



# THE MODULE HANDBOOK

Magister Biology Study Program

FACULTY OF BIOLOGY

## ANIMAL MODELS AND BIOETHICS

<b>Course code</b>	BIMB202124
<b>Course level</b>	Magister
<b>Semester/ term</b>	Even
<b>Course coordinator(s)</b>	Dr.biol.hom. Nastiti Wijayanti, S.Si., M.Si
<b>Lecture(s)</b>	1. Dr. biol.hom. Nastiti Wijayanti, S.Si., M.Si 2. Dr. Slamet Widiyanto, S.Si., M.Sc 3. Dr. Bambang Retnoaji, S.Si., M.Sc
<b>Language</b>	Indonesia
<b>Classification within the Curriculum</b>	Elected Course
<b>Teaching format/ class hours per week during the semester</b>	This course is planned to have 14 teaching weeks and 2 weeks of examination.
<b>Workload</b>	Estimated working hour: 2 credits of theory and 1 credit of laboratory work.
<b>Credits</b>	2-1 credits
<b>Requirements</b>	(-)
<b>Program Learning Outcome</b>	K2: The graduates are demonstrating excellent knowledge in appropriate biological research methods.  GS4: The graduates are able to manage research data in order to ensure validity, strictly hold the academic integrity, and prevent themselves from plagiarism practices.  SK2: The graduates are able to solve problems related to biological resources through an inter- and / or multidisciplinary approaches beneficial to society and scientific community.
<b>Course Learning Outcome</b>	CLO1: Students develop competence in understanding the ethics of performing research involving animal.  CLO2: Students develop competence in the basic concepts of animal model and how to handle animal models in research.  CLO3: Students develop competence in design experiment involving animal models and analyzed the results.
<b>Course Description</b>	The subject discusses the basic concepts of animal model, how to prepare ethical requirements for research involving



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	animals, and Good Laboratory Practice (GLP). Animal handling, euthanation, administration routes of drug and sampling will be studied. Toxicity testing which is the basis for the safety of using a drug/ substance in a biomedical study was studied in several types of animals, invertebrates, zebrafish, rat and mice, in addition to determining the type of tested animals. as animal models suitable for studying disease patterns, drug / vaccine applications, and studying the potential of natural materials as candidates for new medicinal substances. After preparing the animal model, it is continued by studying the accompanying parameters, morphology-anatomy-histology-cellular and molecular.
<b>Assesments</b>	Assignment/Quiz, Midterm exam, Final Exam, Laboratory activity
<b>Study Media</b>	Textbook, journal, PPT
<b>Literature</b>	<ol style="list-style-type: none"><li>1. Guide for the Care and Use of Laboratory Animals (8th edition), Committee for the Update of the Guide for the Care and Use of Laboratory Animals, Institute for Laboratory Animal Research, Division on Earth and Life Studies, National Research Council of the National Academies, 2011.</li><li>2. Pedoman Penggunaan Tikus sebagai Hewan Uji Laboratorium, Lesmana dkk, EGC, Tahun 2017.</li><li>3. OECD guideline</li></ol>