

Course: Statistics in Social and Business

1. **Type** : Specialization's Compulsory
2. **Code** : PTE 6301
3. **Credit** : 2/0
4. **Semester** : Odd
5. **Description** :

This course encompasses 2 (two) statistics branches: descriptive branch and inferential branch. Data collecting, summarizing and interpreting through numerical and graphical technic is part of descriptive statistics. Inferential statistics includes choosing and applying the statistics technique precisely for guessing or testing the population based on sample. The topics discussed includes the descriptive statistics, correlation, and simple regression, probability, point estimation and interval, hypothesis statistics, multiple regression, and time series analysis. Students are expected to find out and comprehend how to use parametric and non-parametric descriptive and develop several comprehension on the inference statistics limitation and analysis data and statistics ethic.

6. Course Outcomes (CO)

- CO 1 : Able to comprehend the type of data, presenting and describing data technique
- CO 2 : Able to comprehend the probability basic concept, central limit theorem, estimation, and confidence intervals
- CO 3 : Able to comprehend various descriptive analysis and inferential analysis both parametrically or non parametrically as analysis tool for supporting decision in context of social economy science especially in animal science.

7. The Alignment Between CO and ELO

CO*	ELO**																
	A				B			C				D					
	1	2	3	4	1	2	3	1	2	3	4	1	2	3	4	5	6
CO 1											✓	✓	✓			✓	
CO 2												✓					
CO 3							✓		✓		✓			✓	✓		✓

*CO refers to point 6.

**Expected Learning Outcomes (ELO) are written below,

A. Attitudes and Behaviors	
The graduates are able to behave well, correctly, and culturally as the result of internalization and actualization of values and norms, which is reflected in a spiritual and social life through learning process, experience, research, and/or community development in the animal husbandry.	
1	Piety to God and be able to show religious attitude and maintain the humanity values in carrying the task, which is based on religion, moral, and ethics.
2	Be proud and love the homeland show nationalism, and contribute to the improvement of the life quality in the community, nation and country, and the advancement of civilization according to Pancasila.
3	Showing the social sensitivity and attention to the community and environment by respecting the culture diversity, view, religious, beliefs, and other people's opinion, and also obey the rules.

4	Be accountable in carrying the professional practice that includes ability to accept accountability towards decision and professional action. It shall be according to the scope of the practice under their responsibility and laws.
B. Mastery in Sciences	
Master the theory of the current science in the animal husbandry and its application.	
1	Able to master the current animal science and its application theory.
2	Able to master the livestock production science, animal nutrition and fed science, animal products technology, and the livestock social economics in relation to food security and environment.
3	Able to master the design, management, and development of livestock research.
C. Special Skills	
The graduates are able to develop science, technology, and arts in the animal husbandry through interdisciplinary/multidisciplinary innovative and tested research.	
1	Able to make innovation in the animal husbandry based on the development of science and technology.
2	Able to design interdisciplinary and multidisciplinary research in the animal husbandry.
3	Able to formulate and solve problems in the national development especially in terms of animal husbandry.
4	Able to solve problems and anticipate issues in the development of animal science and industry.
D. General Skills	
The graduates are able to manage resources by utilizing science, technology, and arts to solve problems in the animal husbandry with current science and also conduct research with accountability and full responsibility.	
1	Able to develop logical, critical, systematic, and creative thought through scientific research, creation of design in the science and technology, which pays attention and applies humanity values according to their expertise. The graduates are able to arrange scientific concept and the study result based on the principles, procedures, and scientific ethics.
2	Able to identify the science that becomes their research object and position it to a research map by using information technology in the context of science development and expertise implementation developed through interdisciplinary or multidisciplinary approaches.
3	Able to make a decision in the context of solving problems in the development of science and technology, which pays attention and applies humanity values based on analysis study or experiment towards information and data.
4	Able to communicate the result of reasoning and scientific research in form of thesis and scientific writing responsibly based on academic ethics in the accredited national journal.
5	Able to maintain the academic integrity generally and avoid the plagiarism practice.
6	Able to communicate spoken and written English effectively by using the information technology for the development of animal science and its implementation.

