FACULTY OF ANIMAL AND AGRICULTURAL SCIENCE

VETERANITY UNDERGRADUATE PROGRAM

Module Handbook

Module designation	**Ruminant Ration**
Semester(s) in which the module is taught	4th Semester
Person responsible for the module	Dr. Ir. Eko Pangestu, M.P.; Prof. Dr. Ir. Sunarso, M.S.; Agung Subrata, S.Pt., M.P.
Language	Indonesian, English
Relation to curriculum	Compulsory mordule for Animal Science Program
Teaching methods	Lecture, small goup discussion, discovery learning
Workload (incl. contact hours, self-study hours)	✓ 340 minutes Lecture per week (class 100 minutes; Assignment 120 minutes; 120 minutes self study) ✓ 170 minutes Laboratory session ✓ 100 minutes Mid Term Exam in the eighth and Final Exam in the sixteenth week
Credit points	3 (lecture 2 and laboratory session 1)
Required and recommended prerequisites for joining the module	Animal Physiology, Animal Nutrition, and Feedstuff and Ration Formulation
Module objectives/intended learning outcomes	✓ Internalizing academic value, norm and ethic ;Showing attitude of being responsible of the duties in the expertise area independently ;Internalizing the spirit of independence, fight, and entrepreneurship ✓ Able to take the right decision in the context of solving the problems in the area of expertise, based on the information, fact and data analysis ✓ Able to simulate the process of digestion, absorption and metabolism of nutrients in various types of ruminant and preparing rations for optimal, efficient, and economical production ✓ Mastering the concept of animal physiology
Content	Course elaborates the understanding of nutrition science, international classification of feed ingredients, analyzes and calculates nutrient content, energy, starch equivalent of feed ingredients based on Wendee's proximate analysis; process of digestion, absorption and metabolism of nutrients in various types of livestock (ruminants, non-ruminants, poultry, pseudo ruminants), nutrients requirement classification and utilization of nutrients in livestock according to their physiological statuses
Examination forms	Paper assignment; Self-study; Midterm exam; Final exam
Study and examination requirements	✓ 75 % presence in the learning process ✓ 25 % midterm examination ✓ 25 % final examination ✓ 50 % (lab works; assignment;presentation)

Reading list	1. AOAC. 1970. Official Methods of Analysis of The Association of Official Agricultural Chemist. AOAC, Washington, D.C. 2. Church, D.C. and W.G. Pond, 1999. Basic Animal Nutrition and Feeding. Oxford Press, Portland. 3. Crampton, E.W. and L.E. Harris. 1969. Applied Animal Nutrition. 2nd Ed. W.H. Freeman and Co., San Fransisco. 4. Cullison, A.E. and R.S. Lowrey. 1987. Feeds and Feeding. Prentice Hall of Indian Private Ltd., New Delhi. 5. Hartadi, H., S. Reksohadiprodjo, dan A.D. Tilman, 2005. Tabel Komposisi Pakan untuk Indonesia. Cetakan Ke-5. Gadjah Mada University Press, Yogyakarta. 6. Hill, K.J. 1983. Physiology of the digestive tract. In: B.M. Freeman (Ed).Physiology and Biochemistry of Domestic Fowl. Academic Press, London. Vol 4:31 – 50. 7. Sutardi, T. 1990. Landasan Ilmu Nutrisi. Departemen Ilmu Makanan ternak. Fakultas Peternakan Institut Pertanian Bogor, Bogor (Tidak diterbitkan). 8. Tilmann, A.D., H. Hartadi. S. Reksohadiprodjo, S. Prawirokusumo dan S. Lebdosoekojo. 1998. Ilmu Makanan Ternak Dasar. Gadjah Mada University Press, Yogyakarta. 9. Wahyu, J. 1997. Ilmu Nutrisi Unggas. Cetakan Ke-4. Gadjah Mada University Press, Yogyakarta.