

## BIOL 105 Course Outline

<b>Course Name: General Zoology</b>		
<b>Course Code: BIOL 105</b>	<b>Course Type: elective</b>	<b>Course Credits: 3 + 1</b>
<b>Student Meeting Hours/ Office Hours:</b>	MWF 12:00 - 01:00 pm	
<b>Office No:</b>	S-417	
<b>Instructor Name: Dr. Saba Butt</b>		
<b>A Note from the Instructor:</b> Dear Students This course is all about animals. We interact with animals everyday in our lives. In this course you are going to learn about their features, how to deal with them humanly, ethical dealing with them and their link to humans and environment. This course will require use of Internet, mobile device/laptop and use of more technology. I shall be there always with you to deal with all this. My teaching philosophy is cooperative learning during and outside class. I facilitate my students to become lifelong learners and study the subject for its practical application in real life. You will be having discussion opportunities during classes and many short assignments. Welcome for a journey to animal world together.		
<b>Instructor Contact Details</b> Email: sababutt@fccollege.edu.pk Mobile (WhatsApp): 0308-6800992 Other: Skype: dr.sbutt Office Hours: MWF 12:00-01:00 pm Room No: S-117		
<b>Course Description:</b> Pre-requisites if any: <i>This course is only for students who have studied Biology in higher secondary school/A Level or equivalent</i> This course emphasizes on classification, structure and function of all major animal groups including Protozoa, Porifera and Metazoa (invertebrates and chordates). Ecological aspects and evolutionary concepts will be discussed with the animal group characteristics and functionality. Economic importance / real life applications of all animal groups will also be part of the course.		
<b>Main Mode of Instruction:</b> <i>F2F for now</i> <b>Technology Requirements:</b> <i>Use of Internet and Moodle</i> <b>Technology Etiquettes:</b> <i>Ethical conduct as per student handbook and no direct contact with other students using any resources from the course. No personal, objectionable material on forums / discussions.</i>		

## Course Objectives

*Objectives of this course are:*

1. To introduce students with structure and functions of major animal groups.
2. To educate students about ecological interactions and evolutionary relationships in major animal groups.
3. To introduce students about interactions of various life forms with their environment and their impact upon environment and vice versa.
4. To involve students in studying and analyzing various animal groups on campus (as FCC campus is pretty rich in biodiversity) and writing reports on their observations and ethical concerns in animal studies.
5. To involve students in group studies in the Museum of the Department and working on its various aspects to prepare group reports.

## Learning Outcomes:

*After the successful completion of this course students will be able to:*

1. Explain and synthesize on the concepts learned in the course.
2. Analyze critically the role and interactions of animals and their environments.
3. Explain and analyze ideas of animal studies and ethical and technical concerns involved.
4. Work cooperatively in groups to conduct animal studies and museum studies.
5. Explain and analyze utilization of museums and associated studies in life sciences.

## Course Content, Learning Material & Activities Schedule

Wk	Topic/ Title	<a href="#">Assessment &amp; Rubrics</a>
1	Introduction to the course, review of previous knowledge biological principles and study of zoology (animal science), animal conservation, concept of animal evolution	
2	Significance of animals and their study in real life Examples of animal based commercial applications and ethics	Class activity
3	Biological Principles. Studying animals – the ethical concerns, animal conservation	
4	Major Invertebrate Phyla: - adaptations and characteristics, classification, examples, economic importance – Porifera, Cnidaria	<b>Quiz 1</b>
5	Cnidaria-contd, Platyhelminthes	Class activity

	Annelida, Arthropoda	
6	Arthropoda-contd, Mollusca, Echinodermata	
7	Phylum Chordata - adaptations and characteristics, classification, examples, economic importance (main characteristics)	
8	<b>Midterm Exam</b>	
9	Phylum Chordata - adaptations and characteristics, type examples, economic importance (classification) Subphylum Vertebrata – characteristics and classification	Class activity
10	Subphylum Vertebrata – characteristics and classification Subphylum Vertebrata – Fishes, Amphibians	<b>Quiz 2</b>
11	Subphylum Vertebrata – Reptiles, Birds Subphylum Vertebrata – Mammals	
12	Animal ecology - correlating animals and environment, energy flow, food chain Food chains, webs and their significance	Class activity
13	Animals or animals material based industry and business	
14	Evolution of animals	
15	<b>Presentations: Individual/Group presentations on topics given by Instructor or chosen by students themselves.</b>	
	<b>Final Exam (as per official exam schedule)</b>	

### Practical Work

You will have to submit a lab report for each lab. Manual drawing work will be included. You may also require to make photos and videos.

