

Ministry of Higher Education and
Scientific Research
Warith Al-Anbiya University
College of Medicine
First Stage
First Unit



Course Description Template

University Name: Warith Al-Anbiya University

Faculty/Institute: College of Medicine

Scientific Department: 1st stage

Academic or Professional Program Name: unite one

Final Certificate Name:

Academic System: annual

Description Preparation Date: 1-9-2025

File Completion Date: 1-9-2025

Signature:

Head of Branch: Dr Riadh Hnewa

Date: 1/9/2025

Signature:

Vice Dean for Scientific

Affairs: Dr. Laith M. Akhbar

Date: 1/9/2025

The file is checked by:

Department of Quality Assurance and University Performance

Director of the Quality Assurance and University Performance

Department: prof. Dr. Ali Al Mousawi

Date: 1/9/2025

Signature:

الأستاذ الدكتور
علي عبد جبار الخزرجي
مستطبة الطب

Dean's approval

Academic Program and Course Description Guide

2025--2026

Course Description Form

1. Course Name:	
Unite one	
2. Course Code:	
3. Semester / Year:	
annual	
4. Description Preparation Date:	
1-9-2025	
5. Available Attendance Forms:	
presence	
6. Number of Credit Hours (Total) / Number of Units (Total)	
96 hours of theoretical study, 48 hours of practical study	
7. Course administrator's name (mention all, if more than one name)	
Name: Dr. Riadh Hnewa Email: riadhnewa0@gmail.com	
8. Course Objectives	
<p>Course Objectives</p> <ul style="list-style-type: none"> ● Understand the basic principles of biology: Enable students to comprehend the biological foundations of life, including cell structure, organelle functions, and cell types. ● Identify the molecular structure of cells: Explain the components of a human cell including proteins, carbohydrates, lipids, and nucleic acids, and their importance in cellular function. ● Explain the mechanisms of cell division: Understand the difference between mitosis and meiosis, and their roles in growth, reproduction, and genetic diversity. ● Understand basic genetic concepts: Introduce students to the principles of heredity, genes, mutations, and their relationship to genetic diseases in humans. ● Explain basic biological processes: such as cellular respiration, photosynthesis (for comparison), protein synthesis, and their role in cellular function. ● Understand homeostasis: Introduce students to the mechanisms for maintaining a stable internal environment in the body. 	
9. Teaching and Learning Strategies	
Strategy	

10. Course Structure	

Cell Structure and Function10 h	
1.What Is a Cell? 2.How Cells Are Organized 3.The Plasma Membrane and How Substances Cross It 4.The Nucleus and Endomembrane System 5.The Cytoskeleton, Cell Movement, and Cell Junctions	
Laboratory	
Identify the different types of tissues (slides ,videos)	
Pharmacology/Theory12 h	
Introduction to Pharmacology	
<u>The cell as a target for drug action</u>	
Pharmacodynamics (molecular targets)	
Pharmacodynamics (drug response)	
Drug-drug interaction	
Pharmacokinetics: Drug administration	
Pharmacokinetics: Drug absorption and bioavailability	
Pharmacokinetics: Drug distribution	
Pharmacokinetics: Drug elimination and excretion	
Laboratory	
Identify the different types of drug (slides ,videos)	
General Embryology12 h	
Mitosis and meiosis	
Chromosomal abnormalities	
gametogenesis	
spermatogenesis	
oogenesis	
Female reproductive cycles	
ovulation	
Events of 1st wk:	
Fertilization	
Cleavage of zygote implantation	
decidua	
Events of 2nd wk	
Formation of Bilaminar embryonic disc Formation of extra- embryonic mesodermDevelopment of chorionic villi	
Development of placenta	
Events of 3rd wk	
Formation of trilaminar embryonic discFormation of notochord	
The intraembryonic mesoderm Development of a nervous system	
Folding of the embryonic disc	
Derivatives of germ layers	
Fetal membranes and twins	
Birth defects	
Cardiovascular System: Blood 7h	
1.Blood	
2.Red Blood Cells and Transport of Oxygen	

3.White Blood Cells and Defense Against Disease 4.Platelets and Blood Clotting 5.Blood Typing and Transfusions 6.Homeostasis Laboratory 2h -Identification of major heart components	
Cardiovascular System: Blood 7h 1.Blood 2.Red Blood Cells and Transport of Oxygen 3.White Blood Cells and Defense Against Disease 4.Platelets and Blood Clotting 5.Blood Typing and Transfusions 6.Homeostasis Laboratory 2h -Identification of major blood cell components	
SECOND SEMESTER	
Skeletal System 8 h 1.Overview of Skeletal System 2.Bone Growth, Remodeling, and Repair 3.Bones of the Axial Skeleton 4.Bones of the Appendicular Skeleton 5.Articulations Laboratory Anatomy Lab. (Skeletal System)	
Muscular System 8 h 1.Overview of the Muscular System 2.Skeletal Muscle Fiber Contraction 3.Whole Muscle Contraction 4.Muscular Disorders 5.Homeostasis Laboratory Anatomy Lab. (Muscular System)	
Digestive System and Nutrition 4h 1.Overview of Digestion 2.First Part of the Digestive Tract 3.The Stomach and Small Intestine 4.The Accessory Organs and Regulation of Secretions 5.The Large Intestine and Defecation 6.Nutrition and Weight Control laboratory -Basic anatomy of G.I.T	
Respiratory System 4h 1.The Respiratory System 2.The Upper Respiratory Tract 3.The Lower Respiratory Tract 4.Mechanism of Breathing 5.Control of Ventilation	

