

## Module Handbook

Modul Name	Management of Experimental Animals
Modul Level	6 (Bachelor)
Abbreviation, if applicable	MNH- 401
Sub-heading, if applicable	-
Courses included in the module, if applicable	-
Semester/term	6/3
Module coordinator(s)	Hardany Primarizky, Drh., MVM.
Lecturer(s)	1. Hardany Primarizky, Drh., MVM. 2. Prof. Dr. I Komang Wiarsa Sardjana, Drh. 3. Dr. Nusdianto Triakoso, Drh., MP.
Language	Bahasa Indonesia and English
Classification within the curriculum	<del>Compulsory</del> /elective course
Teaching format/class hours per week during the semester	2 class hour lecture (2 x 170 minutes lecture) x 14 weeks
Workload per semester	340 minutes lecture is divided into 100 minutes face to face interaction, 100 minutes structured activities and 140 minutes independent study
Credit points	2 (~3.02 ECTS)
Requirements	Veterinary anatomy; Veterinary physiology; Clinical diagnostic
Learning goals/competencies	Students understand various types of experimental animals, ethics and animal welfare, how to maintain, various diseases and handling the selection of experimental animals, procedures, experimental techniques and application of biosafety to experimental animals
Content	This lecture discusses the meaning and important role of experimental animals in research, development and application of science and technology, which includes various kinds or types of experimental animals that can be used for research purposes or to be cultivated or cultivated, understanding and applying animal welfare on experimental animals, how to maintain experimental animals, diseases and their handling in experimental animals, selection of experimental animals for medical research, experimentation techniques, and understanding and application of biosafety in

	experimental animals.
Softskills attribute	Communication, discipline, learning orientation, ethics
Study/exam achievements	Final exams (33.3%), midterm exam (22.2%), assignment (16.7%) and quizzes (16.7%), soft skill (11.1%).
Forms of media	Computer, computer projector, white board, AULA (Airlangga University e-Learning Application)
Literatures	<ol style="list-style-type: none"> <li>1. Diah Kusumawati, 2004. Bersahabat Dengan Hewan Coba. Gadjah Mada University Press. Yogyakarta.</li> <li>2. Committee on Recognition and Alleviation of Pain in Laboratory Animals. 2009. Recognition and Alleviation of Pain in Laboratory Animals. National Research Council. The National Academies Press. Washington, D.C.</li> <li>3. Hau, J. and Van Hoosier, Jr. G. L. 2005. Handbook of Laboratory Animal Science, Second Edition: Animal Models, Volume III. CRC Press. USA.</li> <li>4. Houdebine, L.M., Fan J. 2009. Rabbit Biotechnology: Rabbit Genomics, Transgenesis, Cloning and Models. Springer. New York</li> <li>5. Lumley, J.S.P., J.Green., P. Lear and J.E. James. 1990. Essentials of Experimental Surgery. Butterworth and Co.</li> <li>6. Poindron, P. Piguët, P. 2008. New Animal Models of Human Neurological Diseases. Volume II. Karger, Switzerland.</li> <li>7. Sarjana K.W., Diah Kusumawati. 2004. Anestesi Veteriner. Gadjah Mada University Press. Yogyakarta.</li> <li>8. Sardjana K.W., Diah Kusumawati. 2011. Bedah Veteriner. Airlangga University Press. Surabaya.</li> <li>9. Tuffery, A.A. 1995. Laboratory Animals. An Introduction for Experimenters. John Wiley and Sons, London.</li> <li>10. Waynforth H.B., P.A. Flecknell. 1992. Experimental and Surgical Technique in the Rat. Academic Press London.</li> </ol>
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