, the diseases they cause, and how to control them in laboratories. • To understand bacterial structure, growth, culturing media, physiology, genetics, virulence factors, chemotherapy, antibiotic resistance, and vaccination.

	• To identify clinically important bacteria including Gram-positive cocci and spore-forming and non-spore-forming Gram-positive bacilli.
8. Teaching & Learning Strategies	• Information presentation using diverse presentation methods • Opinion exchange and discussion (individual and group) with the instructor • Cooperative learning strategy • Training-based learning strategy

9. Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
1	4		Introduction to Medical Bacteriology	Lecture	Oral & Written Exam
2	4		Structure and Function of Bacterial Components	Lecture	Oral & Written Exam
3	4		Growth and Death of Bacteria	Lecture	Oral & Written Exam
4	4		Culturing of Bacteria and Types of Culture Media	Lecture	Oral & Written Exam
5	4		Bacterial Physiology: Bacterial Metabolism, Nutrient Cycles and Regulation	Lecture	Oral & Written Exam
6	4		Bacterial Genetics: Genetic Material, Plasmids, Replication, Mutation and Genetic Recombination	Lecture	Oral & Written Exam
7	4		Microbial Virulence Factors and Pathogenesis of Bacterial Infection; Microflora	Lecture	Oral & Written Exam
8	4		Chemotherapy and Antibiotic Resistance	Lecture	Oral & Written Exam
9	4		Vaccination	Lecture	Oral & Written Exam
10–11	4		Gram-Positive Cocci: Staphylococcus, Streptococcus and Enterococcus	Lecture	Oral & Written Exam
12–13	4		Gram-Positive Spore-Forming Bacilli: Clostridium and Bacillus	Lecture	Oral & Written Exam
14–15	4		Gram-Positive Non-Spore-Forming Bacilli: Listeria and Corynebacterium	Lecture	Oral & Written Exam

Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).
Required Textbooks (if available)	
Main References	
Supporting References	
Electronic References	

3. Histology 1

1.Course Name
Histology 1
2.Semester / Year
2026/2027 — Semester 1 / Second Year
3.Date of Preparation
1/9 /2026
4.Attendance Modes
In Person Education
5.Total Hours / Units
60 hours / 6 credit units
6.Course Responsible
Name: Assist. Lecture. Lala Kadhim Radif Assist. Pro . Noor Hason

7.Course Objectives	**General Objective:** Histology is an essential tool for students in medical specialisations. This course aims to introduce students to the types of cells and primary tissues, their structure and function, and to enable them to identify tissues microscopically. • To study epithelial, connective, supportive, muscular, and nervous tissue. • To understand haemopoiesis and the formation of blood cells.
8.Teaching & Learning Strategies	• Information presentation using diverse presentation methods • Opinion exchange and discussion (individual and group) with the instructor • Cooperative learning strategy • Training-based learning strategy

9. Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
1	4		Introduction to Histology	Lecture	Oral & Written Exam
2	4		Overview of Cell Structure and Types	Lecture	Oral & Written Exam
3	4		Tissues: Concept and Classification of Primary Tissues	Lecture	Oral & Written Exam

4	4		Epithelial Tissue: Simple Epithelial Tissue, Compound Epithelial Tissue	Lecture	Oral & Written Exam
5	4		Glandular Tissues (The Glands)	Lecture	Oral & Written Exam
6	4		Connective and Supportive Tissue: Embryonic and Adult Connective Tissue	Lecture	Oral & Written Exam
7	4		Connective Tissue Proper (General Connective Tissue)	Lecture	Oral & Written Exam
8	4		Cartilage: Histogenesis, Growth and Repair	Lecture	Oral & Written Exam
9	4		Bone and Histogenesis of Bone	Lecture	Oral & Written Exam
10	4		Review / Mid-Course Examination	Lecture	Oral & Written Exam
11	4		Haemopoietic Organ (Bone Marrow), Formation of Blood Cells	Lecture	Oral & Written Exam
12	4		Muscular Tissue	Lecture	Oral & Written Exam
13	4		Nervous Tissue: Overview of the Nervous System (CNS and PNS)	Lecture	Oral & Written Exam
14	4		Nerve Cells (Neurons) and Their Classification	Lecture	Oral & Written Exam
15	4		Supporting Cells of the Nervous System (Neuroglia)	Lecture	Oral & Written Exam

Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).
Required Textbooks (if available)	
Main References	
Supporting References	
Electronic References	

4 . Medical Parasitology 1

1.Course Name	
Medical Parasitology 1	
2.Semester / Year	
2026/2027 — Semester 1 / Second Year	
3.Date of Preparation	
1/9 /2026	
4.Attendance Modes	
In Person Education	
5.Total Hours / Units	
60 hours / 6 credit units	
6.Course Responsible	
Name: Assist. Pro . Mohamed Redha Ahmed Hashim	
7.Course Objectives	**General Objective:** To train students theoretically and practically in medical parasitology and to understand its biological foundations and to provide them with the latest diagnostic methods. • To understand the biology and life cycles of medically important protozoa including amoebae, flagellates, Leishmania, Trypanosoma, and ciliates. • To identify the pathogenic mechanisms, clinical features, and laboratory diagnosis of each parasite.
8.Teaching & Learning Strategies	• Information presentation using diverse presentation methods • Opinion exchange and discussion (individual and group) with the instructor • Cooperative learning strategy • Training-based learning strategy

9.Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
1	4		Introduction to Medical Parasitology	Lecture	Oral & Written Exam
2	4		Parasites, Host, Zoonosis, Host-Parasite Relationships, Life Cycles, Sources of Infection	Lecture	Oral & Written Exam
3	4		Protozoa: General Features, Structure, Reproduction, Life Cycle, Classification	Lecture	Oral & Written Exam

4	4		Sarcodina (Amoebae)	Lecture	Oral & Written Exam
5	4		Entamoeba histolytica: History, Morphology, Life Cycle, Pathogenesis, Clinical Features, Lab Diagnosis	Lecture	Oral & Written Exam
6	4		Entamoeba coli, Entamoeba gingivalis, Endolimax nana; Free-Living Pathogenic Amoebae: Naegleria	Lecture	Oral & Written Exam
7	4		Intestinal, Oral, and Genital Flagellates	Lecture	Oral & Written Exam
8	4		Giardia lamblia: History, Habitat, Morphology, Life Cycle, Pathogenicity, Lab Diagnosis	Lecture	Oral & Written Exam
9	4		Genus Trichomonas: T. vaginalis (urogenital), T. hominis, T. tenax — Biology, Medical Importance	Lecture	Oral & Written Exam
10	4		Haemo-Flagellates (Blood and Tissue Flagellates): General Characters	Lecture	Oral & Written Exam
11	4		Developmental Stages in Vertebrate and Invertebrate Hosts	Lecture	Oral & Written Exam
12	4		Genus Leishmania: Species, Biology, Vector, Medical Importance, Types of Leishmaniasis	Lecture	Oral & Written Exam
13	4		Genus Trypanosoma: Species, Biology, Vector, Medical Importance, Forms of Disease	Lecture	Oral & Written Exam
14	4		Ciliophora: Balantidium coli — Biology, Medical Importance, Laboratory Diagnosis	Lecture	Oral & Written Exam

Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).
Required Textbooks (if available)	
Main References	
Supporting References	
Electronic References	

5. Human Physiology 1

1.Course Name

Human Physiology 1

2.Semester / Year

2026/2027 — Semester 1 / Second Year

3.Date of Preparation

1/9 /2026

4.Attendance Modes

In Person Education

5.Total Hours / Units

60 hours / 6 credit units

6.Course Responsible

Name: Assist. Pro . Noor Hason

Assist. Lecture. Ali Najeh Abbas

7.Course Objectives	**General Objective:** To introduce students to the components of somatic cells and the different components of blood to prepare them for practice in the medical laboratory. • To understand cell physiology, body fluids, blood composition, RBCs, haemoglobin, WBCs, platelets, haemostasis, and cardiovascular physiology. • To understand lymphatic, respiratory, and acid-base physiology.
8.Teaching & Learning Strategies	• Information presentation using diverse presentation methods • Opinion exchange and discussion (individual and group) with the instructor • Cooperative learning strategy • Training-based learning strategy

9. Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
1	4		Introduction to Human Physiology 1	Lecture	Oral & Written Exam
2	4		Cell Physiology: General Functions, Cell Membrane Transport	Lecture	Oral & Written Exam
3	4		General Overview of Body Fluids: Types, Composition, Functions; Unit Conversion	Lecture	Oral & Written Exam
4	4		Blood: Composition, Functions of Each Compartment; Plasma and Serum Differences; Blood Group Systems	Lecture	Oral & Written Exam
5	4		Red Blood Cells: Definition, Structure, Normal Values;	Lecture	Oral & Written Exam

