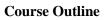
Institute of Zoology Faculty of Life Sciences University of the Punjab, Lahore





Programn	ne B	S Zoology	Course Code	ZOOL-103	Credit Hours	2		
Course Tit	tle Cell Bi	Cell Biology						
Course Introduction								
 This course introduces cell structure and the function of prokaryotes and eukaryotes. The objectives of the course are:- 1. To explain the basic concepts of cell biology. 2. To understand cellular structure, composition of the organelles, cell growth and cell division. 3. To explain how macromolecules and organelles govern the dynamic organization, function of living cells. 								
Learning Outcomes								
 On the completion of the course, the students will: ACQUIRE the basic concepts of cell biology. UNDERSTAND the metabolic structure and functional processes of cells in terms of cellular organelles, membranes, and biological molecules. ABILITY to understand the role of macromolecules regulating cellular processes. FORMULATE the critical thinking skills and knowledge on cell. 								
		Course Conter	nt		Assignments	/Readings		
Week 1	Unit-I:	Introduction to ce Cell theory	ell structure and fur	nction				
Week 2	Unit II • •		lant and animal cel rokaryotic and euka					
Week 3	Unit-III: • •	Cell membrane Structural models Chemical compo	s sition and function	"Т	udy the Experime he Origin of Euka ge 27			
Week 4	Unit-IV:	Cellular transport Diffusion and ost Facilitated and ac Endocytosis and	mosis ctive transport					
Week 5	Unit-V:	•	structure and funct	ion)				
Week 6	Unit-VI:	Golgi Bodies						
Week 7	Unit-VII: •	Mitochondria		Th Me	IE HUMAN PER the Role of Anaero tabolism in Exer	bic and Aerobic cise Page 394		
Week 8	Unit-VIII:	Lysosomes			IE HUMAN PER sorders Resulting	SPECTIVE: from Defects in		

		Lysosomal Function Page 508		
	Unit-IX:			
Week 9	Peroxisomes			
	Ribosome			
Week 10	Unit-X:			
	Nucleus			
	Structure and function			
Week 11	Nuclear membrane and Chromatin			
Week 12	Unit XI			
	Cytoskeleton			
	Microtubules			
	• Structure and types			
	Function of MT			
Week 13	Intermediate Filament			
	• Structure and types			
	• Function of IFs			
	Microfilaments Structure and types			
	Function of MT			
Week 14	Unit XII:			
	Cellular reproduction	THE HUMAN PERSPECTIVE:		
	Cell cycle	Meiotic Nondisjunction and Its Consequences 615		
Week 15	Mitosis and Stages			
Week 16	Meiosis and Stages			
	Textbooks and Reading Materia	1		
Textbooks.				
	rp G, Iwasa J, Marshall W. Karp's Cell Biology, Global Edit	ion. John Wiley & Sons; 2018.		
Suggested I	6			
	verts, B., Bray, D., Lewis, J., Raff, M., Roberts, K., Watson,	J. D. 2017. Molecular Biology of the		
	l. 6th Edition. Garland Publishing Inc., New York.			
3 Loo	lish H., Berk A., Kaiser C., Krieger M., Bretscher A., Ploegh	H Martin K Yaffe M Amon A		

- Lodish H., Berk A., Kaiser C., Krieger M., Bretscher A., Ploegh H., Martin K., Yaffe M., Amon A. 2021. Molecular Cell Biology. W. H. Freeman; 9th ed. edition (Jan. 27, 2021) 978-1319208523
- 4. Articles in Journal of Cell Biology ISSN: 0021-9525
- Bain B.J., Bates I., Laffan M.A. 2016. Dacie and Lewis Practical Haematology. 12th Edition. ISBN: 9780702069307. Elsevier

Teaching Learning Strategies

- 1. Use of Technology resources.
- 2. Use of Google Classroom management and Tools Resources
- 3. Provision of Handouts
- 4. Demonstration of the concepts using animations of cellular processes
- 5. Group activity of the students for problem solving skills

Assignments: Types and Number with Calendar

- 1. Assignment 1: Due by Midterm Examination
- 2. Lab Manual/Notebook: Due before the week of Final Term Examination

Assessment

As per University rules