8. Course Content

Week	CO	Topic/Subtopic	Learning Activity	Assessment Tools	Allocated Time	Lecturer
1	CO 1	Introduction: - Learning contract - Review on the statistical concept	Classical lecture; discussion	Practice and assignment	2 x 50 minutes	Mujtahidah Anggriani U.M., Ph.D.

2	CO 1; CO 2	Descriptive statistics: Techniques on data description Descriptive analysis	Classical lecture; discussion	Practice and assignment	2 x 50 minutes	Mujtahidah Anggriani U.M., Ph.D.
3	CO 2	Distribution probability Discrete probability	Presentation; classical lecture; discussion	Practice and assignment	2 x 50 minutes	Mujtahidah Anggriani U.M., Ph.D.
4	CO 2	Continuous probability distribution		Practice and assignment	2 x 50 minutes	Mujtahidah Anggriani U.M., Ph.D.
5	CO 1; CO 2; CO 3	Sampling Sampling method	Presentation; classical lecture; discussion	Practice and assignment	2 x 50 minutes	Mujtahidah Anggriani U.M., Ph.D.
6	CO 2; CO 3	Estimation Estimation and confidence of interval	Presentation; classical lecture; and discussion	Practice and assignment	2 x 50 minutes	Mujtahidah Anggriani U.M., Ph.D.
7	CO 1; CO 2; Co 3	Inferential analysis One sample-hypothesis test	Presentation; classical lecture; discussion	Practice and assignment	2 x 50 minutes	Mujtahidah Anggriani U.M., Ph.D.
Midterm Examination						
8	CO 3	Inferential analysis Two sample-hypothesis test	Presentation; classical lecture; discussion	Practice and assignment	2 x 50 minutes	Mujtahidah Anggriani U.M., Ph.D.
9	CO 2; CO 3	Inferential analysis Analysis of variance	Presentation; classical lecture; discussion	Practice and assignment	2 x 50 minutes	Mujtahidah Anggriani U.M., Ph.D.
10	CO 2; CO 3	Inferential analysis Multiple regression	Presentation; classical lecture; discussion	Practice and assignment	2 x 50 minutes	Mujtahidah Anggriani U.M., Ph.D.

11	CO 2; CO 3	Inferential analysis Multiple regression	Presentation; classical lecture; discussion	Practice and assignment	2 x 50 minutes	Mujtahidah Anggriani U.M., Ph.D.
12	CO 1; CO 2 CO 3	Inferential analysis Non-parametric nominal data analysis	Presentation; classical lecture; discussion	Practice and assignment	2 x 50 minutes	Mujtahidah Anggriani U.M., Ph.D.
13	CO 1; CO 2; CO 3	Inferential analysis Non-parametric ordinal data analysis	Presentation; classical lecture; discussion	Practice and assignment	2 x 50 minutes	Mujtahidah Anggriani U.M., Ph.D.
14	CO 2; CO 3	Inferential analysis Time series data and forecasting analysis	Discussion	Practice and assignment	2 x 50 minutes	Mujtahidah Anggriani U.M., Ph.D.
Final Examination						

9. Assessment

Component	CO	Percentage (%) for final grade	Minimum Satisfactory Level
Midterm examination	CO 1; CO 2	40	70
Final examination	CO 2; CO 3	40	70
Homework	CO 1; CO 2; CO 3	20	70
Total		100	

10. Lecturer

1. Ir.. Mujtahidah Anggriani Ummul Muzayyanah, S.Pt., M.P., Ph.D., IPM.
2. Dr. Ir. Suci Paramitasari Syahlani, MM., IPM.

11. Reference

1. Lind, D.A., W. G. Marchal dan S. A. Wathen. 2015. Statistical Techniques in Business & Economics. 16th ed. McGraw Hill.