

Name of the Programme: M. Sc. Zoology

Course Code: ZOO-616

Title of the Course: Ethics in Experiments with Laboratory Animals

Number of Credits: 02

Effective from AY: 2023-24

Pre-requisites for the Course:	Basic understanding of Zoology	
Course Objectives:	<ol style="list-style-type: none">1. To provide hands-on training on organelle separation using centrifugation method.2. To determine viable cell count and toxicity assay for isolated cells.3. To demonstrate the histological and cytological techniques.	
Content:	Module 1 Historical overview, Classification of animal research: Basic research, Applied research, Toxicology testing, Xenotransplantation.	03 hours
	Concept of experimental model animal, Types of model animals, Handling of animals for experiments.	05hours
	Introduction to Committee for the Purpose of Control and Supervision of Experiments on Animals (CCSEA), its objectives and functions. Three R's in animal testing, regulatory guidelines on prevention of cruelty to animals, Need for animal testing, Alternatives to animal testing.	07hours
	Module 2 Constitution of CCSEA and IAEC, Standard Operating Procedures (SOP) for CCSEA/ IAEC, Concepts of Biosafety	07 hours
	Guidelines for Anesthesia for laboratory animals Euthanasia of laboratory animals. Website information of CCSEA.	03 hours
	Application for animal ethical clearance and maintenance of records: Form A, B, C, D, and E.	05 hours
Pedagogy:	Lectures, Discussion, Video lectures, Group activities, Demonstrations	
References/ Readings:	<ol style="list-style-type: none">1. CPCSEA, Committee for the purpose of control and supervision of experiments on animals, [online document], 2015. Available: CPCSEA Online, https://cpcsea.nic.in/Auth/index.aspx [accessed: January 5, 2023].2. S. Wolfensohn and M. Lloyd, Handbook of Laboratory Animal	

	<p>Management and Welfare. John Wiley & Sons, 2013.</p> <ol style="list-style-type: none"> 3. K. Kaushik and R. Vaswani, Research on animals and current UGC guidelines on animal dissection and experimentation: A critical analysis. Bioethics Update, 4(2), 119–139, 2018. 4. R. Hubrecht, The welfare of animals used in research: practice and ethics. John Wiley & Sons Inc, 2014. 5. H. Röcklinsberg, M. Gjerris and A. Olsson, Animal ethics in animal research. Cambridge University Press, 2017. 6. J. Hau and S. J. Schapiro, Handbook of Laboratory Animal Science, Volume I : Essential Principles and Practices. CRC Press, 2010. 7. J. Hau and S. J. Schapiro, Handbook of laboratory animal science. Vol. II. Crc Press, 2011. 8. J. Hau and S. J. Schapiro. Handbook of laboratory animal science. Volume III, Animal models. CRC Press, 2014.
Course Outcomes:	<p>The learner will</p> <ol style="list-style-type: none"> 1. Draft animal experimentation procedures. 2. Proficiently adopt CCSEA protocols and SOPs. 3. Trained to draft Form A, B, C, D and E of CCSEA. 4. Present and defend research proposal for clearance from IAEC.