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**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**

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**Course Book**

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| **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.asp2. The North Dakota Department of Agriculture’s Agricultural Brochures (1998 to currentyear’s issue) http://www.agdepartment.com/statistics.html3. NDSU - ND Agricultural Experiment Station - Central Grasslands Research Extension Center - Annual Report http://www.ag.ndsu.nodak.edu/streeter/streeter.htm4. Grazing Land Economics Made Simple - Understanding Internal Rate of Return and NetPresent Valueftp://ftpfc.sc.egov.usda.gov/GLTI/technical/publications/economicsimple.pdf5. The Value of Crop Residue http://www.oznet.ksu.edu/library/crpsl2/mf2604.pdf6. Farm Machinery Economic Cost Estimates for 2005, distributed by University of Minnesota Extension Servicehttp://www.extension.umn.edu/distribution/businessmanagement/DF6696.pdf7. Economics: Partial Budgeting no. 3.760http://www.ext.colostate.edu/pubs/farmmgt/03760.html8. Economics: Partial Budgeting Form no. 3.761http://www.ext.colostate.edu/pubs/farmmgt/03761.html9. Interpretation & Use of the Amortization Tablewww.oznet.ksu.edu/library/agec2/mf489.pdf10. Important Farm Business Terms Definedhttp://www.oznet.ksu.edu/library/agec2/mf477.pdf11. 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](https://study.com/academy/lesson/descriptive-and-inferential-statistics.html)2nd week Difference between Populations & Samples in Statistics3rd week Defining the Difference between Parameters & Statistics4th week Estimating a Parameter from Sample Data: Process & Examples5th week **First Test**6th week What is Quantitative Data? - Definition & Examples7th week [Discrete & Continuous Data: Definition & Examples](https://study.com/academy/lesson/discrete-and-continuous-data.html)8th week [Nominal, Ordinal, Interval & Ratio Measurements: Definition & Examples](https://study.com/academy/lesson/nominal-ordinal-interval-ratio-measurements.html)9th week [Confounding Variables in Statistics: Definition & Examples](https://study.com/academy/lesson/confounding-variables-in-statistics-definition-examples.html)10th week **Second Test**11th week Hypothesis testing 12th week Chi-square tests13th course review | Lecturer's nameDr. Saman Abad Rasulex: (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. 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 X2 – test (Chi Square test)  | Lecturer's name**Ms. Narin Siammand Ali** **(3hrs)** |
| **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 پێداچوونه‌وه‌ی هاوه‌ڵ** .‌‌  |

 **The Course schedule is tentative and may be subject to change**