

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



Programme	BS Zoology	Course Code	ZOOL-313	Credit Hours	3
Course Title	Research Methodology				
Course Introduction					
The course aims to					
<ol style="list-style-type: none"> 1. To Provide understanding how to design scientific research, to collect data and its interpretation 2. To develop research skills for effective execution of scientific research 3. To emphasize the importance of ethics in scientific research 4. To enable students to write a research proposal/research thesis/research paper/ review paper 					
Learning Outcomes					
On the completion of the course, the students should be able to:					
<ol style="list-style-type: none"> 1. Understand a general concept of research and its process. 2. Know the primary characteristics of quantitative research and qualitative research. 3. Familiarize with ethical issues in educational research 4. Proceed about scientific writing including research paper, review paper 5. Design research proposal 					
Course Content				Assignments/Readings	
Week 1	Unit-I <i>1. Introduction:</i> 1.1 Objectives of Research, Motivations				
	Unit-II 2. Research Process: 2.1 Research methods vs. research methodology, scientific method 2.2 Types of research,				
	Unit-III <i>3 Research Design:</i> 3.1 Parts, important features, important concepts in research design				
Week 2	3.2 General steps involved in research 3.3 Problems of research in Pakistan				
Week 3	Unit-IV <i>4. Topic Selection:</i> Problem identification for research, criteria and evaluation Unit-V <i>5. Aims and objectives:</i> Research objectives, qualities of research objective				
Week 4	Unit-VI <i>6. Literature review:</i> <i>Importance and sources</i>				
Week 5	6.1 Referencing and citation and Bibliography				

Week 6	Plagiarism	
Week 7	Unit-VII 7. <i>Materials and methods:</i> Bioethics, sampling, data collection and data analysis, sampling requirements, scales of measurement, error of measurement and its sources	
Week 8	Unit-VIII 8. <i>Data Analysis:</i> Processing, statistics in research,	
Week 9	Unit-IX <i>Scientific Writing:</i> Thesis Writing	
Week 10	Research paper Writing	
Week 11		
Week 12	Review paper Writing	
Week 13		
Week 14	Synopsis /research proposal writing	
Week 15	Unit-X Funding sources e.g. USAID, HEC, DoST, HED, PMRC, WWF, PSF etc.	
Week 16		

Textbooks and Reading Material

1. Balnaves, M., 2001. *Introduction to Quantitative Research Methods*. Sage Publications
2. Burgess, R.G., 2005. *The Ethics of Educational Research*. The Falmer Press.
3. Cohen, L., Manion, L. & Morison, K. 2007. *Research Methods in Education*. Routledge
4. Creswell, J. W. 2013. *Research Design Quantitative Qualitative and Mixed Methods Approaches*. Sage.
5. Griffee, D.T., 2012. *An Introduction to Second Language Research Methods: Design and data*. TESL-EJ Publications.
6. Have, P. 2004. *Understanding Qualitative Research and Ethnomethodology*. Sage Publications.
7. Hess-Biber, S. N. and P. Leavy. (2004). *Approaches to Qualitative Research, A Reader on Theory and Practice*. New York, Oxford University Press.
8. Khan, J.A. (2008). *Research Methodology*. New Delhi: APH Publishing.
9. Kothari, C.R., & Gaurav, G. (2014). *Research Methodology: Methods and Techniques*. New Delhi: New Age International.
10. Kumar, R. (2011). *Research Methodology: A Step By Step Guide for Beginners*. Cornwall: SAGE Publications, Inc.
11. Laurel, B. (2003). *Design Research, Methods and Perspectives*. London England, The MIT Press.
12. Lodico, M. (2006). *Methods in Education Research: From theory to practice*. Jossey Bass
13. Nunan, D. (1992). *Research Methods in Language Learning*. Cambridge
14. Paltridge, B., 2007. *Theses and Dissertation Writing in Second Language*. Routledge.
15. Paul Leedy, 2004, *Practical Research: Planning and Design* (8th Edition), Jeanne Ellis Ormrod
16. Scott, D., 2005. *Key Ideas in Educational Research*. Continuum Intn'l Publishing Group
17. Tavakoli, H., 2012. *A Dictionary of Research Methodology and Statistics in Applied Linguistics*. Rahnama Press
18. Walliman, N. (2005). *Your Research Project, 2nd Edition, A step by step guide for the first-time researcher*. New Delhi, Vistaar Publications

Teaching Learning Strategies

Teaching will be a combination of class lectures, 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, 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.