DEPARTMENT OF CLINICAL PATHOLOGY
RPKPS / Module for ASIIN: ANIMAL SCIENCE LABORATORY

Module name	ANIMAL SCIENCE LABORATORY
Study program	Veterinary Studies Program Diploma
Abbreviation / code	KHU - 3112
Sub - heading, if applicable:	-
Course material included in the module, if applicable:	Students should be able to understand the biological properties of various laboratory animals and the role of laboratory animals for scientific development; able to practice management, breeding, feeding, and preparation of laboratory animal facilities; able to recognize various diseases that frequently affects laboratory animals and their prevention; able to select laboratory animals suitable for researches; able to do handling, sampling, treatment and euthanasia with humane methods of killing
Semester / period	Semester VI
coordinator:	1. drh. Christin Marganingsih Santosa., M.Si.
teacher:	2. Prof.emer. drh. Soesanto Mangkoewidjojo, M.Sc., Ph.D. 3. Prof. drh. Bambang Hariono, Ph.D. 4. Prof. Dr. drh. Siti Isrina Oktavia Salasia 5. drh. Christin Marganingsih Santosa., M.Si. 6. drh. Imron Rosyadi, M.Sc. 7. drh. Dinar Arifianto, M.Sc.
Language of instruction:	Bahasa Indonesia
Classification of subjects in the curriculum	compulsory
Format-face format / Number of hours a week for 1 semester:	1 hour to-face every week for 14 hours 2 hours of laboratory experiments 8 hours FGD for 4 weeks
Workload:	Lecture: - 1 hour face-to-face x 1 credits x 8 weeks / meeting = 8 hours - FGD: 2 hours face to face x 4 weeks / meeting = 8 hours Practicum: 3 hours of face to face x 1 credits x 8 weeks / meetings = 24 hours Total lectures and lab = 8 hours + 8 hours + 24 hours = 40 hours ECTS: 50 hours / 28.8 hours = 1.74 ECTS
Total credits	2 SKS (1/1) or 1.74 ECTS
Precondition :	- Veterinary Physiology I (KHU -1041)

	- Veterinary Clinical Nutrition (KHU- 2052)
Learning objectives / competencies:	1. Students are able to understand the biological properties of various laboratory animals for the advancement of science. 2. Students are able to manage, breed, feeding and facilities maintenance. 3. Students are able to recognize the type of disease that often affects laboratory animals and prevention efforts. 4. Students choose a suitable laboratory animals for research. 5. Students handle, taking samples, treated and killed humanely. 6. Having appreciation of the maintenance standard laboratory animals and animals walfare application.
Assessment studies / achievement	Final exam (Quiz and Written Exam) : 60% Focus group discussion (Attitude, Skill, Knowledge, Written Report): 15% Laboratory practical (Pre test, Post test, Practical Written Exam) : 25% Total : 100% Score index A : 100>NA$\geq$ 75 AB: 75>NA$\geq$ 68 B : 68>NA$\geq$ 60 BC: 60>NA$\geq$ 55 C : 55>NA$\geq$ 50 D : 50>NA$\geq$ 45 E : NA<45
	1. Fox, J, G *et al*. 1984. Laboratory Animals Medicines. Academic press Inc. new York. 2. Trevor, P. 1987. The UFAW Handbook on the care and management of laboratory animals. Longman Scientific And Technical. Great Britain. 3. Sirois, M. 2005. Laboratory Animal Medicine: Principles and Procedures. Mosby, Inc. St. Louis, Missouri. 4. Smith, J.B. dan Mangkoewidjojo, S. 1987. The Care, Breeding, and Management of Experimental Animals for Research in The Tropics. IDP. Canberra- Australia.
Notes	

Assessment rubric

	not Acceptable 0-25	Below Acceptable 26-45	Meet Acceptable 46-70	Exceed Acceptable 71-100
1	Students are not able to understand the biological properties of various laboratory animals for the advancement of science.	Students are less able to understand the biological properties of various laboratory animals for the advancement of science.	Students are able to understand the biological properties of various laboratory animals for the advancement of science.	Students are able to understand the biological properties of various laboratory animals for scientific progress and provide analysis.
2	Students are not able to manage, breed, feeding and facilities maintenance.	Students are less able to manage, breed, feeding and facilities maintenance.	Students are able to manage, breed, feeding and facilities maintenance.	Students are able to manage, breed, feeding and facilities maintenance as well as provide advice and analysis.
3	Students are not able to recognize the type of disease that often affects laboratory animals and prevention efforts.	Students are less able to identify the type of disease that often affects laboratory animals and prevention efforts.	Students are able to recognize the type of disease that often affects laboratory animals and prevention efforts.	Students are able to recognize the type of disease that often affects laboratory animals and prevention efforts and translate it with a good analysis.
4	Students are not able to choose a suitable laboratory animals for research.	Students are less able to choose a suitable laboratory animals for research.	Students are able to choose a suitable laboratory animals for research.	Students are able to choose a suitable laboratory animals for research and analysis.
5	Students are not able to handle, take samples, treated and killed humanely.	Students are less able to handle, take samples, treated and killed humanely.	Students are able to handle, take samples, treated and killed humanely.	Students are able to handle, take samples, treated and killed humanely and provide a new method developed at this time.
6	Do not have the understanding of a standard laboratory animal care and adoption of animals walfare.	lack of appreciation of the maintenance standard laboratory animals and animals walfare appication.	Having appreciation of the maintenance standard laboratory animals and animals walfare application.	Very own appreciation of laboratory animal care standards and adoption of animals welfare and analysis developed at this time.

Examination on Laboratory Animal Science Course-ASIIN Based

No.	Question	SO	LO	points
1	Indonesia as a tropical country has its own challenges in conducting studies using laboratory animals, especially rats Wistar. Wistar rats Explain biological properties that should be applied when conducting research in Indonesia in order to obtain relevant results!	4	1	25
2	Describe method and Whitten Bruce Effect Effect as well as the advantages and disadvantages of each method?	7	2	10
3	Rabbits as laboratory animals have disease problems that often arise, namely coccidiosis. Explain coccidiosis in rabbit from etiology to handle!	7	3	10
4	Rabbits have several advantages in research. Call and explain the reasons for the use of rabbits that are used as animal laboraorium in research!	4	4	20
5	The sampling technique is the main thing in the retrieval of data in laboratory animals. Explain the blood sampling technique on carp and a maximal dose of blood that can be taken!	7	5	10
6	Dove when used as research animals must meet the criteria 3R and 5F. Call and describe what you know about the 3Rs and 5F!	12	6	25