



DEPARTMENT OF BOTANY  
Tentative Course Plan

Class: BS BOTANY

Semester- 4TH

Session: FALL, 2018-22

Instructor	Sadia Sarwar	Email: botanist_iub18@yahoo.com
Course Title	Animal Evolution	Program BS
Course Number	BOTA-01405	Credit Hours 3(2+1)

Lecture	day: .... period (00:00a.m to00: 00p.m), Room# 00
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**Course Objective:**

**Evolution** is the process of change in all forms of life over generations, and evolutionary biology is the study of how evolution occurs. Biological populations evolve through genetic changes that correspond to changes in the organisms' observable traits. Genetic changes include mutations, which are caused by damage or replication errors in organisms' DNA. As the genetic variation of a population drifts randomly over generations, natural selection gradually leads traits to become more or less common based on the relative reproductive success of organisms with those traits. **Animal evolution** will deal: how long have animals existed on Earth? What were the earliest members of the animal kingdom, and what organism was their common ancestor? And modern concepts of natural selection?

**Methods of Teaching**

- Assigned readings
- Group activities & Discussion
- Audiovisual aids lectures
- Web-assisted instruction
- Student-Directed Teaching

Resource Material	<b>1. Text Books</b>			
	i.	Ridley, M. Evolution. 1993. Blackwell Scientific Publication.		
	ii.	Dobzhansky, T., Ayala, F.J., Stebbins, G.L. and Valentine, J.W. Evolution. 1973. W.H. Freeman and Company.		
	iii.	Dobzhansky, T. Genetics and the Origin of Species, 1951. Columbia University Press, New York.		
	iv.	Mayer, E. Population, Species and Evolution, 1965. Harvard University Press.		
	v.	Moody, P.A. Intoduction to Evolution, 1989. Harper and Row Publishers, New York.		
		Strickberger, M.W. Evolution. 2000. Jones and Barrett Publishers.		
	<b>2.Reference Books</b>		<b>3.Research Papers</b>	
	i		i	
	ii		ii	
	<b>4.Hot Research Papers</b>		<b>5.Web Resources</b>	
	i		i	
	ii		ii	

Office Help Hours	
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Grading	Exam (Date to be announced) Mid- Exam (30%) Final Exam (50%) Problem Session/Assignments (20%)
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Problem Session	.....day: 00 and 00 periods (0:00-00:00am), Room# 00
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**SEQUENCE OF TOPICS TO BE COVERED**

Lecturer #	Topics (outline of main topics and sub topics)	Chapter #	Tutorial /Laboratory
1	Course introductory lecture.		
2&3	The nature and origin to life. Evidences of evolution. (Molecular, embryological & paleontological).		Study of preserved invertebrate species.
4&5	Theories to explain the diversity of life. Modern synthetic theory.		Classification of invertebrates' upto class level.
6&7	Factors initiating elementary changes (microevolution) by changing gene frequencies, mutation pressure, selection pressure, immigration genetic drift and cross breeding		Collection of common species.
8&9	Role of isolation in evolutiok.		
10&11	Factors of large evolutionary changes (macro/mega evolution).		

12&13	Allometry, Orthogenesis, Adaptive radiation.		
14&15	Class discussion		
16	Class test and quiz.		
	Mid Term Exam		
17&18	Modern concept of Natural selection. Level of selection, selection patterns.		
19&20	Laboratory and field examples regarding action of Natural selection.		Preservation and identification of common species with the help of keys
21&22	Action of Natural selection leading to convergence, radiation, regression and extinction.		Preparation of keys for the identification of specimens.
23&24	Batesian mimicry, Mullerian mimicry.		
25&26	Sexual selection. Darwin concept, Fisher views, Zahavi handicap theory.		
27&28	Recapitulation theory.		
29&30	Trends and rates in evolution.		
31&32	Course/Discussion from session 1- 32		
	Final Term Exam		

Student Evaluation criteria:

Attendance	5%
Workshop / Assignments/Case study	5%
Surprise Test/Sudden Test , Quizzes	5%
Class Participation	5%
Mid Term Paper	30%
Final Term paper	50%
Total	100%

Student Responsibilities:

Students must attend class. Failure to attend class may result in failure in the course. Students must also arrive on time and remain in class for the entire period. Cellular Phones and Beeper must be Turned off (Proper classroom decorum [behavior] adopts, Course outlines and calendars explain requirements and assignments, students are responsible for knowing what they say. Students are also responsible for doing all assigned work on time. Excessive absences (more than 03) will result in “F Grade”. Students may prepare Sketchbook for taking notes and for references.

Instructor / Tutor

Approved by:

Chairman