			Haemoglobin: Definition, Structure, Normal Values		
6	4		Erythropoiesis, Haemostasis, Death and Disposal	Lecture	Oral & Written Exam
7	4		White Blood Cells: Classification, Specific Functions, Normal Values	Lecture	Oral & Written Exam
8	4		Platelets: Definition, Function, Normal Values, Thrombopoiesis and Haemostasis	Lecture	Oral & Written Exam
9	4		Heart Physiology: Conductive System, Cardiac Output (Mechanics and Control), Affecting Factors	Lecture	Oral & Written Exam
10	4		Vascular Physiology: Mechanics and Control; Blood Pressure; Affecting Factors	Lecture	Oral & Written Exam
11	4		Lymphatic Physiology: Organs, Composition, Function; Lymph Structure, Haemodynamics and Control	Lecture	Oral & Written Exam
12	4		Respiratory Physiology: Parts and Specific Functions; Ventilation: Mechanics and Control	Lecture	Oral & Written Exam
13	4		External Respiration, Gas Blood Transport, Internal Respiration: Mechanics, Control and Affecting Factors	Lecture	Oral & Written Exam
14	4		Lung Volumes: Normal Values, Affecting Factors; Conscious and Unconscious Control of Respiration	Lecture	Oral & Written Exam
15	4		Acid-Base Balance: Definition, Buffer Systems, and Role of Body Systems in Regulation	Lecture	Oral & Written Exam

Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).
Required Textbooks (if available)	
Main References	
Supporting References	
Electronic References	

Clinical Biochemistry 2

1.Course Name
Clinical Biochemistry 2
2.Semester / Year
2026/2027 — Semester 2 / Second Year
3.Date of Preparation
1/9 /2026
4.Attendance Modes
In Person Education
5.Total Hours / Units
60 hours / 6 credit units
6.Course Responsible
Name: Assist Dr. Muhamed Zuhair

7.Course Objectives	**General Objective:** To extend knowledge of biochemistry with emphasis on protein structure and function, vitamin and mineral metabolism, and nucleotide metabolism. • To understand the structure and metabolism of proteins and enzymes, purine and pyrimidine metabolism, vitamins, and minerals.
8.Teaching & Learning Strategies	• Information presentation using diverse presentation methods • Opinion exchange and discussion (individual and group) with the instructor • Cooperative learning strategy • Training-based learning strategy

9. Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
1–3	4		Introduction and Review: Clinical Biochemistry	Lecture	Oral & Written Exam
4–6	4		Proteins: Structures and Functions, Amino Acids, Peptides; Protein and Enzyme Metabolism	Lecture	Oral & Written Exam
7–8	4		Metabolism of Purines and Pyrimidines	Lecture	Oral & Written Exam
9–10	4		Vitamins: Types and Biochemical Reactions	Lecture	Oral & Written Exam

11–13	4		Minerals: Definition, Classification, Dietary Sources, Functions, Absorption, Synthesis, Metabolism	Lecture	Oral & Written Exam
14–15	4		Nucleotide Metabolism: Purine Nucleotides, De Novo Synthesis, Salvage Pathway	Lecture	Oral & Written Exam

Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).
Required Textbooks (if available)	
Main References	
Supporting References	
Electronic References	

Medical Bacteriology 2

1.Course Name	
Medical Bacteriology 2	
2.Semester / Year	
2026/2027 — Semester 2 / Second Year	
3.Date of Preparation	
1/9 /2026	
4.Attendance Modes	
In Person Education	
5.Total Hours / Units	
60 hours / 6 credit units	
6.Course Responsible	
Name: Assist Dr. Muhaned Kadhim Ali	
7.Course Objectives	**General Objective:** To continue the study of pathogenic bacteria with focus on Gram-negative rods, obligate intracellular organisms, spirochaetes, and mycobacteria. • To identify and diagnose enteric Gram-negative rods, Campylobacter, Helicobacter, Haemophilus, Brucella, Chlamydia, spirochaetes, Mycobacterium, Mycoplasma, and Rickettsia.
8.Teaching & Learning Strategies	• Information presentation using diverse presentation methods • Opinion exchange and discussion (individual and group) with the instructor • Cooperative learning strategy • Training-based learning strategy

9. Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
1	4		Introduction and Review: Medical Bacteriology 2	Lecture	Oral & Written Exam
2–5	4		Enteric Gram-Negative Rods: E. coli, Klebsiella, Proteus, Pseudomonas, Acinetobacter, Shigella, Salmonella	Lecture	Oral & Written Exam
6	4		Gram-Negative Cocci: Neisseria	Lecture	Oral & Written Exam

7	4		Review	Lecture	Oral & Written Exam
8–9	4		Campylobacter and Helicobacter	Lecture	Oral & Written Exam
10–11	4		Haemophilus, Bordetella and Brucella	Lecture	Oral & Written Exam
12–13	4		Chlamydia and Spirochaetes	Lecture	Oral & Written Exam
14	4		Mycobacterium	Lecture	Oral & Written Exam
15	4		Mycoplasma and Rickettsia	Lecture	Oral & Written Exam

Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).
Required Textbooks (if available)	
Main References	
Supporting References	
Electronic References	

Histology 2

1.Course Name
Histology 2
2.Semester / Year
2026/2027 — Semester 2 / Second Year
3.Date of Preparation
1/9 /2026
4.Attendance Modes
In Person Education
5.Total Hours / Units
60 hours / 6 credit units
6.Course Responsible
Name: Assist. Pro . Dr . Hamid Abd Alhussain Mujbl

7.Course Objectives	**General Objective:** To extend histological knowledge to the organ systems, covering the lymphoid, respiratory, digestive, urinary, endocrine, reproductive, sensory, and integumentary systems. • To understand the histological structure and function of each organ system, from lymphoid organs to skin and special sensory organs.
8.Teaching & Learning Strategies	• Information presentation using diverse presentation methods • Opinion exchange and discussion (individual and group) with the instructor • Cooperative learning strategy • Training-based learning strategy

9. Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
1	4		Introduction and Review: Histology 2	Lecture	Oral & Written Exam
2	4		Lymphoid System: Lymphatic Vessels, Lymph	Lecture	Oral & Written Exam
3	4		Lymphoid Organs	Lecture	Oral & Written Exam
4	4		Respiratory System	Lecture	Oral & Written Exam
5	4		Digestive System — Part 1: Oral Cavity	Lecture	Oral & Written Exam

6	4		Digestive System — Part 2: Gastrointestinal Tract	Lecture	Oral & Written Exam
7	4		Digestive System — Part 3: Accessory Glands	Lecture	Oral & Written Exam
8–9	4		Urinary System	Lecture	Oral & Written Exam
10–11	4		Endocrine System	Lecture	Oral & Written Exam
12	4		Male Reproductive System	Lecture	Oral & Written Exam
13	4		Female Reproductive System	Lecture	Oral & Written Exam
14	4		Sense Organs	Lecture	Oral & Written Exam
15	4		Integumentary System (Skin)	Lecture	Oral & Written Exam

Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).
Required Textbooks (if available)	
Main References	
Supporting References	
Electronic References	

Medical Parasitology 2

1.Course Name

Medical Parasitology 2

2.Semester / Year

2026/2027 — Semester 2 / Second Year

3.Date of Preparation

1/9 /2026

4.Attendance Modes

In Person Education

5.Total Hours / Units

60 hours / 6 credit units

6.Course Responsible

Name: Assist. Pro . Muhamed Redha Ahmed Hashim

7.Course Objectives	**General Objective:** To continue training students in medical parasitology with focus on helminths (cestodes, trematodes, and nematodes) and their clinical significance. • To understand the biology, life cycles, pathogenicity, medical importance, and laboratory diagnosis of tapeworms, flukes, and roundworms.
8.Teaching & Learning Strategies	• Information presentation using diverse presentation methods • Opinion exchange and discussion (individual and group) with the instructor • Cooperative learning strategy • Training-based learning strategy

9. Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
1	4		Introduction: Medical Parasitology 2	Lecture	Oral & Written Exam
2	4		Hymenolepis nana, H. diminuta, Diplidium caninum, Diphyllobothrium latum — Biology, Life Cycle, Medical Importance	Lecture	Oral & Written Exam
3	4		Echinococcus granulosus, E. multilocularis — Biology, Life Cycle, Pathogenicity, Medical Importance, Lab Diagnosis	Lecture	Oral & Written Exam

