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**Food Technology Department**

**College of Agricultural Engineering Sciences**

**Salahaddin University - Erbil**

**Subject: Experimental Design**

**Course Book – (Second Year)**

**Lecturer's name Dr. Rebin Aswad Mirza (Theory)**

**Mr. Azad Shamsadin (Practical)**

**Academic Year: 2022-2023**

**\*Course Book**

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| **1. Course name** | **Fall course** | |
| **2. Lecturer in charge** | **Dr Rebin Aswad Mirza and Assist Prof Dr Khalid Ismail Aziz** | |
| **3. Department/ College** | **Animal Resource Department / Agriculture College** | |
| **4. Contact** | **e-mail:** [**rebinaswed@yahoo.com**](mailto:rebinaswed@yahoo.com)  [**rebin.mirza@su.edu.krd**](mailto:rebin.mirza@su.edu.krd)  **Tel: (optional) 07504703477** | |
| **5. Time (in hours) per week** | **Theory: 2**  **Practical: 3** | |
| **6. Office hours** | **5 day a week** | |
| **7. Course code** | **--** | |
| **8. Teacher's academic profile** | **I gained a PhD degree in July 2015 in Poultry Production and Technology at the University of Plymouth in UK.**  **I have MSc Degree in Poultry Production and Technology in 2008 at Salahaddin University. I have got a BSc in 2003 in Animal Resources Agriculture College Salahaddin University - Erbil, Kurdistan Region of Iraq. I employed in 2003 at the Animal Resources Department in Agriculture College. In 2010 I started to work as a Lecturer in Animal Resources Department and gave a lecture to undergraduate students and now to the postgraduate students. Now, I am a head of Fish Resources and Aquatic Animals department.** | |
| **9. Keywords** |  | |
| **10. Course overview:**  In this section the lecturer shall write an overview about the subject he/she is giving. The course overview must cover:  This is an introductory course that focuses on data and experimental reasoning. This course aims to give students an understanding of the main ideas of experiment design and useful skills for working with data. Also, students will be introduce to the major concepts and tools for collecting, analyzing and drawing conclusions from data.  A course dealing with statistical and how to setup design for their experiment, including measures of central tendency and dispersion, the Central Limit Theorem, Sampling, Estimation, Hypothesis testing, Analysis of Variance, Correlation and Regression analysis, Multiple Regression and Statistical Forecasting and the design that use in this course.  ▪ The importance of studying the subject ▪ Understanding of the fundamental concepts of the course ▪ Principles and theories of the course ▪ A sound knowledge of the major areas of the subject ▪ Sufficient knowledge and understanding to secure employment  This should not be less than 200 words | | |
| **11. Course objective:**  This should not be less than 100 words  Students will be introduce to the basic principles of data analysis and be able to collection data from an experiment. Identify and describe some design to analyse data. By completing this course the student will learn to perform the following: 1) How to analyse data by applying suitable design to calculate data and how to test this data to find a significant differences between treatment in the appreciate design. Understand the concept of p-values. | | |
| **12. Student's obligation**  In this section the lecturer shall write the role of students and their obligations throughout the academic year, for example the attendance and completion of all tests, exams, assignments, reports , essays…etc  The role of students in the class should attend to the class weekly and I will put some points on it, every week I will do quiz for them and students participate in the class is very important. | | |
| **13. Forms of teaching**  لێره‌ مامۆستا ڕێگه‌ی وانه‌‌ ووتنه‌وه‌ ده‌نووسێت، بۆ نموونه‌:‌ داتاشۆ و پاوه‌رپۆینت، ‌سه‌ر ته‌خته‌ڕه‌ش، ته‌خته‌ی سپی، سمارتبۆرد یان‌ مه‌لزه‌مه‌... هتد  We need to write all information on white board to clarify it. Sometimes I use the projector to display my objectives by power point, I will give all my objectives on the word paper to my students. | | |
