Department of Field Crops Department

College of Agriculture Engineering Sciences Salahaddin University- Erbil

Subject: Principle of Statistics

Course Book (Theoretical + Practical) First Year Students of Field Crops Dept.

Lecturer's name: Dr. Saman Abad Rasul /Theoretical part

Ms. Narin Siammand Ali/ practical part

(Forestry Dept.)

Academic Year: 2022/2023

Course Book

1. Course name	**Principle of Statistics (Theory+ Practical)**
2. Lecturer in charge	**Dr. Saman Abad Rasul** **Ms. Narin Siammand Ali**
3. Department/ College	**Group 1 of First Years**
4. Contact	**Gmail :Saman.rasul@su.edu.krd** **Tel: 009647504686596** **Gmail: narin.ali@su.edu.krd.**
5. Time (in hours) per week	**2 hours + practice: 3 hrs**
6. Office hours	**Daily from 8:30 to 2:00**
7. Course code	
8. Teacher's academic profile	**My name is Saman Abad Rasul and graduated from college of Agriculture/ plant production /2005-2006. My master's degree is plantProduction 2005-2006, Blaise Pascal university/ France. I finished PhD degree in 2020 at Salahaddin University in Crop Physiology** **I have a number of articles published in national and international journals. I have 12 years teaching experience for different soil subjects.**
9. Keywords	**Plant Protection, Principle of Soil Science**

10. Course overview:

A course dealing with statistical concepts including measures of central tendency and dispersion, probability distributions, the Central Limit Theorem, Sampling, Estimation, Hypothesis testing, Analysis of Variance, Correlation and Regression analysis, Multiple Regression and Statistical Forecasting.

11. Course objective:

The objective of this course is to provide an understanding for the graduate agriculture students on statistical concepts to include measurements of location and dispersion, probability, probability distributions, sampling, estimation, hypothesis testing, regression, and correlation analysis, multiple regression and business/economic forecasting.

12. Student's obligation

The student must have an important role:

1- Lecture and Lab attendance are compulsory.

2-The students must contribute in the scientific discussions in the class or teaching hall.

3-The students must know the importance of quizzes, homework, reports and exams.

It is necessary to contribute the student in presenting a scientific subject

13. Forms of teaching

There are different forms of teaching:

1-Datashow and power point.

2- White board.

3-Lectures.

14. Assessment scheme

The course degree was divided as follow %50 of monthly exam, %15 for theoretical part 35% for practical part in theoretical part 5 marks for the first exam, 5 marks for second exam, 5 marks for daily quiz and preparing reports

Final exam takes %50 marks for theory part only

15. Student learning outcome: By completing this course the student will learn to perform the following:

1) How to calculate and apply measures of location and measures of dispersion -- grouped and ungrouped data cases.

2) How to apply discrete and continuous probability distributions to various business problems.

3) Perform Test of Hypothesis as well as calculate confidence interval for a population parameter for single sample and two sample cases. Understand the concept of p-values.

4) Learn non-parametric test such as the Chi-Square test for Independence as well as Goodness of Fit.

5) Compute and interpret the results of Bivariate and Multivariate Regression and Correlation Analysis, for forecasting and also perform ANOVA and F-test. Further, understand both the meaning and applicability of a dummy variable and the assumptions which underline a regression model. Be able to perform a multiple regression using computer software.

16. Course Reading List and References:

1. North Dakota Agricultural Statistics (current issue)
http://www.nass.usda.gov/Statistics_by_State/North_Dakota/Publications/Annual_Statistical_Bulletin/index.asp

2. The North Dakota Department of Agriculture's Agricultural Brochures (1998 to currentyear's issue)
http://www.agdepartment.com/statistics.html

3. NDSU - ND Agricultural Experiment Station - Central Grasslands Research Extension Center - Annual Report http://www.ag.ndsu.nodak.edu/streeter/streeter.htm

4. Grazing Land Economics Made Simple - Understanding Internal Rate of Return and NetPresent Value ftp://ftpfc.sc.egov.usda.gov/GLTI/technical/publications/economicsimple.pdf
5. The Value of Crop Residue http://www.oznet.ksu.edu/library/crpsl2/mf2604.pdf
6. Farm Machinery Economic Cost Estimates for 2005, distributed by University of Minnesota Extension Service
http://www.extension.umn.edu/distribution/businessmanagement/DF6696.pdf
7. Economics: Partial Budgeting no. 3.760
http://www.ext.colostate.edu/pubs/farmmgt/03760.html
8. Economics: Partial Budgeting Form no. 3.761
http://www.ext.colostate.edu/pubs/farmmgt/03761.html
9. Interpretation & Use of the Amortization Table
www.oznet.ksu.edu/library/agec2/mf489.pdf
10. Important Farm Business Terms Defined
http://www.oznet.ksu.edu/library/agec2/mf477.pdf
11. Plotting a Course: Short-Term and Long-Term Agricultural Planning Prices for NorthDakota
http://www.ext.nodak.edu/extpubs/agecon/market/ec1090w.htm

17. The Topics:	**Lecturer's name**
1st week Introduction to statistics, Descriptive & Inferential Statistics: Definition, Differences & Examples 2nd week Difference between Populations & Samples in Statistics 3rd week Defining the Difference between Parameters & Statistics 4th week Estimating a Parameter from Sample Data: Process & Examples 5th week **First Test** 6th week What is Quantitative Data? - Definition & Examples 7th week Discrete & Continuous Data: Definition & Examples 8th week Nominal, Ordinal, Interval & Ratio Measurements: Definition & Examples 9th week Confounding Variables in Statistics: Definition & Examples 10th week **Second Test** 11th week Hypothesis testing 12th week Chi-square tests 13th course review	Lecturer's name Dr. Saman Abad Rasul ex: (2 hrs)
18. Practical Topics (If there is any)	
Week 1: Statistical symbols and terminology. **Week2:** Data Tabulation and Presentation **Week 3 & week 4** : Examples of graphic of presentation of data **Week5 & 6 :** Solving examples about Statistical measures.	Lecturer's name **Ms. Narin Siammand Ali** **(3hrs)**

1. measures of central tendency a. Mean b. Median c. Mode Measures of Dispersion: Variance , Standard deviation , Standard error , The range and Coefficient of variation. **Week 7 & week 8:** Data Distribution (Normal Distributions and the Standard Distribution **Week 9:** TESTS OF HYPOTHESES: Examples about (T-test) & Z-test **Week 10 :** F–test (Fisher test) **Week 11 & Week 12:** Examples about different types of X^2 – test (Chi Square test)	

19. Examinations:

1. Compositional:

1-Definition?
2-explaination?
3- What are the differences between A and B?
4- Fill-in the blanks?

2. True or false type of exams:

3. Mathematical type :

20. Extra notes:

21. Peer review پێداچوونەوەی هاوەڵ

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The Course schedule is tentative and may be subject to change