

## COURSE SYLLABUS (Code: CN02701) EXPERIMENTAL DESIGN

### 1. General information

Course: Experimental design (CN02701)

Credits: 2 (Lecture: 1.5 – Practice: 0.5 – Self-study: 6.0)

Training program: Animal Science (Option 1: Animal production & Health, Option 2: Animal nutrition & Feed technology)

### 2. Expected learning outcomes (ELOs)

Notation	Course expected learning outcomes After successfully completing this course, students are able to	Program expected learning outcomes
<b>Knowledge</b>		
K1	Apply biostatistics to identify the effect of factors on different traits in animal research	ELO1: <b>Apply</b> the general knowledge of natural and social sciences and the understanding of contemporary issues to the field of livestock production
<b>Skills</b>		
K2	Apply biostatistics methods to assess the results of data analysis from experiments	ELO 5: <b>Apply</b> effectively creative and critical thinking, and problem-solved skills to scientific research and professional practice
K3	Select appropriate methods to present the research results	ELO 7: <b>Communicate</b> effectively using multimedia, adapt well in multi-cultural environment; meet the required standards of English proficiency issued by Ministry of Education and Training
K4	Propose appropriate solutions for livestock production from research results	ELO 8: <b>Use</b> effectively the skills of surveying, collecting and processing data to serve scientific research, technology development and management of livestock production
K5	Perform the correct biostatistical procedures to analyze data in the animal research	ELO 9: <b>Apply</b> appropriate techniques, technologies and systems in sustainable livestock production
K6	Use proficiently of statistical software for data analysis in the animal research	ELO 10: <b>Utilize</b> information technology and modern equipment in livestock industry to serve production and business to achieve objectives
<b>Ethics and attitudes</b>		
K7	Respect animal welfare to design and implement the experiments	ELO 12: <b>Comply</b> with state law and specific regulations and professional ethics

### 3. Brief descriptions

Chapter 1: Descriptive statistics

Chapter 2: Estimating and testing hypotheses

Chapter 3: Concepts of experimental design

Chapter 4: One-factor experiments

Chapter 5: Two-factor experiment

Chapter 6: Correlation and linear regression

Chapter 7: Correspondence table

#### **4. Learning methods**

- Students read the textbooks and references by themselves,
- Participate in-class discussion
- Find references, discuss
- Practice
- E-learning: Find and lookup references; do homework

#### **5. Assessment methods**

- Grading scale: 10
- Average point: is the sum of the rubric scores multiplied by the weight of each rubric
  - + Class participation: 10%
  - + Mid-term test: 30%
  - + Final examination: 60%

#### **6. Student tasks**

- Attendance: Students must attend at least 75% of the class and participate in class activities (discussion in class and on e-learning system, etc.)
- Practice: Students must attend all practice content
- Complete the mid-term test and the final examination.

#### **7. Key academic staffs**

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Communicate with key academic staff: via email, phone, and e-learning system.