

TENTH EDITION
CAMPBELL
BIOLOGY

REECE • URRY • CAIN
WASSERMAN • MINORSKY • JACKSON

عمادة التعليم الإلكتروني والتعلم عن بعد
E-learning Deanship



King Saud University
جامعة الملك سعود

**College of Science,
Zoology Department**

**General Animal Biology
(Zoo-109)**

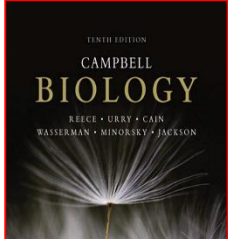
جامعة
الملك سعود
King Saud University



Prof. Ashraf M. Ahmed

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Teaching Strategy



A)- Description:

(أ)- الوصف:

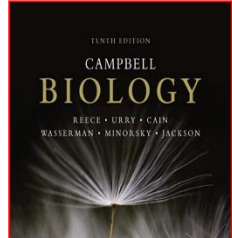
Course Designation	Zoo-109	109 حين	رقم المقرر ورمزه
Course Name	General Animal Biol.	بيولوجيا الحيوان العام	اسم المقرر
No. of Credits	3 (2 + 1)	3 ساعات (2 + 1)	عدد الوحدات الدراسية المعتمدة
Prerequisites	None	لا يوجد	متطلب سابق
Co-requisite Course	None	لا يوجد	متطلب مصاحب

B)- Assessments Timetable

(ب)- الجدول الزمني لمهام التقويم

Assessment	Assessment tasks	Weeks	Final Assess	Total marks
1	1 st laboratory exam	Week 6	15/100	30 marks
2	Final laboratory Exam	Week 12	15/100	
3	1 st theoretical exam	Week 7	15/100	30 marks
4	2 nd theoretical exam	Weeks 12-14	15/100	
5	Final theoretical Exam	Week 15	40/100	40 marks
			100/100	100 marks

C)- Topics and teaching hours



SN	Subject	No. of lectures	Contact hours	Notice
1	Macromolecules	2	2	
2	Viruses	1	1	
3	The Cell: Prokaryotic Cell	1	1	
4	The Cell: Eukaryotic Cell & organells	4	4	
5	Cell transport	2	2	
6	Enzymes	2	2	
7	Cell respiration	3	3	
8	Cell division	2	2	
9	Nucleic acids & Protein synthesis	4	4	
10	Genetics & chromosomal bases	3	3	
11	Endocrine system & hormones	2	2	

D)- Knowledge to be acquired

- **Knowledge about the structure and properties of the living cell.**
- **Knowledge about enzymes and their mode of action.**
- **Knowledge about cellular respiration and energy production.**
- **Knowledge about macromolecules and their types and importance.**
- **Knowledge about DNA-RNA molecular bases and protein production**
- **Knowledge about Mendel's laws and genetic bases of inheritance**
- **Knowledge about human endocrine system.**



E)- Detailed Syllabus of Theoretical Zoo-109

1) Macromolecules:

