

Subject	Introduction to Applied Animal and Dairy Science (応用動物・酪農科学概論)	Day/Period	1 st quarter Fri./3 rd ~4 th	Object	AMB/JYPE
Instructor (Post)	Kan Sato et al.	Categories	Specialized Subjects	Preferable Participants	3rd&4th-year students
Position	Faculty of Agriculture (Graduate School of Agricultural Science)	Credits	2		
		Semester	7 and 9		
Subject Numbering	ABS-ANS360E	Language Used in Course	English		
1. Class subject Introduction to Applied Animal and Dairy Science					
2. Object and summary of class: This class object is to study the basic concepts of applied animal and dairy science. More than ten Professors and Associate Professors will give the lectures weekly to introduce their specific research fields.					
3. Keywords Animal science, Dairy science					
4. Goal of study The goal of this class is to obtain the background knowledge about animal and dairy science including comparative physiology, anatomy, nutrition, genetics, reproduction, animal product, immunology, microbiology, environment biology, and animal behavior.					
5. Contents and progress schedule of class: 1) Overview of Animal Reproduction (Prof. Kentaro Tanemura, Assoc. Prof. Kenshiro Hara) Major interest is to elucidate the physiological mechanism controlling reproduction and development in mammals and to develop biotechnology in reproduction of domestic, laboratory and endangered animals. 2) Overview of Animal Nutrition (Prof. Kan Sato, Assoc. Prof. Motoi Kikusato) Introduction to metabolism of protein, fat and carbohydrate in farm animals. In addition, we introduce molecular and mitochondrial nutrition to improve animal products in dairy cows and chickens. 3) Overview of Animal Breeding and Genetics (Prof. Masahiro Sato, Assoc. Prof. Yoshinobu Uemoto) For the genetic improvement of economically important traits in livestock population, the concepts of animal breeding theory with quantitative genetics and genomic information are studied. 4) Overview of Animal Physiology (Prof. Sanggun Roh) Our research area offers the new information about the basic principles of animal physiology and their applications, in order to investigate the molecular mechanism of the endocrine and metabolic systems in the ruminant. 5) Overview of Animal Cell Biology (Prof. Tomonori Nochi) Our research is focused on mutual relationship of the structures and functions of cells and tissues during myogenesis, development and growth of farm animals to utilize animal production. 6) Overview of Animal Microbiology (Prof. Hiroshi Yoneyama) Life of all organisms depends on microorganisms, especially bacteria. Our laboratory is interested in bacterial genetic engineering, bacterial flora and zoonotic diseases. Our goal of research and education is the production of healthy animals including human. 7) Overview of Animal Food Science (Prof. Haruki Kitazawa) Basic and application studies on probiotic/immunobiotic lactic acid bacteria to produce physiologically functional foods and feeds will be introduced, and their future prospects will also be discussed. 8) Overview of Grazing Management (Prof. Shin-ichiro Ogura, Assoc. Prof. Michiru Fukasawa) Grazing systems have various functions on animal production and ecological conservation. We introduce the outline of herbivore grazing and refer to its effects on animal welfare and bio-diversity. 9) Overview of Animal Health and Management (Prof. Kentaro Kato, Assoc. Prof. Chika Tada) Zoonotic microorganisms and pathogenic microorganisms in the environment of the animal production as well as functional microorganisms in animal waste treatment systems are studied.					
6. Preparation NO need					
7. Record end evaluation method Attendance to the lectures 50%, reports 50%					
8. Textbook and references We will introduce in each category of class.					
9. Self study					
10. Practical business					
11. In addition					