Weeks	Work
1	Introduction, guidelines, ethics, notebook writing, Campus survey
2	Planning animal based experiments considering ethical guidelines.
3	Study Museum as a source of preserving the life forms and preparing reports on its various aspects.

4-5	Observation, drawing and studying characteristics of preserved specimen of invertebrate phyla.
6-7	Observation, drawing and studying characteristics of preserved specimen of vertebrate phyla.
8	How to solve a scientific Problem (in zoology)?
9-10	Field observation of animals on FCC campus and study their association with the environment.
11-12	Animal behavior and animal observation (birds)
13	Animal behavior and animal observation (mammals)
14	Study of animal communication / Keystone species
15	Virtual Lab (Dinosaur search and dig): Methods of digging the dinosaur bones.
16	Virtual Lab (Biome Viewer): Studying the biome in various ways

### **'Out-of-class' Study Required**

*Students are expected to participate in classes / view recordings, perform and submit class activities and field work sometimes, attempt all quizzes and exams. I do not expect specific hours of study as students from various backgrounds attend this course. You are expected to complete all activities in the given time frame.*

### **Textbooks, Materials, Supplies, and other Resources**

#### **Books / Lab Resources**

1. Hickman CP *et al.* Integrated Principles of Zoology. Recent Edition. McGraw Hill, New York. (Textbook)
2. Simon EJ *et al.* Campbell's Essential Biology. 2016. 16<sup>th</sup> Edition. Pearson Education. (Supporting Text)
3. HHMI Biointeractives (<https://www.biointeractive.org>) (Virtual Labs / Virtual Activities)
4. **Course Blog:** <https://generalzoology.blogspot.com> (announcements, handouts, required links)
5. **Course You Tube Channel:** <https://www.youtube.com/channel/UCrqW50aMPKWc7g42DmSWPwg>
6. **FCC Museum Blog and Facebook Page:**  
**Museum Facebook Page:** <https://www.facebook.com/FCCNaturalHistoryMuseum>  
**Museum Blog:** <https://museum-fcc.blogspot.com>

### **Course Evaluation:**

Grading will be based on the following criteria:

<b>Activity to be Assessed</b>	<b>Weight age (%age)</b>	<b>Activity to be Assessed</b>	<b>Weight age (%age)</b>
Final Examination	30	Lab activities	25
Mid-Term Examination	20	Class Activity / Discussions	5
Quizzes	10	<b>Total</b>	<b>100</b>
Assignments and presentation	10		

### **Attendance Policy:**

- As per university policy given in handbook.

### **Classroom Participation:**

*There will be several class activities which are graded. You are expected to complete these within given time frame. These are carefully designed to enhance learning experience of this course. Completing these is not only important for grading but more so for your learning which is the ultimate task.*

#### **Grade Determination & Course Assessment as per FCC Policy:**

- Grading will be based upon exams, quizzes, class participation, presentation and lab activities (virtual, in the lab, in field). FCC grading policies will strictly be followed.
- Any late work or missed exam or deadline will be dealt individually as this is not expected. Compensation may be given looking at evidences for such late work or missed part.

#### **Grading Legend**

Below is the grading legend of FCCU (published in all catalogues and available on the FCCU website) as approved by the Academic Council.

<b>Grade</b>	<b>Point Value</b>	<b>Numerical Value</b>	<b>Meaning</b>
A	4.00	93-100	Superior
A-	3.70	90-92	
B+	3.30	87-89	Good
B	3.00	83-86	
B-	2.70	80-82	
C+	2.30	77-79	Satisfactory
C	2.00	73-76	
C-	1.70	70-72	
D+	1.30	67-69	Passing
D	1.00	60-66	
F	0.00	59 or below	Failing

#### **Student Conduct & Other Issues:**

- Moodle will be used throughout the course for all kinds of communication.
- **Attendance:** Attendance for all on campus and online sessions will be recorded. Attendance will include participation in online activities like discussions or forums.
- **Projects/ presentation:** All projects, assignments will be accepted in soft copy (Moodle) only. Projects should be submitted following deadlines.
- All communication for the course will be through your official FCC email ID given in EMPOWER or Moodle.
- **Lab Rules:** Lab projects/reports should be submitted on time. You are expected to participate each lab activity (on campus or virtual).
- **Plagiarism / Cheating:** There will be no tolerance for cheating or plagiarism. The plagiarism policy given in the Student Handbook will be strictly followed.

Updated on: 28-01-2023