

Forman Christian College, Lahore

(A Chartered University)

KAM-School of Life Sciences

Spring 2023

INSTRUCTOR INFORMATION

Name: Dr. Ibatsam Khokhar (Assistant Professor)
Office: Room S-160, Armacost Building
Office Hours: TR 8:30 - 9:30am MF 9:00 - 10:00am
OR by an appointment

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COURSE INFORMATION:

BIOL 100: Introductory Biology (4-credits) Section: (A)

Only for students who have not studied biology in Higher Secondary School or A” level or equivalent

Lecture: TR 9:30 am – 10:45 am (S-313)
Lab: Monday 2:00 pm – 3:50 pm (S-341)

TextBook: Life Science – Holt Science & Technology by Katy Z. Allen, Linda R. Berg, Barbara Christopher Jennie Dusheck & Mark F. Taylor. 2007. Holt Rinehart & Winston, NY.

Online book available in the library

Reference Book: Essential Biology by Neil A. Cambell, Jane B. Reece and Eric J. Simon. Pearson Publishers. 2007. San Francisco, CA.

Course Introduction

This course is an introduction to biology for students who have not studied biology in higher school/ A-Level or equivalent. The course includes basic concepts of biology with cell as a building block, its function, reproduction, genetics and inheritance, basic concepts in evolution, ecology and principles of living systems. The course is designed to provide to the non-science students an overview of modern biology and to elucidate its importance in everyday life.

Objectives

1. Develop an understanding of how science is conducted.
2. Understand the structure organization and the functional aspects of living things
3. Acquire fundamental knowledge of genetics and relate them to current issues.
4. To give an appreciation of diversity of living things and their relevance to our lives.
5. To become aware of different systems of human body and their functions and some common health problems.

Outcomes that we are seeking to achieve

At the end of the course, students will be able to:

- a) Understand and appreciate the role of biology in everyday life
- b) Know the structure and function of cellular organelles

- c) Know how molecules are synthesized and utilized for inheritance and cell functions and the basics of modern technologies that are changing medicine and agriculture.
- d) Understand the importance of biodiversity and application of biology to our life.
- e) To become familiar with various systems of human body and common health problems
- f) Be better prepared to think rationally and analyze issues on scientific basis.

Course Policies:

Come prepared to participate. Questions will be posed to stimulate discussion. Diagrams or illustrations will simplify difficult concepts and experimental methods when possible. To get the most out of this course, spend time thinking about the information presented in lectures, readings, and discussions.

Questions are encouraged. Discussion and questions make a course more interesting. This is a general education course; therefore, there should be something of interest for everyone participating. If you have difficulties understanding the material do not wait until you are completely lost. Come see me for help!

Attendance: Students must attend all class meetings to assure the best possible grades; failure to do so will drastically affect the grade. **If a student fails to attend 80% of the lectures and 80% of the laboratory work, s(he) will not be allowed to appear in the Final Examination.** The classes will meet twice a week for 75 minutes each day in addition to a 110 minutes lab. Excused absence on account of family emergency and/or participation in university activities will not count towards class attendance.

Exams: There will be two lecture exams and one lab exam during the term. Mid Term Exam will be of one-hour duration and the Final Exam will be of two-hour duration. The lab exam will be of two-hour duration. The midterm exam will include the topics covered during the first seven weeks whereas the second exam (Final exam) will be based on the course covered after the seventh week. The format of the exams will be both objective and essay type (limited choice will be given in the long answer type questions). Any modifications in the exam policy will be updated timely.

Quizzes: There will be TWO quizzes. If a student do not appear in the quiz s(he) will be awarded zero point. **No make up quiz will be given.** In addition, there will be short unannounced surprise quizzes during the class.

Assignments/report: Students are required to submit assignments during the semester. It can be a written assignment, or a role play or a presentation. It will be informed during the class about its topic.

Missed Exams/Quizzes: Students must take all the exams. If you do not appear in the exam/Quiz you will be awarded zero point and your grade will be drastically affected. **Make up-exam will not be given.**

Cheating and Plagiarism: There will be no tolerance for cheating/plagiarism. Any student caught cheating on the exam will be awarded zero point and may be dropped from the course. Detailed policy of classroom misconduct, cheating and plagiarism given in the Student Handbook will be strictly followed. Students are responsible for these directions given about dishonesty and plagiarism.

Mobile Phone: Use of mobile phone in the class is strictly prohibited. Students are advised to silence their mobiles before coming to class. Failure to do so will lead to disciplinary action.

Weight-age and Grading:

ACTIVITY	WEIGHT AGE
Midterm exam	20%
Final exam	35%
Lab exam	15%
Quizzes	15%
Assignment	10%
Attendance	5%
Total	100%

The grading system for the course is as follows:

GRADES	QUALITY POINTS	NUMERICAL VALUE	MEANING
A	4.00	93-100%	Superior
A-	3.70	90-92%	
B+	3.30	87-89%	
B	3.00	83-86%	Good
B-	2.70	80-82%	
C+	2.30	77-79%	
C	2.00	73-76%	Satisfactory
C-	1.70	70-72%	
D+	1.30	67-69%	
D	1.00	60-66%	Passing

COURSE OUTLINE BIOL 100 SECTION (H)

Week	Topic	Laboratory
1.	Introduction Scientific method	Lab safety, notebook discussion, lab coat + lab working ethics
2.	Characteristics of living things	Campus tour to study living things and a visit to Zoology Museum
3.	Bio-molecules	A visit to a botanical garden
4.	Cells: the basic units of life	How to use a microscope
5.	Organelles	Animal cell slide preparation (cheek epidermis)
6.	The cell in action	Plant cell slide preparation (onion epidermis, and/ or leaf epidermis)
7.	Genes and DNA+ Heredity	Mitosis (prepared slides or show on screen using multimedia)
8.	Mid-Term Exam	
9	Classification of bacteria and protist	BMI
10	Classification of fungi	Classification of fungi (Rust, Smut, Mushroom, Bracket)
11.	Classification of plants	Classification of bacteria (Bacilli, Cocci, Spirilla)
12	Human body organization + Digestive system	Classification of Protist and/ or study of protist in pond water (Euglena, Amoeba, Paramecium)
13	Skeletal + muscular + Nervous system	Animal diversity (different phylum)
14	Respiratory system	Plant diversity observation (moss, fern, gymno and angiosperms)
15	Urinary system	Study of model frog or rabbit for organs systems

16	Blood circulatory system	FINAL LAB EXAM
	FINAL EXAM	

Pattern of Exam : Midterm

There will be MCQs, word matching column and one or two figure labelling, and short questions.

Any modifications will be updated timely.

Final Exam

There will be MCQs, word matching column and one or two figure labelling, and short questions.

Any modifications will be updated timely.

Lab Exam

Your theoretical type of lab exam will happen on the last day of your lab where you will be given MCQs and short questions to answer. There will be images to identify or label as well. However, your performance will be analyzed during each lab day and your attendance will reflect that. In case you miss out some lab performance, so your performance marks will be deducted for that lab activity.