Module Description

Module Information					
Module Title	**DESIGN AND ANALYSIS OF EXPERIMENTS**			**Module Delivery**	
Module Type	**Core learning activity**			☒Theory ☐lecture ☐lab ☐Tutorial ☒Practical ☐Seminar	
Module Code	DAE2160−AM				
ECTS Credits	5				
SWL (hr/sem)	125				
Module Level	UGII		**Semester of Delivery**	3	
Administering Department	AGME1986		**College**	AGFO1964	
Module Leader	Asist. Prof. Dr. Yousif Yakoub Hilal		**e-mail**	yousif.yakoub@uomosul.edu.iq	
Module Leader's Acad. Title	Professor		**Module Leader's Qualification**	Ph.D	
Module Tutor	N.A.		**e-mail**	e-mail	
Peer Reviewer Name	N.A.		**e-mail**	E-mail	
Scientific Committee Approval Date	1/9/2025		**Version Number**	1.0	

Relation with other Modules			
Prerequisite module	AGS1060-AM	**Semester**	
Co-requisites module	None	**Semester**	

Module Aims, Learning Outcomes and Indicative Contents	
Module Objectives	Enable the student to learn how to design experiments in the agricultural field in general and animal production in particular and understand and apply all laws related to analysis processes and testing results and choose the appropriate design for the experiment, how to distribute the parameters to the experimental units, and record the observations to be able to collect data, classify and analyze it, conduct a significance test.
Module Learning Outcomes	The student should be able to: **LO#1: Learn and comment on basic statistical topics and analysis** **LO#2: Statistical package learns data entry .** **LO#3: Performs statistical analyzes and interprets the results** **LO#4: Student Performs statistical analyses and comments**

Indicative Contents	Indicative content includes the following. Theoretical Enabling the student to learn how to read practical research data and analyze it well, and to understand how electronic statistical analysis programs such as SAS and SPSS work, Total hrs = 63= SSWL - (Exam hrs) = 63-3= 60 (Time table 4hrs x 15 weeks)

Learning and Teaching Strategies	
Strategies	1. Interactive lecture, Brainstorming 2. Dialogue and discussion 3. Assigning reports 4. Quizzes 5. Show examples for writing scentific reports in the correct formats ..

Student Workload (SWL)			
Structured SWL (h/sem)	63	**Structured SWL (h/w)**	4
Unstructured SWL (h/sem)	62	**Unstructured SWL (h/w)**	1
Total SWL (h/sem)	**125**		

Module Evaluation					
		Time/Number	**Weight (Marks)**	**Week Due**	**Relevant Learning Outcome**
Formative assessment	**Quizzes**	2	10% (10)	5 and 10	LO #1,LO #3
	Assignments	2	10% (10)	2 and 12	LO #1,LO #4
	Projects/Lab	-	-	-	-
	Report	1	10% (10)	13	all
Summative assessment	**Midterm Exam**	2hr	10% (10)	7	all
	Final Exam	3hr	50% (50)	16	All
Total assessment			100% (100 Marks)		

Delivery Plan (Weekly Syllabus)	
	Material Covered
Week 1	Some statistical measures
Week 2	Chapter One (Introduction)
Week 3	Completely randomized design

Week 4	Comparing between averages
Week 5	Comparing between averages
Week 6	Some of Mistakes that Researcher may be do it in experiments.
Week 7	Randomized complete block design
Week 8	Mid-Term Exam.
Week 9	Randomized complete block design (relative efficiency comparing with Complete Randomize Design), estimating missing observation.
Week 10	Latin square design
Week 11	Latin square design (relative efficiency comparing with another two Designs [RCBD, and CRD])
Week 12	Latin square design (estimating the missing observation)
Week 13	Factorial experiments
Week 14	Factorial experiments
Week 15	Scientific visit
Week 16	Term Exams .

Delivery Plan (Weekly Lab. Syllabus)	
	Material Covered
Week 1	Measures of concentration and measures of dispersion
Week 2	Completely randomized design (C.R.D.) solving method
Week 3	Completely randomized design (C.R.D.) some indirect questions and give homewok
Week 4	Dunnett test, least significant difference l.s.d.
Week 5	Duncan Multiple Range Test
Week 6	Some of General Mistakes that may be the researcher do it.
Week 7	completely randomized block design direct
Week8	completely randomized block design in direct
Week9	Relative efficiency and missing observations in a completely randomized block design
Week10	Direct questions in Latin square design
Week11	Indirect questions in the Latin square design
Week12	Relative efficiency of the Latin square design
Week13	missing observations in a Latin square design
Week14	Factorial experiments
Week15	Factorial experiments
Week16	Final practical test

Learning and Teaching Resources		
	Text	**Available in the Library?**
Required Texts	Design and Analysis of Agricultural Experiments Authored by: Dr. Khasha' Al-Rawi and Dr. Abdulaziz Muhammad	Yes
Recommended Texts	Some lectures published on the college website	Yes
Websites	Websites specialized in Statistics and Data Analysis .	

Grading Scheme				
Group	**Grade**	التقدير	**Marks %**	**Definition**
Success Group (50 - 100)	**A –** Excellent	امتياز	90 - 100	Outstanding Performance
	B - Very Good	جيد جدا	80 - 89	Above average with some errors
	C – Good	جيد	70 - 79	Sound work with notable errors
	D – Satisfactory	متوسط	60 - 69	Fair but with major shortcomings
	E – Sufficient	مقبول	50 - 59	Work meets minimum criteria
Fail Group (0 – 49)	**FX –** Fail	راسب (قيد المعالجة)	(45-49)	More work required but credit awarded
	F – Fail	راسب	(0-44)	Considerable amount of work required

Note: Marks Decimal places above or below 0.5 will be rounded to the higher or lower full mark (for example a mark of 54.5 will be rounded to 55, whereas a mark of 54.4 will be rounded to 54. The University has a policy NOT to condone "near-pass fails" so the only adjustment to marks awarded by the original marker(s) will be the automatic rounding outlined above.

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