- Carbohydrates
- Lipids
- Proteins
- Nucleic acids

2) Viruses

3) Prokaryotes

- Bacteria & Archaea

4. Eukaryotes (Basics of cell Biology):

4. Cell types (plant & animal cell).
5. Cell organelles (animal cell)

5. Cellular transport (active & passive)

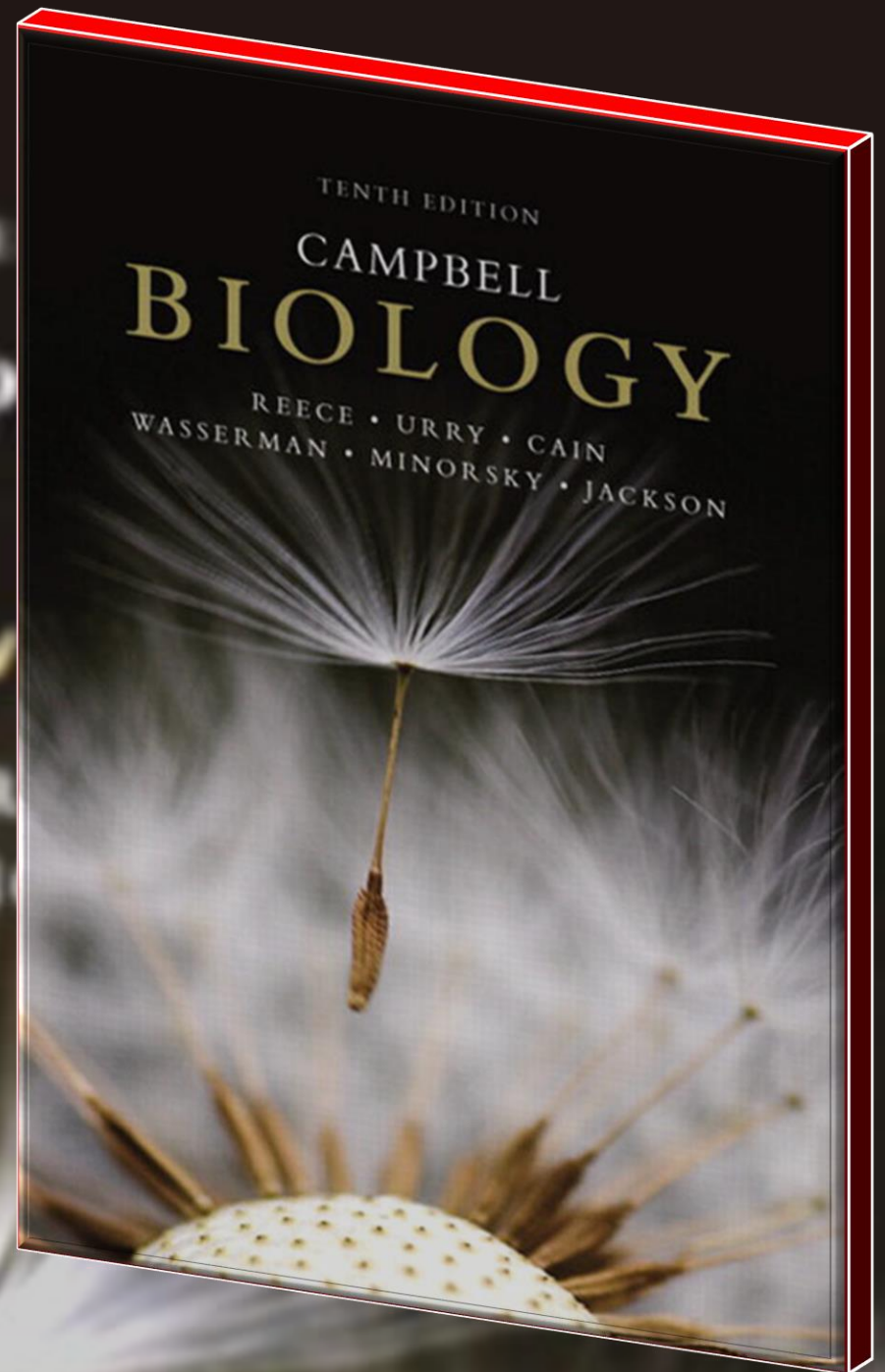
6. Enzymes and metabolic control

E)- Detailed Syllabus of Theoretical Zoo-109

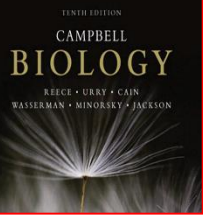
- 7. Cellular respiration (production of ATP)**
- 8. Cell division (cell cycle)**
 7. Mitotic division
 8. Meiotic division (and sexual life cycle)
- 9. Molecular Biology (information codes and genes):**
 7. DNA and DNA-replication
 8. RNA and RNA-transcription
 9. From gene to protein (RNA translation)
- 10. Mendel and the gene idea:**
 7. First law of Mendel
 8. Second law of Mendel
 9. The genetic diseases, sex-linked disorders and mutations
 10. The chromosomal bases of inheritance
- 11. Chemical signals in animals (endocrine system and hormonal regulation).**

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*Campbell, N. A. and Reece, J. B.
(2014). Biology (10th edition).
Pearson Education. Inc. USA.*



F)- Syllabus of Practical Zoo-109



Weeks	Description of exercise
1	<ul style="list-style-type: none"> Microscope: To acquaint the student with the use and care of microscope. Preparation of slides to observe the animal and plant cells.
2	<ul style="list-style-type: none"> Cell Structure: To familiarize the students with the general structure of the cell seen through the light microscope and acquaint them with some of the variations existing among cells (Size and shape).
3	<ul style="list-style-type: none"> Mitosis: To aid the students in recognizing chromosomes and various stages in mitotic division.
4	<ul style="list-style-type: none"> Meiosis: To study meiosis and compare it with mitosis with special emphasis on chromosome number and to explain the necessity for meiotic division in sexually reproducing organisms.
Histology	
5	<ul style="list-style-type: none"> Striated muscle, cardiac muscle, hyaline cartilage, neuron, T.S. in the spinal cord, artery and vein.
6	<ul style="list-style-type: none"> Detail structure of: T.S. in the oesophagus stomach and liver of experimental rat.
7	<ul style="list-style-type: none"> Detail histology of: T.S. in the testis ovary and kidney of experimental rat.
8	<u>FIRST EXAM</u>
Dissection of the experimental rat and blood group	
9	<ul style="list-style-type: none"> To introduce the student to blood group serology in determining the ABO and Rhesus blood group systems. Determine the genotypes of different blood groups.
10	<ul style="list-style-type: none"> External features and general viscera with special reference to alimentary canal.
11	<ul style="list-style-type: none"> The reproductive system (male and female) including supporting glands.
12	<ul style="list-style-type: none"> The venous circulatory system.
13	<ul style="list-style-type: none"> The arterial circulatory system.
14	<ul style="list-style-type: none"> Nervous system & endocrine glands (if there is time)
15	<u>SECOND (Final) EXAM</u>

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Thank you very much

شكرا جزيلًا

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