| **14. Assessment scheme**  Breakdown of overall assessment and examination  لێره‌ مامۆستا جۆری هه‌ڵسه‌نگاندن (تاقیکردنه‌وه‌کان یان ئه‌زموونه‌کان) ده‌نووسێت بۆ نموونه‌ تاقیکردنه‌وه‌ی مانگانه‌، کویزه‌کان، بیرکردنه‌وه‌ی ڕه‌خنه‌گرانه (پریزه‌نته‌یشن)، ڕاپۆرت نووسین، ووتار نووسین‌ یان ئاماده‌نه‌بوونی خوێندکار له‌ پۆلدا...هتد. ئامانه‌ چه‌ند نمره‌ی له‌سه‌رده‌بێت و مامۆستا چۆن نمره‌کان دابه‌شده‌کات؟  First Exam after five lectures  Second Exam after ten lectures.  Mark Distribution:  Monthly Exam 40% (Theoretical 25% + Practical 15%)  Final Exam 60% (Theoretical 40% + Practical 20%)  Final Mark 100%‌ | | |
| **15. Student learning outcome:**  پڕکردنه‌وه‌ی ئه‌م خانه‌یه‌ زۆر گرنگه‌، مامۆستا ده‌رئه‌نجامه‌کانی فێربوون ده‌نووسێت. بۆ نموونه‌: ڕوونی ئامانجه‌ سه‌ره‌کیه‌کانی کۆرسه‌که‌ (بابه‌ته‌که‌) بۆ خوێندکار‌  گونجاندنی ناوه‌ڕۆکی کۆرسه‌که‌ به‌ پێویستی ده‌ره‌وه‌ و بازاڕی کار  قوتابی چی نوێ فێرده‌بێت له‌ ڕێگه‌ی پێدانی ئه‌م کۆرسه‌وه‌؟  This should not be less than 100 words  The objective of this course is to provide an understanding for the graduate business student on Experimental concepts includes Complete randomized design, Randomized Complete Block Design, Latin Square Design and Factorial Design. | | |
| **16. Course Reading List and References‌:**  ▪ Key references:  ▪ Useful references:  ▪ Magazines and review (internet):   * Kirk, P. (2013) Experimental Design. Fourth Edition. Sage publication, United Kingdom. * Thomas, P. R. (2007) Modern Experimental Design. John Wiley and Sons. Printed in United State of America. | | |
| **17. The Topics: Theory** | | **Lecturer's name** |
| In this section the lecturer shall write titles of all topics he/she is going to give during the term. This also includes a brief description of the objectives of each topic, date and time of the lecture  Each term should include not less than 16 weeks  The titles of the objects will be the following:  Introduction to statistics  Introduction of experimental design  Complete Randomized Design  Equal and unequal CRD  Different type of test  Dunnet t test and lsd test  Duncan test  Randomized Complete Block Design  Latin Square Design  Factorial Design  Two and three factor with CRD and RCBD | | Lecturer's name  Dr Rebin Aswad Mirza  And Dr Khalid Ismail  ex: (2 hrs) |
| **18. Practical Topics (If there is any)** | |  |
| In this section The lecturer shall write titles of all practical topics he/she is going to give during the term. This also includes a brief description of the objectives of each topic, date and time of the lecture  Introduction to statistics  Introduction of experimental design  Complete Randomized Design  Equal and unequal CRD  Different type of test  Dunnet t test and lsd test  Duncan test  Randomized Complete Block Design  Latin Square Design  Factorial Design  Two and three factor with CRD and RCBD | | Lecturer's name  ex: (3 hrs)  Mr. Azad Shamsadin  ex:  Computer application by Excel and SPSS |
| **19. Examinations:**  ***1. Compositional:*** In this type of exam the questions usually starts with Explain how, What are the reasons for…?, Why…?, How….?  With their typical answers  Examples should be provided  ***2.******True or false type of exams:***  In this type of exam a short sentence about a specific subject will be provided, and then students will comment on the trueness or falseness of this particular sentence. Examples should be provided  ***3. Multiple choices:***  In this type of exam there will be a number of phrases next or below a statement, students will match the correct phrase. Examples should be provided. | | |
| **20. Extra notes:**  Here the lecturer shall write any note or comment that is not covered in this template and he/she wishes to enrich the course book with his/her valuable remarks. | | |
| **21. Peer review پێداچوونه‌وه‌ی هاوه‌ڵ**  This course book has to be reviewed and signed by a peer. The peer approves the contents of your course book by writing few sentences in this section.  *(A peer is person who has enough knowledge about the subject you are teaching, he/she has to be a professor, assistant professor, a lecturer or an expert in the field of your subject).*  ئه‌م کۆرسبووکه‌ ده‌بێت له‌لایه‌ن هاوه‌ڵێکی ئه‌کادیمیه‌وه‌ سه‌یر بکرێت و ناوه‌ڕۆکی بابه‌ته‌کانی کۆرسه‌که‌ په‌سه‌ند بکات و جه‌ند ووشه‌یه‌ک بنووسێت له‌سه‌ر شیاوی ناوه‌ڕۆکی کۆرسه‌که و واژووی له‌سه‌ر بکات.  هاوه‌ڵ ئه‌و که‌سه‌یه‌ که‌ زانیاری هه‌بێت له‌سه‌ر کۆرسه‌که‌ و ده‌بیت پله‌ی زانستی له‌ مامۆستا که‌متر نه‌بێت.‌‌ | | |