4	4		Class Trematoda: Genus Schistosoma — Species, Life Cycle, Schistosomiasis	Lecture	Oral & Written Exam
5	4		Fasciola hepatica — Biology, Life Cycle, Pathogenicity, Lab Diagnosis; Phylum Nematoda — General Characters	Lecture	Oral & Written Exam
6	4		Ascaris lumbricoides; Enterobius vermicularis — Biology, Life Cycle, Pathogenicity, Medical Importance	Lecture	Oral & Written Exam
7	4		Trichuris trichiura; Trichinella spiralis — Biology, Life Cycle, Pathogenicity, Medical Importance, Lab Diagnosis	Lecture	Oral & Written Exam
8	4		Strongyloides stercoralis — Biology, Life Cycle, Pathogenicity, Medical Importance, Lab Diagnosis	Lecture	Oral & Written Exam
9	4		Ancylostoma duodenale, Necator americanus (Hookworms) — Biology, Life Cycle, Pathogenicity, Medical Importance, Lab Diagnosis	Lecture	Oral & Written Exam
10	4		The Filariae: Biology, Pathogenicity, Medical Importance, Lab Diagnosis of Each Species	Lecture	Oral & Written Exam

Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).
Required Textbooks (if available)	
Main References	
Supporting References	
Electronic References	

Human Physiology 2

1.Course Name
Human Physiology 2
2.Semester / Year
2026/2027 — Semester 2 / Second Year
3.Date of Preparation
1/9 /2026
4.Attendance Modes
In Person Education
5.Total Hours / Units
60 hours / 6 credit units
6.Course Responsible
Name: Assist. Pro . Noor Hason

7.Course Objectives	**General Objective:** To extend the study of human physiology to the digestive, urinary, endocrine, reproductive, muscular, nervous, and sensory systems.
8.Teaching & Learning Strategies	• Information presentation using diverse presentation methods • Opinion exchange and discussion (individual and group) with the instructor • Cooperative learning strategy • Training-based learning strategy

9. Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
1	4		Introduction and Review: Human Physiology 2	Lecture	Oral & Written Exam
2	4		Digestive Physiology: GI Chemical Digestion, Absorption, and Control; Defaecation Reflex	Lecture	Oral & Written Exam
3	4		Digestive Physiology: Accessory Organs — Secretion and Their Role in Digestion	Lecture	Oral & Written Exam
4	4		Urinary Physiology: General Functions, Urine Composition (Physical and Chemical)	Lecture	Oral & Written Exam
5	4		Role of the Kidney in Urine Formation, Maintenance of Body Fluids, and Acid-Base Balance	Lecture	Oral & Written Exam

6	4		Urinary Tract: Parts and Function; Urine Haemodynamics and Control; Normal Daily Urine Volume	Lecture	Oral & Written Exam
7	4		Endocrine Physiology: Endocrine Gland Types, Secretion, Hormone Types, Normal Values, Function	Lecture	Oral & Written Exam
8	4		Male Reproductive Physiology: Function of Genital Organs; Male Sex Hormones (Normal Values, Production)	Lecture	Oral & Written Exam
9	4		Female Reproductive Physiology: Function of Genital Organs; Female Sex Hormones, Menstrual Cycle	Lecture	Oral & Written Exam
10	4		Muscle Physiology: Types and Functions; Generation of Action Potential, Contraction, Sliding-Filament Theory	Lecture	Oral & Written Exam
11	4		Nervous Physiology: Neuroglia — Definition, Types, Function; Neurons — Definition, Types, Function	Lecture	Oral & Written Exam
12	4		Generation of Action Potential; Neuronal Conduction: Types and Speed; Synapsis: Types and Function	Lecture	Oral & Written Exam
13	4		CNS: Parts and Functions	Lecture	Oral & Written Exam
14	4		Spinal Cord: Parts, General Functions, Spinal Reflexes; PNS: Types and Function	Lecture	Oral & Written Exam
15	4		Sensory System: Classification and General Function; Special Sense Organs: Types and General Function	Lecture	Oral & Written Exam

Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).
Required Textbooks (if available)	
Main References	
Supporting References	
Electronic References	

YEAR THREE — COURSE DESCRIPTIONS

1. Hematology 1

1.Course Name
Hematology 1
2.Semester / Year
2026/2027 — Semester 1 / Third Year
3.Date of Preparation
1/9 /2026
4.Attendance Modes
In Person Education
5.Total Hours / Units
60 hours / 6 credit units
6.Course Responsible
Name: Assist. L. Ali Ridha Abd ALAmir
7.Course Objectives
General Objective: To provide students with a broad and contemporary understanding of blood pathology, covering the normal and abnormal components of blood. • To study haemopoiesis, erythropoiesis, haemoglobin, and red blood cell disorders. • To understand the different types of anaemia and their laboratory diagnosis.
8.Teaching & Learning Strategies

• Information presentation using diverse presentation methods
• Opinion exchange and discussion (individual and group) with the instructor
• Cooperative learning strategy
• Training-based learning strategy Course Structure — Hematology 1

9.Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
1	4		Introduction to Hematology 1	Lecture	Oral & Written Exam
2	4		Haemopoiesis (Blood Cell Formation)	Lecture	Oral & Written Exam
3	4		Erythropoiesis (Red Blood Cell Formation)	Lecture	Oral & Written Exam
4	4		Haemoglobin: Structure, Synthesis, and Levels in Blood	Lecture	Oral & Written Exam
5	4		Review / Mid-Course Examination	Lecture	Oral & Written Exam
6	4		Microcytosis and Iron Deficiency Anaemia	Lecture	Oral & Written Exam
7	4		Macrocytosis and Megaloblastic Anaemia	Lecture	Oral & Written Exam
8	4		Pernicious Anaemia	Lecture	Oral & Written Exam
9	4		Haemolytic Anaemias	Lecture	Oral & Written Exam
10	4		G6PD Deficiency Anaemia	Lecture	Oral & Written Exam
11	4		Hereditary Spherocytosis	Lecture	Oral & Written Exam
12	4		Thalassaemia	Lecture	Oral & Written Exam
13	4		Sickle Cell Anaemia	Lecture	Oral & Written Exam
14	4		Aplastic Anaemia	Lecture	Oral & Written Exam
15	4		Polycythaemia	Lecture	Oral & Written Exam

Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).

Required Textbooks (if available)	
Main References	1. Hoffbrand's Essential Hematology. A. Victor Hoffbrand and Paul A.H. Moss. 7th edition. Wiley Blackwell (2016). 2. Hematology in Clinical Practice. Roberts S. Hillman and Kenneth A. 5th edition. McGraw-Hill Lange medical books (2011). 3. Dacie and Lewis Practical Hematology. S.M. Mitchell, Lewis and Barbara J. Bain. 10th edition. Churchill Livingstone Elsevier (2006).
Supporting References	
Electronic References	

2. Advanced Laboratory Techniques

1. Course Name

Advanced Laboratory Techniques

2.Semester / Year

2026/2027 — Semester 1 / Third Year

Date of Preparation

1/9 /2026

4.Attendance Modes

In Person Education

5.Total Hours / Units

60 ours / 6 credit units

6.Course Responsible

Name: Assist. Dr. Anwar Abd Hashim

7.Course Objectives

General Objective: To train students in a variety of advanced techniques relevant to pathological analyses, including immunological, separation, and molecular methods.

• To apply immunochromatography, immunofluorescence, radioimmunoassay, flow cytometry, tissue culture, and turbidimetry.

• To understand protein and amino acid separation techniques, body fluid analysis, PCR types, and microarray technology.

8.Teaching & Learning Strategies

• Information presentation using diverse presentation methods
• Opinion exchange and discussion (individual and group) with the instructor
• Cooperative learning strategy
• Training-based learning strategy

9.Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
1	4		Introduction to Advanced Laboratory Techniques	Lecture	Oral & Written Exam
2–3	4		Immunochromatography	Lecture	Oral & Written Exam
4	4		Review / Practical Session	Lecture	Oral & Written Exam

5	4		Immunofluorescence and Radioimmunoassay (RIA)	Lecture	Oral & Written Exam
6	4		Flow Cytometry	Lecture	Oral & Written Exam
7	4		Tissue Culture	Lecture	Oral & Written Exam
8	4		Turbidimetry	Lecture	Oral & Written Exam
9–10	4		Separation Techniques: Separation of Proteins and Amino Acids	Lecture	Oral & Written Exam
11	4		Fluid Analysis: CSF, Synovial Fluid, Seminal Fluid, Urine	Lecture	Oral & Written Exam
12	4		Types of PCR	Lecture	Oral & Written Exam
13	4		Microarrays	Lecture	Oral & Written Exam
14	4		Practical Session / Review	Lecture	Oral & Written Exam
15	4		Revision	Lecture	Oral & Written Exam

Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).
Required Textbooks (if available)	
Main References	
Supporting References	
Electronic References	

