FACULTY OF AGRICULTURE

DEPARTMENT OF ANIMAL SCIENCE

UNDERGRADUATE PROGRAM **MODULE HANDBOOK**

Module designation	Feedstuffs Science
Semester(s) in which the module is taught	6th Semester
Person responsible for the module	Dr. Ir. Sitti Wajizah, M.Si
Language	English, Indonesia
Relation to curriculum	Compulsory module
Teaching methods	Contextual instruction, discovery learning
Workload (incl. contact hours, self-study hours)	✓ 100 minutes lecture and discussion per week ✓ 120 minutes structured tasks per week ✓ 120 minutes learn to be independent per week[DR1]
Credit Point	2 SKS = 3,2 ECTS
Required and recommended prerequisites for joining the module	Animal Nutrition (PTK205) Animal Physiology and Anatomy (PTK104)
Module objectives/ intended learning outcomes	● Students understand the principles and working procedures of proximate analysis for determining both organic and inorganic parts of feed, and master how to determine dry matter, crude protein, crude fiber, crude fat and ash using proximate analysis. Able to differentiate the role of forage as the main feed for ruminants and concentrate as the main feed for poultry related to the function of their digestive organs, and explains various processing and preservation technologies as well as assessing the quality of feed ingredients ● Students are able to describe the NDF, ADF, cellulose, hemicellulose, lignin and silica fractions contained in feed ingredients and master how to determine them using Van Soest analysis. Able to describe conventional and international feed classifications, detailing the characteristics and nutritional content of each feed ingredient. along with examples ● Students are able to analyze the types of agricultural/plantation plant residues that can be used as a source of fiber feed, obstacles in their use and how to overcome them through various types of feed technology, Can explain various types of agricultural/plantation industry by-products that can be used as alternative feed along with technology processing to improve nutritional quality ● Students are able to apply detailed characteristics of the nutritional content of ingredients, utilization constraints and processing technology.
Content	This course teaches the basic knowledge of feed ingredients, including the concepts, theories, and principles of feed processing. It covers the improvement of the nutritional value of feed derived from by-products and their utilization as fiber sources for livestock, as well as the study of feed analysis methods

	through physical, chemical, and biological approaches.
Examination and Assessement Formats	Disciplined, able to work together in a team and be active in class discussion
Study and examination requirment	Theory, in the form of: Exams (UTS and UAS), Quizzes, assignments, attitude, attendance Practice, in the form of: activeness and practical exams (field work) Attitude, in the form of discipline, manners, responsibility, which is converted to the Good category (80 – 100), Fair (60 – 79), Poor (>60) Weighted Value Mastery of knowledge (theory) • Exam (60%) • Quiz Assignment (20%) • Attitude (20%) • Attendance (5%) Weighted Value of Specific Skills (practice) • Activities/Practicum/MBKM (20%) • Reports (20%) • Exams (30%) • Attitude (20%) • Attendance (10%)
Reading List	Utomo, R. 2022. Bahan Pakan Berserat Untuk Sapi. PT. Citra Aji Parama, Yogyakarta. Hossain ME, Kabir MA, Zheng L, Swain DL, McGrath S, Medway J. 2024. Near-infrared spectroscopy for analysing livestock diet quality: A systematic review. *Heliyon*. 10(22):e40016. Latimer GW Jr (ed.). 2023. *Official Methods of Analysis of AOAC INTERNATIONAL*. 22nd ed. Oxford University Press (for AOAC INTERNATIONAL). Online ISBN: 978-0-19-761014-5. Afduha Nurus Syamsi, Hermawan Setyo Widodo, Dewi Puspita Candrasari, Arya Dwiki Ramdhan. 2024. *Eksplorasi profil nutrien berbagai bahan pakan lokal untuk ruminansia*. Semnas LPPM Universitas Jenderal Soedirman.