

Semester	6		
Course code	ZOOL 42542		
Course Name:	Research Methodology and Scientific Writing		
Credit Value:	2		
Core/Optional	Core		
Pre requisites	ZOOL 41512		
Co-requisites	None		
Hourly Breakdown	Theory	Practical	Independent Learning
	22	08	70
Course Aim/Intended Learning Outcomes:			
After the completion of the course unit, the student will be able to;			
<ul style="list-style-type: none"> ➤ describe the sequential steps in the research process, ➤ explain a range of research methodologies used in scientific investigations and discuss the applicability of these methodologies in biological research, ➤ demonstrate competencies in using different sampling strategies in biological investigations, ➤ explain the procedure of developing a research proposal for solving an identified research problem, ➤ identify the stipulated requirements for scientific writing of a dissertation, research papers, abstracts/extended abstracts for research conferences, ➤ quote references appropriately in the scientific documents based on stipulated requirements, ➤ identify ethical issues in the context of research. 			
Course Content:			
Nature of scientific research: Inductive and deductive reasoning; scientific method; Sequential steps in the research process, Locating scientific literature using electronic search engines, Reviewing scientific literature, Formulating a research problem and postulating hypotheses; Conceptualizing a research design and data collection methods; Introduction to populations, samples, sampling units; Sampling techniques; simple random sampling, stratified sampling, systematic sampling and cluster sampling, determination of sampling size, Research designs based on number of contacts, reference period, and nature of investigation; Research methods in pure and applied sciences, descriptions, comparative studies, experiments modeling, surveys, case studies, meta-analysis; Experimental design; Complete Randomized Design and Randomized Block Design, Latin Square design.			
Compiling a research proposal for solving the identified research problem, Scientific writing for dissemination of research findings: Academic writing, Formatting and Referencing requirements. Effective presentation methods; Guidelines for writing a dissertation, Guidelines for writing a research paper, guidelines for preparation of abstracts and extended abstracts for presentations at research conferences/symposia.			
Research ethics: Role and responsibilities of being a researcher, honesty and integrity; Ethical concerns related to the research process, Ethics of publication of research findings.			
Teaching /Learning Methods: A combination of lectures, computer based learning, assignments, self-studies, presentations and discussions			
Assessment Strategy: Continuous assessment and end of course examination.			
Continuous Assessment 30%		Final Assessment 70%	
Details: In-class assignments 30%		Theory (%) 70%	Practical (%) NA
		Other (%) (specify) NA	
Recommended reading:			
<ol style="list-style-type: none"> 1. Creswell, J. W. (2009). Research Design. Sage Publications Inc. California. 2. Hofmann, A. H. (2009). Scientific writing and communication: Papers, proposals and presentations, Oxford University Press. 3. Kumar, R. (2005). Research Methodology, Pearson Education, Australia. 			