3. Histopathology 1

1. Course Name

Histopathology 1

2. Semester / Year

2026/2027 — Semester 1 / Third Year

3. Date of Preparation

1/9 /2026

4.Attendance Modes

In Person Education

5.Total Hours / Units

60 hours / 6 credit units

6.Course Responsible

Name: Assist. Dr. Hamid Abd Alhussain Mugbil

Assist . Lecture . Haider Abd Alzahraa Kadhim

7.Course Objectives	**General Objective:** To provide students with a broad and contemporary knowledge of pathology and to build a solid foundation of knowledge on pathological diseases. • To understand cell injury, cell death, inflammation, tissue repair, haemodynamic disorders, cellular adaptations, diseases of immunity, nutritional diseases, physical and chemical injuries, and genetic diseases.
8.Teaching & Learning Strategies	• Information presentation using diverse presentation methods • Opinion exchange and discussion (individual and group) with the instructor • Cooperative learning strategy • Training-based learning strategy

9.Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
1	4		Introduction to Histopathology 1	Lecture	Oral & Written Exam
2–3	4		History of Pathology	Lecture	Oral & Written Exam
4	4		Cell Injury and Cell Death	Lecture	Oral & Written Exam
5	4		Inflammation	Lecture	Oral & Written Exam
6	4		Tissue Repair and Healing	Lecture	Oral & Written Exam
7	4		Haemodynamic Disorders	Lecture	Oral & Written Exam
8	4		Cellular Adaptations of Growth and Differentiation	Lecture	Oral & Written Exam
9–10	4		Review / Practical Session	Lecture	Oral & Written Exam
11	4		Diseases of Immunity	Lecture	Oral & Written Exam
12	4		Nutritional Diseases	Lecture	Oral & Written Exam
13	4		Physical and Chemical Injuries	Lecture	Oral & Written Exam
14	4		Concretions	Lecture	Oral & Written Exam

15	4	Genetic Diseases	Lecture	Oral & Written Exam
Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).			
Required Textbooks (if available)				
Main References				
Supporting References				
Electronic References				

4. Immunology 1

1.Course Name
Immunology
2.Semester / Year
2026/2027— Semester 1 / Third Year
3.Date of Preparation
1/9 /2026
4.Attendance Modes
In Person Education
5.Total Hours / Units
60 ours / 6 credit units
6.Course Responsible
Name: Assist. Pro Dr. Amir Sadiq Yasir

7.Course Objectives	**General Objective:** To familiarise students with the immune system, its components and characteristics; antibodies, antigens, their properties and types; and the immune response. • Define immunology and its relationship to other sciences and its importance for medical laboratory students. • Understand immune system components: cells, primary and secondary organs. • Comprehend concepts of innate and acquired immunity, and humoral and cellular factors. • Understand the relationship linking humoral and cellular components and the biology of the immune response. • Know the origin of blood cell formation, immune cells, and primary and secondary immune organs. • Understand the effectiveness of the immune response against antigens (bacteria and viruses).
8.Teaching & Learning Strategies	• Information presentation using diverse presentation methods • Opinion exchange and discussion (individual and group) with the instructor • Cooperative learning strategy • Training-based learning strategy

9.Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment

1	4		Introduction to the Immune System; Innate and Adaptive Immunity	Lecture	Oral & Written Exam
2–3	4		Cells and Organs of the Immune System; Haematopoiesis, Phagocytosis, Lymphoid Tissues	Lecture	Oral & Written Exam
4–5	4		Antigen: Definition, Properties, B-cell and T-cell Epitopes, Superantigen, Haptens, Adjuvants	Lecture	Oral & Written Exam
6	4		Antibody: Definition, Structures, Classes, Properties, and Monoclonal Antibody Formation	Lecture	Oral & Written Exam
7–8	4		Generation of Antibody Diversity	Lecture	Oral & Written Exam
9–10	4		T-cell Receptors: Structure, Organisation, Rearrangement, Complementarity Determining Regions (CDR)	Lecture	Oral & Written Exam
11	4		T-Cell Activation, Helper Subset Differentiation, and Memory	Lecture	Oral & Written Exam
12	4		B-Cell Activation, Differentiation, and Memory Generation	Lecture	Oral & Written Exam
13–14	4		Immune Response: Types, Activation, Humoral and Cell-Mediated Immune Response	Lecture	Oral & Written Exam
15	4		Bacterial Immunity, Anti-Virulence Mechanisms, Evading Host Defences, and Viral Immunity	Lecture	Oral & Written Exam

Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).
Required Textbooks (if available)	
Main References	Immunology / Kuby … 8th ed. | Essentials of Clinical Immunology / Helen Chapel … 7th ed. | Practical Immunology / Hudson & Hay … 4th ed.
Supporting References	
Electronic References	

5. Medical Virology

1. Course Name
Medical Virology
2.Semester / Year
2026/2027— Semester 1 / Third Year
3.Date of Preparation
1/9 /2026
4.Attendance Modes
In Person Education
5.Total Hours / Units
60 hours / 6 credit units
6.Course Responsible
Name: Assist. Dr. Qasim Muhsen Hashim

7.Course Objectives	**General Objective:** To provide students with a broad and contemporary knowledge of medical virology, covering viral properties, pathogenesis, diagnosis, immunity, and specific virus groups. • To understand general viral properties, classification, replication, genetics, pathogenesis, laboratory diagnosis, and viral immunity. • To identify and characterise specific clinically important virus families.
8.Teaching & Learning Strategies	• Information presentation using diverse presentation methods • Opinion exchange and discussion (individual and group) with the instructor • Cooperative learning strategy • Training-based learning strategy

9.Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
Weeks 1–2	4		General Properties of Viruses, Structure, Classification; Atypical Virus-like Agents (Prion, Defective Viruses, Pseudovirion, Viroids); Bacteriophage	Lecture	Oral & Written Exam
Weeks 3–4	4		Viral Replication, Viral Genetics, Viral Pathogenesis,	Lecture	Oral & Written Exam

			Laboratory Diagnosis, Viral Immunity		
Weeks 5–6	4		Enveloped DNA Viruses: Herpes Viruses, Pox Viruses	Lecture	Oral & Written Exam
Week 7	4		Non-Enveloped DNA Viruses: Adeno and Parvo Viruses	Lecture	Oral & Written Exam
Week 8	4		Hepatitis Viruses	Lecture	Oral & Written Exam
Week 9	4		Human Immunodeficiency Virus (HIV)	Lecture	Oral & Written Exam
Week 10	4		Orthomyxoviruses	Lecture	Oral & Written Exam
Week 11	4		Paramyxoviruses	Lecture	Oral & Written Exam
Week 12	4		Coronaviruses, Rabies Virus	Lecture	Oral & Written Exam
Weeks 13–14	4		Non-Enveloped RNA Viruses (Rotavirus, Poliovirus); Oncogenic Viruses	Lecture	Oral & Written Exam
Week 15	4		Antiviral Drugs, Viral Vaccines	Lecture	Oral & Written Exam

Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).
Required Textbooks (if available)	
Main References	1. Christopher J. Burrell, Colin R. Howard and Frederick A. Murphy. Textbook of Medical Virology, Fifth Edition (2016). 2. L.R. Haaheim, J.R. Pattison and R.J. Whitley. A Practical Guide to Clinical Virology. Second edition (2002).
Supporting References	
Electronic References	

6. Medical Genetics 1

1. Course Name
Medical Genetics1
2.Semester / Year
2026/2027 — Semester 1 / Third Year
3.Date of Preparation

1/9 /2026

4.Attendance Modes

In Person Education

5.Total Hours / Units

60 hours / 6 credit units

6.Course Responsible

Name: Assist. Lecture Ameer Haider Razak

7.Course Objectives	**General Objective:** To train students theoretically, practically, and applied in the principles of medical genetics and to transfer the latest advanced scientific techniques to them for the purpose of solving medical problems. • To understand cell division (mitosis and meiosis), cell cycle checkpoints, chromosome structure, karyotyping, chromosomal abnormalities, and genetic diseases. • To study patterns of inheritance, Mendel's laws, dominant and recessive inheritance, and sex-linked inheritance.
8. Teaching & Learning Strategies	• Information presentation using diverse presentation methods • Opinion exchange and discussion (individual and group) with the instructor • Cooperative learning strategy • Training-based learning strategy

9.Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
1	4		Introduction to Medical Genetics 1	Lecture	Oral & Written Exam
2	4		Cell Division: Mitosis and Meiosis	Lecture	Oral & Written Exam
3	4		Cell Cycle Checkpoints	Lecture	Oral & Written Exam
4	4		Chromosomes: Structure and Karyotyping	Lecture	Oral & Written Exam
5	4		Euchromatin, Heterochromatin and Nucleosome	Lecture	Oral & Written Exam
6	4		Chromosome Replication and Segregation	Lecture	Oral & Written Exam
7	4		Chromosomal Abnormalities	Lecture	Oral & Written Exam
8	4		Genetic Diseases	Lecture	Oral & Written Exam
9	4		Family Pedigree and Symbols	Lecture	Oral & Written Exam
10	4		Patterns of Inheritance: Mendel's Laws	Lecture	Oral & Written Exam
11	4		Dominant Inheritance	Lecture	Oral & Written Exam
12	4		Recessive Inheritance	Lecture	Oral & Written Exam
13	4		Genetic Basis of Sex-Linked Inheritance	Lecture	Oral & Written Exam

