Ministry of Higher Education and Scientific research

Department of Physics/Medical physics

College of Science

University of Salahaddin

Subject: Cell and Human Biology

Course Book: Second Class

Academic year: 2023-2024

Course book

Course Title		Toxicology
Code	Theory Hr./week	Practical Hr./week
SBIO	3	2

Course type	**Compulsory**
Department/College	**Physics-Medical physics /Science**
Course language	**English**

Course lecturer(s)	**Hawzheen Kareem Othman** **Renas Najat Saleem**
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Teacher's academic Profile	**Hawzheen Kareem Othman** Hawzheen K.othman completed her bachelor in biology at Saladdin university, Erbil, Iraq, in 2005. In the same year she employed in college of science Department of Biology as assistant biology. After receiving the Master's degree in animal physiology, she was started to work as a lecturer and she has been teaching ever since. She is currently obtained her PhD degree in cell physiology **Renas Najat Saleem** I graduated from Salahaddin University-College of science in 2005. In 2012, I finished my Higher Diploma degree at Salahaddin University. In 2016, I finished my M.Sc. degree in Salahaddin University. Now I am PhD. Student in Hematology.
Course Objectives	• The purpose of taking this course is to learn the basic concepts and principles of cell and human biology.

Intended Learning Outcomes	Attendance in lecture is expected. You are responsible for everything covered, mentioned, discussed and displayed in class. If you miss a class, get a classmate's notes as my notes will not be available. You cannot excel in this course if you do not come to class.
Forms of teaching	Coursebook, PowerPoint, board and video. Illustration methods are used include whiteboard, marker, data show and paper sheet if needed, showing videos, preparing samples. Furthermore, students following up the results of the tests, writing notes, writing reports, doing seminars and weekly quizzes.
Examinations and Grading	-Theoretical exam = 25% practical exam = 25% -Theoretical exam = 25% for the semester exam and 50% for the final Practical exam25%. for the semester exam Examinations: 10% Assignments(Reports, Seminars and Queizzes): 15%
Course Reading List and References:	Alberts, B., Bray, D., Hopkin, K., Johnson, A. D., Lewis, J., Raff, M., ... & Walter, P. (2015). Essential cell biology. Garland Science. Kotpal, R. L. (2010). Modern text book of zoology: vertebrates. Rastogi Publications. Wadman,M.(2013).Cell division. Nature, 498(7455), 422.

Theoretical Weekly Subjects

First Week:

Introduction to Cell and Human Biology

Second Week:

Human tissues

Third Week:

Skeletal System

Overview of the Skeletal System

Bones of the Axial Skeleton

Bones of the Appendicular Skeleton Articulations

Bone Growth and Homeostasis

Fourth Week:

Muscular System

Overview of the Muscular System

Skeletal Muscle Fiber Contraction

Whole Muscle Contraction

Muscular Disorders

Fifth Week:

Nervous System

Overview of the Nervous System

The Central Nervous System 289

The Limbic System and Higher Mental Functions

The Peripheral Nervous System

Drug Therapy and Drug Abuse

Sixth Week:

Senses

Overview of Sensory Receptors and Sensations

Somatic Senses

Senses of Taste and Smell

Sense of Vision

Sense of Hearing

Sense of Equilibrium

Seventh Week: First Examination

Eighth Week:

Cardiovascular System: Heart and Blood Vessels

Overview of the Cardiovascular System

The Types of Blood Vessels

The Heart Is a Double Pump

Features of the Cardiovascular System

Two Cardiovascular Pathways

Exchange at the Capillaries

Cardiovascular Disorders

Ninth Week:

Cardiovascular System: Blood

Blood: An Overview

Red Blood Cells and Transport of Oxygen

White Blood Cells and Defence Against Disease

Platelets and Blood Clotting

Tenth Week:

Human Blood Types

Eleventh Week:

Respiratory System

The Respiratory System

The Upper Respiratory Tract

The Lower Respiratory Tract

Mechanism of Breathing

Control of Ventilation

Gas Exchanges in the Body

Respiration and Health

Twelfth Week:

Digestive System and Nutrition

Overview of Digestion

The Mouth, Pharynx, and Esophagus

The Stomach and Small Intestine

The Accessory Organs and Regulation of Secretions

The Large Intestine and Defecation

Nutrition and Weight Control

Thirteenth Week:

Cancer

Overview of Cancer

Causes and Prevention of Cancer

Diagnosis of Cancer

Treatment of Cancer

Fourteenth Week: Second Examination

PRACTICAL WEEKLY SUBJECTS

Weeks	Subjects
1	Course book and Introduction to human Biology
2	Microscope
3	Diversity of the Cells
4	The cell cycle and mitosis
5	Meiosis Division in human cells
6	Human tissues
7	1st Examination
8	Human blood group
9	Human Blood sugar and Diabetes
10	Human Blood pressure
11	Human Fingerprints
12	Transport of Substances across Membranes
13	A Nuclear Bioassay: Micronucleus test
14	2nd Examination