

Ministry of Higher Education and Scientific research



Department of Veterinary Medicine

College of Veterinary Medicine

University of Salahaddin

Subject: Cell Biology

Course Book for 1st Year Students

Lecturer's name: M.Sc. Dr. Moufaq Jamal Dawood

Academic Year: 2023/2024

Course Book

1. Course name	Cell Biology
2. Lecturer in charge	M.Sc. Moufaq Jamal Dawood
3. Department/ College	Veterinary Medicine / College of Veterinary Medicine
4. Contact	e-mail: moufaq.dawood@su.edu.krd Tel:07504677092
5. Time (in hours) per week	Practical: 6hours , (3×2=6)hours
6. Office hours	6 hours
7. Course code	
8. Teacher's academic profile :	<p>Teaching Academics are skilled and passionate teachers and educators and will be the key drivers of the University's teaching and learning strategy. Teaching Academic positions are for academic staff that wish to pursue a career in which teaching is their primary focus, and are committed to leading innovation in their discipline, division and beyond.</p> <p>Crossing the Horizon, and the Digital Learning Strategy, developing teaching and supervision practice, internal and external grants and awards, Assistance is available in a range of areas in the form of online resources, one-on-one and small group meetings, seminars, workshops and project-based work for matters such as curriculum development, assessment, group work, feedback, supervision of Higher Degree by Research students, technology-enhanced teaching and learning, embedding Graduate Qualities and more. the Academic Development team can offer assistance, including co-authorship, to locate and critically review relevant literature, as well as research design and data analysis.</p>
9. Keywords	Teaching Academic Standards of Performance, Minimum Qualifications for Academic Staff, Procedure to transition current academic staff to continuing Teaching Academic positions.
10. Course overview:	<p>The focus of Cell Biology is the study of the structure and function of the cell. In this course we will focus on Eukaryotic cell biology and will cover topics such as membrane structure and composition, transport, and trafficking; the cytoskeleton and cell movement; the breakdown of macromolecules and generation of energy; and the integration of cells into tissues. We will also cover important cellular processes such as cell cycle regulation, signal transduction, apoptosis (programmed cell death), and cancer cell biology. Throughout the semester we will attempt to relate defects in these various cellular processes to Animal diseases to help gain a better understanding for what happens when cells don't work as they should.</p>

11. Course objective: This course will cover basic topics in Cell biology, including structure, function and metabolism of Bacteria and Virus, as well as an introduction to virology and eukaryotic microbes. Some topics of particular interest will be (1) bacterial physiology and metabolism, (2) microbial genetics, (3) microbial pathogenesis and human-microbe interactions, (4) virology, (5) eukaryotic microbial cell biology, and (6) bacterial cell culture techniques. Emphasis will be placed on developing an understanding of microbial cell biology, genetics, the interactions of microbes with their environment and eukaryotic hosts. This course includes lecture and laboratory components. Student performance in the lecture section will be evaluated based on homework assignments, student presentations, two exams, and a cumulative final exam. Performance in the laboratory will be assessed in two lab practical exams, two lab reports on unknown culture identification, performance on pop quizzes at the beginning of lab, and notebook quality.

12. Student's obligation:

Refers during an academic evaluation to materials or sources, or employs devices, not authorized by the faculty member, Provides assistance during an academic evaluation to another person in a manner not authorized by the faculty member, Receives assistance during an academic evaluation from another person in a manner not authorized by the faculty member, Engages in unauthorized possession, buying, selling, obtaining, or use of any materials intended to be used as an instrument of academic evaluation in advance of its administration, Acts as a substitute for another person in any academic evaluation process, Utilizes a substitute in any academic evaluation proceeding, Practices any form of deceit in an academic evaluation proceeding, Depends on the aid of others in a manner expressly prohibited by the faculty member, in the research, preparation, creation, writing, performing, or publication of work to be submitted for academic credit or evaluation, Provides aid to another person, knowing such aid is expressly prohibited by the instructor, in the research, preparation, creation, writing, performing, or publication of work to be submitted for academic credit or evaluation, Presents as one's own, for academic evaluation, the ideas, representations, or words of another person or persons without customary and proper acknowledgment of sources, Submits the work of another person in a manner which represents the work to be one's own, Knowingly permits one's work to be submitted by another person without the faculty member's authorization, Attempts to influence or change one's academic evaluation or record for reasons other than achievement or merit, Indulges, during a class (or examination) session in which one is a student.