14	4		Other Types of Gene Inheritance	Lecture	Oral & Written Exam
15	4		Revision	Lecture	Oral & Written Exam
Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).				
Required Textbooks (if available)					
Main References					
Supporting References					
Electronic References					

7. Clinical Endocrinology

1. Course Name
Clinical Endocrinology
2.Semester / Year
2026/2027 — Semester 1 / Third Year
3.Date of Preparation
1/9 /2026
4.Attendance Modes
In Person Education
5.Total Hours / Units
60 hours / 6 credit units
6.Course Responsible
Name: Assist .Dr. Mohamed Saeed Salman

7.Course Objectives	**General Objective:** To introduce students to the basic principles of clinical endocrinology in the context of clinical chemistry and to acquaint them with the most important hormonal changes in major endocrine disorders. • To understand the mechanisms of hormone action, including nuclear and membrane receptors. • To study the hypothalamus-pituitary axis, thyroid, parathyroid, pancreas, adrenal glands, gonadal hormones, and other endocrine tissues.
8. Teaching & Learning Strategies	• Information presentation using diverse presentation methods • Opinion exchange and discussion (individual and group) with the instructor • Cooperative learning strategy • Training-based learning strategy

9.Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
1	4		Introduction to Clinical Endocrinology	Lecture	Oral & Written Exam
2–3	4		Mechanisms of Hormone Action: Nuclear Action; Membrane Receptors	Lecture	Oral & Written Exam
4	4		Hypothalamus Releasing Factors	Lecture	Oral & Written Exam
5	4		The Anterior Pituitary Gland	Lecture	Oral & Written Exam

6	4		Melanocyte-Stimulating Hormone (MSH); The Posterior Pituitary	Lecture	Oral & Written Exam
7–8	4		The Thyroid Gland	Lecture	Oral & Written Exam
9	4		The Parathyroid Glands	Lecture	Oral & Written Exam
10	4		The Pancreas Gland	Lecture	Oral & Written Exam
11–12	4		The Adrenal Glands	Lecture	Oral & Written Exam
13	4		The Gonadal Hormones	Lecture	Oral & Written Exam
14–15	4		Other Glandular Tissues: JG Cells of the Kidney, Thymus, Gastrointestinal Hormones	Lecture	Oral & Written Exam

Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).
Required Textbooks (if available)	
Main References	
Supporting References	
Electronic References	

Histopathology 2

1. Course Name
Histopathology 2
2.Semester / Year
2026/2027 — Semester 2 / Third Year
3.Date of Preparation
1/9 /2026
4.Attendance Modes
In Person Education
5.Total Hours / Units
60 hours / 6 credit units
6.Course Responsible
Name: Assist. Dr. Hamid Abd Alhussain Mugbil

7.Course Objectives	**General Objective:** To extend the study of pathology to neoplasia, cancer biology, viral diseases, immunopathology, neuropathology, and molecular pathology. • To understand the clinical aspects of neoplasia, molecular basis of cancer, diseases caused by viruses, immunopathology, genetic diseases, and techniques in molecular and neuropathology.
8. Teaching & Learning Strategies	• Information presentation using diverse presentation methods • Opinion exchange and discussion (individual and group) with the instructor • Cooperative learning strategy • Training-based learning strategy

9.Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
1	4		Introduction and Review: Histopathology 2	Lecture	Oral & Written Exam
2	4		Nutritional Diseases	Lecture	Oral & Written Exam
3	4		Genetic Diseases	Lecture	Oral & Written Exam
4	4		Clinical Aspects of Neoplasia	Lecture	Oral & Written Exam

5	4		Molecular Basis of Cancer	Lecture	Oral & Written Exam
6	4		Diseases Caused by Viruses	Lecture	Oral & Written Exam
7	4		Immunopathology Including Amyloidosis	Lecture	Oral & Written Exam
8	4		Genetic Diseases (Advanced Topics)	Lecture	Oral & Written Exam
9	4		Review / Practical Session	Lecture	Oral & Written Exam
10	4		Techniques for Analysing Bone	Lecture	Oral & Written Exam
11	4		Neuropathology and Muscle Biopsy Techniques	Lecture	Oral & Written Exam
12	4		Muscle Biopsies	Lecture	Oral & Written Exam
13	4		Molecular Pathology	Lecture	Oral & Written Exam
14	4		Techniques in Molecular Pathology	Lecture	Oral & Written Exam
15	4		Revision	Lecture	Oral & Written Exam

Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).
Required Textbooks (if available)	
Main References	
Supporting References	
Electronic References	

Medical Genetics 2

1. Course Name
Medical Genetics 2
2.Semester / Year
2026/2027 — Semester 2 / Third Year
3.Date of Preparation
1/9 /2026
4.Attendance Modes
In Person Education
5.Total Hours / Units
60 hours / 6 credit units
6.Course Responsible
Name: Assist. Lecture . Ameer Haider Razak

7.Course Objectives	**General Objective:** To extend the study of medical genetics to advanced topics including single nucleotide polymorphisms, tumour genetics, gene therapy, immunogenetics, stem cell technology, and prenatal diagnosis. • To understand identifying disease genes, tumour suppressor genes, cancer genetics, genetic counselling, gene therapy, immunogenetics, and the Human Genome Project.
8. Teaching & Learning Strategies	• Information presentation using diverse presentation methods • Opinion exchange and discussion (individual and group) with the instructor • Cooperative learning strategy • Training-based learning strategy

9.Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
1	4		Introduction and Review: Medical Genetics 2	Lecture	Oral & Written Exam
2	4		Review / Practical Session	Lecture	Oral & Written Exam
3	4		Single Nucleotide Polymorphism (SNP)	Lecture	Oral & Written Exam
4	4		Identifying Disease Genes	Lecture	Oral & Written Exam

5	4		Review / Practical Session	Lecture	Oral & Written Exam
6	4		Tumour Suppressor Genes	Lecture	Oral & Written Exam
7	4		The Genetics of Cancer	Lecture	Oral & Written Exam
8	4		Classification of Genetic Diseases	Lecture	Oral & Written Exam
9	4		Genetic Counselling	Lecture	Oral & Written Exam
10	4		Gene Therapy	Lecture	Oral & Written Exam
11	4		Immunogenetics	Lecture	Oral & Written Exam
12	4		Stem Cell Technology	Lecture	Oral & Written Exam
13	4		Prenatal Diagnosis	Lecture	Oral & Written Exam
14	4		Human Genome Project	Lecture	Oral & Written Exam
15	4		Revision	Lecture	Oral & Written Exam

Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).
Required Textbooks (if available)	
Main References	
Supporting References	
Electronic References	

Metabolic Disorders

1. Course Name
Metabolic Disorders
2.Semester / Year
2026/2027 — Semester 2 / Third Year
3.Date of Preparation
1/9 /2026
4.Attendance Modes
In Person Education
5.Total Hours / Units
60 hours / 6 credit units
6.Course Responsible
Name: Assist .Dr. Mohamed Saeed Salman

7.Course Objectives	**General Objective:** To introduce students to the basic principles related to metabolic disorders in the context of clinical chemistry and to acquaint them with the most important pathological changes that occur in the body as a result of metabolic diseases. • To understand acid-base disorders, vitamin and mineral metabolism disorders, renal, hepatic, and pancreatic disorders. • To study disorders of lipid, protein, and uric acid metabolism, haem metabolism disorders, and cardiovascular disorders.
8. Teaching & Learning Strategies	• Information presentation using diverse presentation methods • Opinion exchange and discussion (individual and group) with the instructor • Cooperative learning strategy • Training-based learning strategy

9.Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
1–2	4		Introduction to Metabolic Disorders	Lecture	Oral & Written Exam
3–4	4		Acid-Base Balance and Imbalance	Lecture	Oral & Written Exam
5–6	4		Disorders of Vitamins, Trace Elements and Metals Metabolism	Lecture	Oral & Written Exam

7	4		Renal Disorders	Lecture	Oral & Written Exam
8	4		Liver Disorders and Gallstones	Lecture	Oral & Written Exam
9	4		Pancreatic Disorders	Lecture	Oral & Written Exam
10	4		Disorders of Lipid Metabolism	Lecture	Oral & Written Exam
11	4		Metabolic Syndrome	Lecture	Oral & Written Exam
12	4		Disorders of Protein, Uric Acid, Gout and Purine Metabolism	Lecture	Oral & Written Exam
13–14	4		Disorders of Haem Metabolism: Iron Metabolism and the Porphyrias	Lecture	Oral & Written Exam
15	4		Cardiovascular Disorders	Lecture	Oral & Written Exam

Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).
Required Textbooks (if available)	
Main References	
Supporting References	
Electronic References	

Clinical Endocrinology

1. Course Name	
Clinical Endocrinology	
2.Semester / Year	
2026/2027 — Semester 2 / Third Year	
3.Date of Preparation	
1/9 /2026	
4.Attendance Modes	
In Person Education	
5.Total Hours / Units	
60 hours / 6 credit units	
6.Course Responsible	
Name: Assist .Dr. Mohamed Saeed Salman	
7.Course Objectives	**General Objective:** To introduce students to the basic principles of clinical endocrinology in the context of clinical chemistry and to acquaint them with the most important hormonal changes in major endocrine disorders. • To understand the mechanisms of hormone action, including nuclear and membrane receptors. • To study the hypothalamus-pituitary axis, thyroid, parathyroid, pancreas, adrenal glands, gonadal hormones, and other endocrine tissues.
8. Teaching & Learning Strategies	• Information presentation using diverse presentation methods • Opinion exchange and discussion (individual and group) with the instructor • Cooperative learning strategy • Training-based learning strategy

9.Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
1	4		Introduction to Clinical Endocrinology	Lecture	Oral & Written Exam

2–3	4		Mechanisms of Hormone Action: Nuclear Action; Membrane Receptors	Lecture	Oral & Written Exam
4	4		Hypothalamus Releasing Factors	Lecture	Oral & Written Exam
5	4		The Anterior Pituitary Gland	Lecture	Oral & Written Exam
6	4		Melanocyte-Stimulating Hormone (MSH); The Posterior Pituitary	Lecture	Oral & Written Exam
7–8	4		The Thyroid Gland	Lecture	Oral & Written Exam
9	4		The Parathyroid Glands	Lecture	Oral & Written Exam
10	4		The Pancreas Gland	Lecture	Oral & Written Exam
11–12	4		The Adrenal Glands	Lecture	Oral & Written Exam
13	4		The Gonadal Hormones	Lecture	Oral & Written Exam
14–15	4		Other Glandular Tissues: JG Cells of the Kidney, Thymus, Gastrointestinal Hormones	Lecture	Oral & Written Exam

Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).
Required Textbooks (if available)	
Main References	
Supporting References	
Electronic References	

Hematology 2

1. Course Name	
Hematology 2	
2.Semester / Year	
2026/2027 — Semester 2 / Third Year	
3.Date of Preparation	
1/9 /2026	
4.Attendance Modes	
In Person Education	
5.Total Hours / Units	
60 hours / 6 credit units	
6.Course Responsible	
Name: Assist. L. Ali Ridha Abd ALAmir	
7.Course Objectives	**General Objective:** To provide students with a broad and contemporary understanding of blood diseases including leukocyte disorders, lymphomas, bleeding disorders, and blood group systems. • To provide students with solid, up-to-date knowledge of blood diseases that they will encounter in their community after graduation from hospitals.
8. Teaching & Learning Strategies	• Information presentation using diverse presentation methods • Opinion exchange and discussion (individual and group) with the instructor • Cooperative learning strategy • Training-based learning strategy

9.Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
16	4		Leukocytes (White Blood Cells) — Hematology 2	Lecture	Oral & Written Exam
17	4		Leukocyte Disorders	Lecture	Oral & Written Exam
18	4		Leukaemia	Lecture	Oral & Written Exam
19	4		Acute Leukaemia	Lecture	Oral & Written Exam

20	4		Chronic Leukaemia	Lecture	Oral & Written Exam
21	4		Hodgkin's Lymphoma	Lecture	Oral & Written Exam
22	4		Non-Hodgkin's Lymphoma	Lecture	Oral & Written Exam
23	4		Platelets and Platelet Disorders	Lecture	Oral & Written Exam
24	4		Haemostasis	Lecture	Oral & Written Exam
25	4		Bleeding Disorders	Lecture	Oral & Written Exam
26	4		Thrombosis (Arterial and Venous Thrombosis)	Lecture	Oral & Written Exam
27	4		Multiple Myeloma	Lecture	Oral & Written Exam
28	4		ABO System	Lecture	Oral & Written Exam
29	4		Blood Transfusion	Lecture	Oral & Written Exam
30	4		Complications of Blood Transfusion	Lecture	Oral & Written Exam

Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).
Required Textbooks (if available)	
Main References	1. Hoffbrand's Essential Hematology. A. Victor Hoffbrand and Paul A.H. Moss. 7th ed. (2016). 2. Hematology in Clinical Practice. Roberts S. Hillman and Kenneth A. 5th ed. (2011). 3. Dacie and Lewis Practical Hematology. 10th ed. Churchill Livingstone Elsevier (2006).
Supporting References	
Electronic References	

Mycology

1. Course Name
Mycology
2.Semester / Year
2026/2027 — Semester 2 / Third Year
3.Date of Preparation
1/9 /2026
4.Attendance Modes
In Person Education
5.Total Hours / Units
60 hours / 6 credit units
6.Course Responsible
Name: Assist. Dr. Ehsan Kadhim Hamidy

7.Course Objectives	**General Objective:** To familiarise students with medical fungi, the diseases they cause, and how to diagnose them in the laboratory. • To enable students to recognise the morphology and reproduction of fungi. • To learn how to culture fungi in the laboratory and to identify the relevant culture media. • To recognise methods for diagnosing pathogenic fungi and collecting samples from patients. • To identify the genera of fungi responsible for each fungal disease. • To become familiar with fungi of medical, economic, and industrial importance.
8. Teaching & Learning Strategies	• Information presentation using diverse presentation methods • Opinion exchange and discussion (individual and group) with the instructor • Cooperative learning strategy • Training-based learning strategy

9.Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
1	4		Introduction to Medical Mycology, History and Epidemiology of Medical Mycology	Lecture	Oral & Written Exam
2	4		Morphology and Classification	Lecture	Oral & Written Exam

3	4		Reproduction of Pathogenic Fungi	Lecture	Oral & Written Exam
4	4		Superficial Mycosis: Tinea Types and Dematiaceous (Black) Fungi	Lecture	Oral & Written Exam
5	4		Cutaneous Mycosis: Trichophyton spp., Microsporum spp. and Epidermophyton spp.	Lecture	Oral & Written Exam
6	4		Subcutaneous Mycosis: Sporotrichosis and Mycetoma	Lecture	Oral & Written Exam
7	4		Infection Due to Filamentous Fungi: Zygomycosis and Aspergillosis	Lecture	Oral & Written Exam
8	4		Mid-Course Examination	Lecture	Oral & Written Exam
9	4		Infection Caused by Yeasts: Candidiasis and Cryptococcosis	Lecture	Oral & Written Exam
10	4		Opportunistic Mycosis: Mucor and Penicillosis; Antibiotics Produced by Fungi	Lecture	Oral & Written Exam
11	4		Systemic Mycosis: Coccidiomycosis and Blastomycosis	Lecture	Oral & Written Exam
12	4		Histoplasmosis and Paracoccidiomycosis	Lecture	Oral & Written Exam
13	4		Antifungal Agents	Lecture	Oral & Written Exam
14	4		Mycotoxins	Lecture	Oral & Written Exam
15	4		Revision	Lecture	Oral & Written Exam

Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).
Required Textbooks (if available)	
Main References	
Supporting References	
Electronic References	

Analytical Biostatistics

1. Course Name
Analytical Biostatistics
2.Semester / Year
2026/2027 — Semester 2 / Third Year
3.Date of Preparation
1/9 /2026
4.Attendance Modes
In Person Education
5.Total Hours / Units
60 hours / 6 credit units
6.Course Responsible
Name: Assist .Lecture . Husain Ali Husain

7.Course Objectives	**General Objective:** To introduce students to statistical analysis for scientific research. • To familiarise students with the importance and methods of conducting statistical tests. • To introduce students to the types of statistical tests appropriate to each research objective. • To enable students to reach research results and interpret them. • To enable students to draw conclusions in light of test results.
8. Teaching & Learning Strategies	• Information presentation using diverse presentation methods • Opinion exchange and discussion (individual and group) with the instructor • Cooperative learning strategy • Training-based learning strategy

9.Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
1–2	4		Probabilities and Distributions — Analytical Biostatistics	Lecture	Oral & Written Exam
3–4	4		Correlation and Regression Analysis: Concept and Analysis	Lecture	Oral & Written Exam
5–6	4		Hypothesis Testing: Introduction, Definition of Test, Level of Significance, Degrees of Freedom, Error Types	Lecture	Oral & Written Exam

