## Institute of Zoology Faculty of Life Sciences University of the Punjab, Lahore Course Outline



Programn	BS Zoology	Course Code	ZOOL-304	<b>Credit Hours</b>	1		
Course Title Lab- Environmental Biology							
Course Introduction							
Environmental Biology explores a wide range of themes, including energy flow, natural resources, carbon trading, biogeochemical cycles, greenhouse gas emissions, water resource management, land degradation and rehabilitation, biodiversity, habitat destruction, deforestation, energy and mineral depletion, pollution, soil erosion, and groundwater contamination. This course provides foundational knowledge in environmental biology, helping students understand and recognize environmental challenges such as climate change, global warming, ozone laver depletion, and acid rain.							
Learning Outcomes							
<ol> <li>To acquire knowledge of natural systems which make life possible on Earth</li> <li>To gain an understanding that humans are part of these systems and depend on them</li> <li>To acquire an awareness of the need to manage natural systems</li> <li>To get an awareness of their own values concerning environmental issues</li> <li>To understand the relationship between human health and environmental health.</li> <li>Outline changes in economics, policy, and education that promote environmental sustainability.</li> <li>To understand the natural energy resources and their management.</li> </ol>							
Course Content				gnments/Reading	gs		
Week 1	Demonstration of Analysis of pol	luted and freshwat	an fan staniasta na	11			
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Week 2	Determination of dissolved oxyge	en in given water s	ample	ollutants			
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- 1. Henderson, P. A. (2003). Practical methods in ecology. John Wiley & Sons.
- 2. Clements, F. E. (1905). Research methods in ecology. University Publishing Company.
- 3. Weiner, J. (1995). On the practice of ecology. *Journal of Ecology*, 83(1), 153-158.
- 4. Southwood, T. R. E., & Henderson, P. A. (2009). *Ecological methods*. John Wiley & Sons.
- 5. Radojevic, M., & Bashkin, V. N. (1999). Practical environmental analysis. Royal society of chemistry.
- 2. Suggested Research Articles
  - 1. Boitani, L., & Fuller, T. K. (2000). *Research techniques in animal ecology: controversies and consequences*. Columbia University Press.
  - 2. Turner, A. M., & Trexler, J. C. (1997). Sampling aquatic invertebrates from marshes: evaluating the options. *Journal of the North American Benthological Society*, *16*(3), 694-709.

## **Teaching Learning Strategies**

Teaching will be a combination of class lectures, lab work, field visits, class discussions, and group work. Short videos/films will be shown on occasion.

## Assignments: Types and Number with Calendar

The sessional work will be a combination of written assignments, class quizzes, projects, presentation,]and class participation/attendance.

Assessment					
Sr. No.	Elements	Weightage	Details		
1.	Midterm Assessment	35%	Written Assessment at the mid-point of the semester.		
2.	Formative Assessment	25%	Continuous assessment includes: Classroom participation, assignments, presentations, viva voce, attitude and behavior, hands-on-activities, short tests, projects, practical, reflections, readings, quizzes etc.		
3.	Final Assessment	40%	Written Examination at the end of the semester. It is mostly in the form of a test, but owing to the nature of the course the teacher may assess their students based on term paper, research proposal development, field work and report writing etc.		