13. Forms of teaching: The lecture, independent work, power point, data show, seminar, The laboratory training, practical training, Field study, a course paper/project, Verbal or oral method, Quiz, Home Work smart book, note book, Written method.	
14. Assessment scheme: Identification of sources of information, collecting the information (sampling and verifying), evidence (records, interviews), evaluate the evidence against criteria, review findings and conclusions, and report of the findings.	
15. Student learning outcome: Along with increased competition for the best students and the most lucrative grants, institutions of higher education are also facing increased scrutiny to improve student learning and demonstrate program effectiveness. ETS's ongoing research offers administrators and school leaders a detailed look at how assessments have progressed over the years, and how an evidence-based assessment system for student learning can benefit today's.	
16. Course Reading List and References: 1. Cell Biology in farm animals, 7th Edition. 2. -Principle of Cell Biology Animals. 3. An Introduction to Animal Cell Biology, by William song, G. and Payne, W.J.A. (1978). Third Edition, Longman Group Ltd., England. 4. Essentials of Animals Biology & physiology S.C. Rastogi. 2013. 5. Haq, A. and T. Ahmad. 2012. Reproductive Animal and Disease Prevention Pak Book Empire, Lahore, Pakistan. 6. Herenda, D. C. and Franco, D.A. 1999. Animal Biophysiology and Meat Hygiene, A Color Atlas. Iowa State University Press, Ames, Iowa, USA.	
17. The Topics :	Lecturer's name

18. Practical Topics (If there is any):			
	Weeks(6hrs)	Lecturer's name	Topics
1	1 st week,2/11/2023	CELL BIOLOGY	Practical Explain of CELL BIOLOGY
2	2 nd week,9/11/2023	CELL BIOLOGY LABORATORY 1	Practical explain of LABORATORY EQUIPMENT1
3	3 rd week16/11/2023	CELL BIOLOGY LABORATORY 2	Practical explain of LABORATORY EQUIPMENT 2
4	4 th week,23/11/2023	CELL FUNCTION, CELL TRANSPORT	EXPLAIN CELL FUNCTION
5	5 th week30/11/2023	MICROSCOPE	Explain MICROSCOPE
6	6 th week7/12/2023	EXAM 1	Practically FIRST 1 EXAM
7	7 th week14/12/2023	VISITE TO VETERINARY MEDICAL LABORATORY STATION	Practically WORKING IN LAB
8	8 th week21/12/2023	CELL, CELL SHAPE	Practically EXPLAIN CELL SHAPE
9	9 th week28/12/2023	CELL ORGANELLE	EXPLAIN CELL ORGANE
10	10 th week04/01/2024	CELL METABOLISM	Practically CELL METABOLISM
11	11 th week11/01/2024	TISSUE, TYPE OF TISSUE	Practically EXPLAIN TISSUE

12	12 th week18/01/2024	CELL CULTURE TECHNIQUE	Practically TECHNIQUE working
13	13 th week25/01/2024	TISSUE CULTURE TECHNIQUE	Practically TECHNIQUE working
14	14 th week01/02/2024	VISITE TO VETERINARY MEDICAL LABORATORY STATION	Visited to field and work in VET MEDICAL LAB and farm animal
15	15 th week08/02/2024	Exam 2	Practically second 2 Examination

19. Examinations:

1st exam. After 5 lectures

2nd exam. After 10 lectures

Example of questions:-

Answer the following questions:

Q1. What is the role of laboratory and what are the types of it? (20 marks)

The role of **laboratory**

Laboratory Types

- 1.
- 2.
- 3.
- 4.
- 5.

Q2. List the practices of lab safety. (16 marks)

Safe Lab Practices

- 1.
- 2.
- 3.
- 4.
- 5.

Q3. Mention only (10) equipment's of laboratory. (15 marks)

Q4. Define Osmosis and explain the three types of it. (15 marks)

Q5. The following picture is the structure of lysosome. Fill the point out dashes with suitable words of it. (20 marks)

20. Extra notes:

Over the last few years, increased importance has been placed on rules for animal welfare, due to the convergence of several factors, Regulations: World organisation for animal health, Increased production, Intensive animal farming with more productive, but less rural animals. The condition of litter is a determining factor in animal health. It is essential to maintain high levels of hygiene in these areas, and to prevent pathogenic germs from entering by any means of contact. This prevents: infection via the umbilical cord, neo-natal, septicaemia, meningitis, arthritis, vaginitis, mastitis, dermatitis, lameness, atmospheres, laden with ammonia and moisture.

21. Peer review

پیداچونہوہی ھاوہل