7–9	4		Z-test and t-test	Lecture	Oral & Written Exam
10	4		Chi-Square Test	Lecture	Oral & Written Exam
11–12	4		Analysis of Variance (ANOVA)	Lecture	Oral & Written Exam
13	4		Questionnaire: Design and Analysis	Lecture	Oral & Written Exam
14	4		Final Report: Introduction, Statistical Analysis, Discussion of Results	Lecture	Oral & Written Exam
15	4		Revision	Lecture	Oral & Written Exam

Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).
Required Textbooks (if available)	
Main References	
Supporting References	
Electronic References	

Immunology 2

1. Course Name	
Immunology 2	
2.Semester / Year	
2026/2027 — Semester 2 / Third Year	
3.Date of Preparation	
1/9 /2026	
4.Attendance Modes	
In Person Education	
5.Total Hours / Units	
60 hours / 6 credit units	
6.Course Responsible	
Name: Assist .Pro Dr. Ameer Sadiq Yasir	
7.Course Objectives	**General Objective:** To familiarise students with the nature of the components of the immune systems, their diversity and functions; transplantation and vaccination; and pathological conditions related to the immune system. • Understand immune systems including the complement factor, tissue compatibility (MHC), and cytokines. • Understand immunological tolerance (central and peripheral) and its mechanisms in immune cells. • Understand transplantation, graft rejection, and organ transplantation. • Know vaccines, their types, advantages, and disadvantages. • Understand hypersensitivity, autoimmune diseases, immunodeficiency, and tumour immunity.
8. Teaching & Learning Strategies	• Information presentation using diverse presentation methods • Opinion exchange and discussion (individual and group) with the instructor • Cooperative learning strategy • Training-based learning strategy
9.Course Structure	

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
1	4		Complement: Definition, Activation, Types of Activation, Complement Deficiency, Properdin	Lecture	Oral & Written Exam
2–3	4		MHC: Definition, Types, Antigen Presentation and Processing	Lecture	Oral & Written Exam
4	4		Cytokines and Mediators	Lecture	Oral & Written Exam
5–6	4		Hypersensitivity: Types, and Diseases Caused by Hypersensitivity	Lecture	Oral & Written Exam
7	4		Tolerance: Central and Peripheral, Mechanisms, Anergy	Lecture	Oral & Written Exam
8	4		Autoimmunity: Definition, Mechanisms, Types	Lecture	Oral & Written Exam
9–10	4		Transplantation: Introduction, Types of Graft Rejection, Immunosuppressive Therapy, Organ Transplantation	Lecture	Oral & Written Exam
11–12	4		Vaccines and Vaccination: Definition, Types, Advantages and Disadvantages	Lecture	Oral & Written Exam
13	4		Immunodeficiencies: Types, Primary and Secondary Immunodeficiency	Lecture	Oral & Written Exam
14–15	4		Tumour Immunology: Anti-tumour Immunity, Types, Immune Defence Against Tumours	Lecture	Oral & Written Exam

Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).
Required Textbooks (if available)	
Main References	
Supporting References	
Electronic References	

YEAR FOUR — COURSE DESCRIPTIONS

Blood Transfusion

1.Course Name	
Blood Transfusion	
2.Semester / Year	
2026/2027 — Semester 1 / Fourth Year	
3.Date of Preparation	
1/9 /2026	
4.Attendance Modes	
In Person Education	
5.Total Hours / Units	
60 hours / 6 credit units	
6.Course Responsible	
Name: Assist. Dr. Ehsan Kadhim Hamidy	Email: —
7. Course Objectives	**General Objective:** To provide a comprehensive overview of blood donation and transfusion, and blood-borne diseases. • To provide information on blood transfusion procedures and preservation of blood samples. • To provide theoretical and practical information on separation of blood components (plasma, platelets, clotting factors). • To give theoretical information regarding techniques for handling blood samples stored in hospitals.
8. Teaching & Learning Strategies	• Information presentation using diverse presentation methods • Opinion exchange and discussion (individual and group) with the instructor • Cooperative learning strategy • Training-based learning strategy

9.Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
1	4		Introduction to Blood Transfusion	Lecture	Oral & Written Exam
2	4		Criteria of Donor Selection	Lecture	Oral & Written Exam
3	4		Services of Blood Bank	Lecture	Oral & Written Exam
4	4		Screening Measures of Recipient Protection	Lecture	Oral & Written Exam
5	4		Blood Groups and Rh Blood Group System	Lecture	Oral & Written Exam
6	4		ABO Typing Discrepancies	Lecture	Oral & Written Exam
7	4		Types of Anticoagulants	Lecture	Oral & Written Exam
8	4		Anti-Human Globulins	Lecture	Oral & Written Exam
9	4		Haemostasis and Bleeding Disorders	Lecture	Oral & Written Exam
10	4		Autologous Blood Transfusion	Lecture	Oral & Written Exam
11	4		Acute and Delayed Haemolytic Reaction	Lecture	Oral & Written Exam
12	4		Haemolytic Anaemia / Haemolytic Disease of the Newborn	Lecture	Oral & Written Exam
13	4		Complications of Blood Transfusion	Lecture	Oral & Written Exam
14	4		Lymphocytotoxicity Cross-Match and Histocompatibility Testing	Lecture	Oral & Written Exam
15	4		Laboratory Tests for Infectious Diseases / Coombs' Test	Lecture	Oral & Written Exam

Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).
Required Textbooks (if available)	
Main References	1. Harvey G. Klein (2014): Mollison's Blood Transfusion in Clinical Medicine. 12th ed. 2. Christopher D. Hillyer (2007): Blood Banking and Transfusion Medicine. Elsevier Health Sciences. 3. Kilduffe R, DeBakey M (1942): The Blood Bank and Therapeutics of Transfusion. C.V. Mosby Co. 4. 'The History of Blood Transfusion'. British Journal of Haematology 110: 758-67 (2001).

	5. Marik PE, Corwin HL (2008). Efficacy of red blood cell transfusion in critically ill. Crit Care Med 36: 2667-74.
Supporting References	
Electronic References	

2. Professional Ethics

1.Course Name
Professional Ethics
2.Semester / Year
2026/2027 — Semester 1 / Fourth Year
3.Date of Preparation
1/9 /2026
4.Attendance Modes
In Person Education
5.Total Hours / Units
60 hours / 6 credit units
6.Course Responsible
Name: Assist. Lecture Lala Kadhim Radif Email: —

Course Objectives	**General Objective:** To familiarise students of technical colleges with professional ethics according to their specialisation, and to instil the ethical and professional standards that reinforce commitment in the expected field of work after graduation. • Specific objectives are set by course instructors as behavioural objectives within the lesson plan at the level of each individual lecture.
Teaching & Learning Strategies	• Information presentation using diverse presentation methods • Opinion exchange and discussion (individual and group) with the instructor • Cooperative learning strategy • Training-based learning strategy

Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
Weeks 1–2	4		Unit 4 — Values and Professional Ethics: Trustworthiness; Honesty; Sincerity; Justice; Good Conduct; Excellence at Work	Lecture	Oral & Written Exam
Week 3	4		Unit 5 — Patterns of Unethical Behaviour: Administrative Corruption; Bribery (Concept, Types,	Lecture	Oral & Written Exam

			Gift vs. Bribe, Causes); Fraud in Professional Performance		
Week 4	4		Unit 6 — Methods of Reinforcing Professional Ethics: Instilling Ethics; Levels of Building Professional Ethics; Drafting the Professional Code of Ethics	Lecture	Oral & Written Exam
Weeks 5–6	4		Engineering Ethics (Engineering Technical Colleges): Unit 7 — Importance of Engineers in Society; Definition; Requirements and Characteristics of the Professional Engineer; Islamic and Western Comparative Views	Lecture	Oral & Written Exam
Weeks 7–8	4		Unit 8 — Arab Engineers' Union Code of Engineering Ethics: Engineer's Relationships with Self, Institution, Employer, Engineering Bodies, Society, Environment, Laws, and National Issues	Lecture	Oral & Written Exam
Weeks 9–10	4		Unit 9 — Engineer's Ethics in Continuing Education and Training: Importance of Participation; Conduct Towards Self, Subordinates, Engineering Syndicates, and Training Centres	Lecture	Oral & Written Exam
Weeks 11–12	4		Medical Professional Ethics (Health and Medical Technical Colleges): Unit 10 — Characteristics and Duties of the Medical Technician Towards Profession, Patient, and Society	Lecture	Oral & Written Exam
Weeks 13–14	4		Unit 11 — Patient Rights: Concept, Importance, Key Rights, Obtaining Informed Consent Unit 12 — Medical Technician's Community	Lecture	Oral & Written Exam

			Role, Health Promotion, Environmental Responsibility		
Week 15	4		Unit 13 — Professional Relations with Colleagues in Health Institutions Unit 14 — Ethics in Medical Research and Learning on Patients: Helsinki Agreement, Animal Experiment Ethics, Learning Ethics	Lecture	Oral & Written Exam

Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).
Required Textbooks (if available)	
Main References	
Supporting References	
Electronic References	

Clinical Immunology 2

1.Course Name
Clinical Immunology 2
2.Semester / Year
2026/2027 — Semester 2 / Fourth Year
3.Date of Preparation
1/9 /2026
4.Attendance Modes
In Person Education
5.Total Hours / Units
60 hours / 6 credit units
6.Course Responsible
Name: Assist. Dr Raghda Matham Hamid

Course Objectives	**General Objective:** To introduce students to clinical immunology, its applications, modern classifications, and common diseases. • To define clinical immunology. • To identify the immunological mechanisms responsible for common immune diseases. • To distinguish different diagnostic methods and key differential investigations for each disease.
Teaching & Learning Strategies	• Information presentation using diverse presentation methods • Opinion exchange and discussion (individual and group) with the instructor • Cooperative learning strategy • Training-based learning strategy

Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
1	4		Endocrine Diseases: Hashimoto's Thyroiditis; Graves' Disease	Lecture	Oral & Written Exam
2	4		Insulin-Dependent and Non-Dependent Diabetes Mellitus; Addison's Disease	Lecture	Oral & Written Exam

3	4		Hypersensitivity Diseases	Lecture	Oral & Written Exam
4	4		Asthma	Lecture	Oral & Written Exam
5	4		Allergic Rhinitis (AR)	Lecture	Oral & Written Exam
6	4		Atopic Dermatitis (AD)	Lecture	Oral & Written Exam
7	4		Contact Dermatitis	Lecture	Oral & Written Exam
8	4		Respiratory Diseases: Drug-Induced Respiratory Diseases	Lecture	Oral & Written Exam
9	4		Eosinophilic Pneumonia	Lecture	Oral & Written Exam
10	4		Occupational and Environmental Lung Diseases	Lecture	Oral & Written Exam
11	4		Tumour Immunology: Oncogenesis and Cancer Induction, Tumour Antigens, Immune Response to Tumours, Angiogenesis, Anti-Tumour Drug Resistance, Immunotherapy	Lecture	Oral & Written Exam
12	4		Transplantation Immunology, Immunotherapy and Regenerative Medicine: Types, Mechanisms, Blood Groups, Titer Concept	Lecture	Oral & Written Exam
13	4		Blood Disorders: Autoimmune Haemolytic Anaemia; Warm and Cold Gammaglobulinaemia; Hodgkin's and Non-Hodgkin's Lymphoma	Lecture	Oral & Written Exam
14	4		Acute and Chronic Leukaemia	Lecture	Oral & Written Exam
15	4		Lymphoid and Myeloid Leukaemia	Lecture	Oral & Written Exam

Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).
Required Textbooks (if available)	
Main References	Chapel and Haeney's Essentials of Clinical Immunology, 7th Edition. Siraj A. Misbah, Gavin P. Spickett, Virgil A.S.H. Dalm, 2023. Clinical Immunology: Principles and Practice 5th Edition, 2018. Robert R. Rich MD et al. (Authors).
Supporting References	
Electronic References	

Antibiotic Resistance and Infection Control

1.Course Name
Antibiotic Resistance and Infection Control
2.Semester / Year
2026/2027 — Semester 2 / Fourth Year
3.Date of Preparation
1/9 /2026
4.Attendance Modes
In Person Education
5.Total Hours / Units
60 hours / 6 credit units
6.Course Responsible
Name: Assist. Dr. Ehsan Kadhim Hamidy

Course Objectives	**General Objective:** To provide students with comprehensive knowledge of antibiotics, their mechanisms of action, antibiotic resistance, and infection control in medical laboratories. • To understand antibiotics types, uses, and side effects. • To identify mechanisms of antibiotic resistance (MDR, XDR, PDR) and control strategies. • To perform and interpret antibiotic susceptibility tests.
Teaching & Learning Strategies	• Information presentation using diverse presentation methods • Opinion exchange and discussion (individual and group) with the instructor • Cooperative learning strategy • Training-based learning strategy

Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
1	4		Introduction to Antibiotics: Definition, Discovery, Sources	Lecture	Oral & Written Exam
2–3	4		Antibiotics: Types, Uses and Side Effects	Lecture	Oral & Written Exam
4	4		Mode of Action of Antibiotics	Lecture	Oral & Written Exam

5	4		Cell-Wall Inhibition (Beta-Lactams — Penicillins, Cephalosporins, Carbapenems and Monobactams)	Lecture	Oral & Written Exam
6	4		Mycolic Acid and Arabinogalactan Biosynthesis Inhibition in Mycobacteria	Lecture	Oral & Written Exam
7–8	4		Protein Synthesis Inhibition (Aminoglycosides, Tetracyclines, Chloramphenicol)	Lecture	Oral & Written Exam
9	4		Nucleic Acid Inhibition (Fluoroquinolones, Rifampicin and Rifabutin)	Lecture	Oral & Written Exam
10	4		Microbial Metabolism Inhibition (Sulphonamides, DHFR Inhibitors — Trimethoprim)	Lecture	Oral & Written Exam
11–12	4		Antibiotic Resistance: Basis, Causes, Types (MDR, XDR, PDR) and Control	Lecture	Oral & Written Exam
13	4		Antibiotic Susceptibility Tests (Disc Diffusion, MIC Tests) and Interpretation of Results	Lecture	Oral & Written Exam

Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).
Required Textbooks (if available)	
Main References	1. Stephen P. Denyer et al. Hugo and Russell's Pharmaceutical Microbiology. 7th ed. (2004). 2. Jawetz, Melnick, & Adelberg's Medical Microbiology. 28th Edition (2019). 3. Connie R. Mahon, Donald C. Lehman. Textbook of Diagnostic Microbiology. 6th Edition (2019).
Supporting References	
Electronic References	

Stem Cell and Embryology

1.Course Name
Stem Cell and Embryology
2.Semester / Year
2026/2027 — Semester 2 / Fourth Year
3.Date of Preparation
1/9 /2026
4.Attendance Modes
In Person Education
5.Total Hours / Units
60 hours / 6 credit units
6.Course Responsible
Name: Assist. Lecture Lala Kadhim Radif Email: —

Course Objectives	**General Objective:** To familiarise students with stem cells, their types, properties, and roles in the medical field, and to introduce embryology and stages of embryonic development and prenatal diagnosis. • Recognise the properties and foundations of stem cell formation. • Understand the growth and differentiation of stem cells and their various applications. • Understand how the embryo develops male or female sexual characteristics. • Study the development of the embryo week by week. • Understand how to diagnose prenatal congenital malformations.
Teaching & Learning Strategies	• Information presentation using diverse presentation methods • Opinion exchange and discussion (individual and group) with the instructor • Cooperative learning strategy • Training-based learning strategy

Course Structure

Week	Hours	Learning Outcomes	Topic / Unit	Learning Method	Assessment
1–3	4		Introduction: What Are Stem Cells? Totipotency, Pluripotency, Multipotency; Cell Division and Ageing — Telomerase; Epigenetics in Stem Cells	Lecture	Oral & Written Exam
4–5	4		Characterising Stem Cells, Origins and Types; Pluripotent and	Lecture	Oral & Written Exam

			Multipotent Stem Cells; Genetic Modification and Labelling of Cell Lineages		
6	4		Cell Differentiation and Growth — Stem Cells in the Body	Lecture	Oral & Written Exam
7	4		Regenerative Medicine: Clinical Applications of Stem Cells; Therapeutic Cell Transplantation; Transplantation Risks	Lecture	Oral & Written Exam
8	4		General Embryology	Lecture	Oral & Written Exam
9	4		Gametogenesis: Conversion of Germ Cells into Male and Female Gametes	Lecture	Oral & Written Exam
10	4		First Week of Development: Ovulation to Implantation	Lecture	Oral & Written Exam
11	4		Second Week of Development: Bilaminar Germ Disc	Lecture	Oral & Written Exam
12	4		Third Week of Development: Trilaminar Germ Disc	Lecture	Oral & Written Exam
13	4		Third to Eighth Week: The Embryonic Period	Lecture	Oral & Written Exam
14	4		Third Month to Birth: The Foetus and Placenta	Lecture	Oral & Written Exam
15	4		Birth Defects and Prenatal Diagnosis	Lecture	Oral & Written Exam

Course Assessment	Grade distribution out of 100: Continuous assessment (40 marks) split into Theoretical (25) and Practical (15), including 10 marks for activities (reports, attendance, daily and oral quizzes). Final examination (60 marks): Theoretical (35) and Practical (25).
Required Textbooks (if available)	
Main References	Langman's Medical Embryology. 15th North American Edition, January 2023. Dr. T.W. Sadler PhD (Author).
Supporting References	
Electronic References	