6. Gas Exchanges in the Body 7. Respiration and Health <i>Laboratory</i> Basic anatomy and physiology of respiratory system	
Urinary System 4 h 1. The Urinary System 2. Kidney Structure 3. Urine Formation 4. Kidneys and Homeostasis 5. Kidney Function Disorders <i>Laboratory</i> - Understanding the basic anatomy of urinary system - Urine Analysis	
Nervous System 4 h 1. Overview of the Nervous System 2. The Central Nervous System 3. The Limbic System and Higher Mental Functions 4. The Peripheral Nervous System <i>Laboratory</i> Nerve conduction studies (tutor- Lab)	
Senses 4 h 1. Overview of Sensory Receptors and Sensations 2. Proprioceptors, Cutaneous Receptors, and Pain Receptors 3. Senses of Taste and Smell 4. Sense of Vision 5. Sense of Hearing 6. Sense of Equilibrium <i>Laboratory</i> Examination of special sense (vision, hearing and taste)	
Endocrine System 4 h 1. Endocrine Glands 2. Hypothalamus and Pituitary Gland 3. Thyroid and Parathyroid Glands 4. Adrenal Glands 5. Pancreas 6. Other Endocrine Glands 7. Homeostasis <i>Laboratory</i> Determination of hormones in biological samples (biochemical tests)	
Reproductive System 4 h 1. Human Life Cycle 2. Male Reproductive System 3. Female Reproductive System 4. The Ovarian Cycle 5. Control of Reproduction 6. Sexually Transmitted Diseases <i>Laboratory</i> Identify the basic anatomy of male and female reproductive systems	
Cancer 4 h 1. Cancer Cells	

2. Causes and Prevention of Cancer
3. Diagnosis of Cancer
4. Treatment of Cancer

Laboratory

Identify the histopathology of malignant cells

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports etc

12. Learning and Teaching Resources

Required textbooks (curricular books, if any)

Main references (sources)

12. Teaching and Learning Resources

1. Approved Textbooks

These books are approved by the college and cover the official courses:

Human Biology by Sylvia Mader & Michael Windelspecht

A comprehensive and simplified textbook suitable for beginners in medicine.

Human Anatomy & Physiology by Elaine N. Marieb & Katja Hoehn

Covers anatomical and physiological aspects in clear and illustrated detail.

Electronic References, Websites Essential Cell Biology by Alberts et al

Important for understanding cell structure and function and principles of molecular biology.

Biology by Campbell & Reece

A global reference covering all aspects of biology in a detailed scientific manner.

2. Lectures and University Notes

Lecture notes given by professors.

Notes distributed by the academic department.

PowerPoint slides approved during lectures.

3. Educational Videos and Online Platforms

Khan Academy (simplified English explanations of cell, genetics, and biological systems).

Lecturio and Osmosis (suitable for medical students, offer customized content).

YouTube channels such as Armando Hasudungan and Crash Course Biology.

4. Models and Practical Labs

Anatomical models in the biology lab.

Microscope slides for teaching cells and tissues.

Interactive tools for illustrating biological functions.

A collection of reliable scientific journals that students can refer to in the field of human biology:

1. Nature Reviews Molecular Cell Biology

Link: <https://www.nature.com/nrm>

A prestigious journal that publishes reviews in molecular and cell biology.

Useful for understanding recent developments in human biology at the cellular level.

2. The Journal of Human Biology (Wiley)

Link: <https://onlinelibrary.wiley.com/journal/15206300>

Focuses on evolution, genetics, and human biodiversity.

Suitable for medical students interested in the evolutionary and functional aspects of humans.

3. Cell

Link: <https://www.cell.com/>

Nature (<https://www.nature.com/nrm/>)

Nature Reviews Molecular Cell Biology

Nature Reviews Molecular Cell Biology is the leading monthly review journal in the field of molecular and cell biology. With its extraordinary breadth and...

Websites recommended for first-year medical students studying human biology, which are useful for simplifying information and enhancing understanding:

1. Khan Academy (<https://www.khanacademy.org/science/biology>)

A free website that offers simplified video explanations.

It contains units on: cells, genetics, physiology, and tissues.

Excellent for establishing understanding, especially for new students.

2. Osmosis (<https://www.osmosis.org/>)

An educational platform for medical students, supported by explanatory videos and animations.

It covers topics in human biology, anatomy, and physiology.

You need a subscription, but some content is free.

3. Lecturio (<https://www.lecturio.com/medical-courses/human-biology.course>)

Professional educational content designed for medical students.

Includes videos, interactive questions, and review of biology and medical topics.

Requires registration; trial version available.

4. Crash Course Biology (<https://www.youtube.com/playlist?list=PL3EED4C1D684D3ADF>)

A YouTube channel affiliated with Crash Course.

A series of engaging and quick videos on biology principles.

A fun and easy-to-understand approach, ideal for revision.

5. Visible Body (<https://www.visiblebody.com/>)

A platform that provides interactive 3D models of the human body.

Useful for understanding organs, tissues, and biological functions.

A subscription is required, but some tools are free.

6. BioNinja (for general revision) (<https://www.ib.bioninja.com.au/>)

Designed for IB students, but useful for beginning medical students.

Includes easy-to-understand illustrations and diagrams in cell and molecular biology.

7. InnerBody (<https://www.innerbody.com/>)

An interactive website that showcases human anatomy.

Suitable for strengthening the visual aspect of understanding structure and function of organs.

Would you like Arabic-language websites as well? I can recommend some reliable Arabic educational channels and resources if you'd like.

Osmosis (<https://www.osmosis.org/>)

Osmosis – Learning Medicine Made Simple – Powerful learning platform

Learn visually with Osmosis – the all-in-one platform for medical, nursing, and health students and professionals to think clinically and excel.