Course Description Form Computer applications4

1. Course Name:	
Computer applications4	
2. Course Code:	
COMA401	
3. Semester / Year:	
First semester/ 2023-2024	
4. Description Preparation Date:	
1/2/2024	
5. Available Attendance Forms:	
In presence	
6. Number of Credit Hours (Total) / Number of Units (Total):	
3 practical hours/1.5 units	
7. Course administrator's name (mention all, if more than one name)	
Name: Najla Matti Isaac Email: najla.matti@uomosul.edu.iq	
8. Course Objectives	
Course Objectives	• Enable the student to become familiar with the SAS statistical program and its applications in agricultural experiments. • Enable the student to know and understand programs in the SAS language and apply the steps and procedures followed to use the SAS statistical program in analyzes of agricultural experiments. • Enabling the student to write programs in the SAS language for various agricultural and scientific experiments. • Providing the student with the skills of dealing with data types when writing programs in the SAS language. • Enabling the student to correct grammatical and linguistic errors that appear when implementing programs written in the SAS language

			• Enable the student to read, understand and interpret the results and outputs of implementing programs written in SAS.

9. Teaching and Learning Strategies

Strategy	- Interactive lecture - Brainstorming - Dialogue and discussion - Field Training - Practical exercises - Field project - Self-education

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3 practical	a1: Introducing the student to the SAS program, its importance and its use in statistical analysis of data and the tools available in it.	What is the SAS program - storing and retrieving information - modifying and programming data - writing reports - statistical analysis - processing records	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Final test.
2	3 practical	b1: The student learns about the windows of the SAS program, the purpose of each window, and how to deal with them, and is familiar with the general matters that people who want to use the SAS program should have for the purpose of statistical analyses.	SAS windows - writing and loading the program window - program execution steps window - results window. Who uses SAS software? Why SAS- General matters that people who want to use SAS software for the purpose of statistical analysis should have in mind.	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Report, Final test.
3	3 practical	c1: Able to know, understand and practically apply the general steps of writing a SAS program.	General steps for writing a SAS program.	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Homework1, Final test.
4	3 practical	d1: is able to know, understand, and practically apply the use of functions, their importance, and formulas for using	Functions	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz1, Final test.

		them in writing a program in the SAS language.			
5	3 practical	d2: Able to know, understand, and practically apply new data from the input data set using mathematical operations or functions and the formulas for using them in writing a program in the SAS language.	Create new data from an input data set using mathematical operations or functions.	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Homework2, Final test.
6	3 practical	d3: Able to know, understand and practically apply to create data using conditional IF statements and the formulas for using them in writing a program in the SAS language.	- Generate data using IF conditional statements. + scientific visit.	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	scientific visit, Final test.
7	3 practical	d4: Able to know, understand and practically apply the use of conditional statements to delete data from a data set and the formulas for using them in writing a program in the SAS language.	- Using conditional statements to delete data from the data set in the program + Semester exam 1	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	semester test1, Final test.
8	3 practical	d5: Able to know, understand, and practically apply sorting and arranging data and the formulas for using them in writing a program in the SAS language	- Sorting and arranging data Use the PROC SORT statement	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	practical test1, Final test.
9	3 practical	d6: Able to know, understand, and practically apply to find a one-way and two-way frequency distribution tables and their use formulas in writing a program in the SAS language.	- Applications in descriptive statistics - One-way frequency distribution table - Two-way frequency distribution table PROC FREQ	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Homework3, Final test.
10	3 practical	d7: Able to know, understand, and practically apply to find average and	-Measures of mediation and measures of dispersion. PROC MEANS	Interactive lecture, brainstorming, dialogue and discussion, practical	Quiz2, Final test.

		dispersion measures and formulas for using them in writing a program in the SAS language.		exercises, and self-learning.	
11	3 practical	d8: Able to know, understand and practically apply T-test formulas and their use in writing a program in the SAS language	- Test of means and analysis of variance - t-test	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Homework, Final test.
12	3 practical	d9: Able to know, understand and practically apply to find the analysis of variance table for balanced data and the formulas for using it in writing a program in the SAS language.	- Analysis of variance formula PROC ANOVA-	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	practical test2, Final test.
13	3 practical	d10: Able to know, understand, and practically apply to find a variance analysis table for unbalanced data and formulas for using it in writing a program in the SAS language.	PROC GLM + Semester exam 2	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	semester test2, Final test.
14	3 practical	d11: Able to know, understand and practically apply to find the correlation coefficient and the formulas used in writing a program in the SAS language	PROC CORR correlation coefficient formula	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Homework, Final test.
15	3 practical	d12: Able to know, understand and practically apply to find the regression equation and formulas for using it in writing a program in the SAS language	PROC REG REGRESSION FORMULA	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	practical test3, Final test.

11. Course Evaluation

12. Course Evaluation

t	Evaluation methods	Evaluation date (one week)	Grade	Relative weight %

1	Report 1	second week	2	2%
2	Homework1	the third week	1	1%
3	Short test Quiz1	fourth week	2	2%
4	Homework2	The fifth week	1	1%
5	Scientific visit	the sixth week	1.5	1.5%
6	Semester test1	Seventh week	10	10%
7	Practical test1	The eighth week	2.5	2.5%
8	Homework3	Week nine	1	1%
9	Short test Quiz2	The tenth week	2	2%
10	Homework4	Week eleven	1	1%
11	Practical test2	The twelfth week	2.5	2.5%
12	Semester test2	The thirteenth week	10	10%
13	Homework5	The fourteenth week	1	1%
14	Practical test3	The fifteenth week	2.5	2.5%
15	Final practical test	Final semester exams	60	60%
	The total		100	100%

13. Learning and Teaching Resources

Required textbooks (curricular books, if any)	A curriculum was prepared by computer professors at the college based on the SAS software guide.
Main references (sources)	- SAS software guide - A Handbook of Statistical Analyses using SAS. (authors: Geoff Der and Brian S. Everitt) Data analysis using the SAS statistical program, written by Dr. Firas Rashad Al-Samarrai
Recommended books and references (scientific journals, reports...)	Statistical analysis using the SAS package, prepared by: Abdullah Al-Shahrani
Electronic References, Websites	https://www.sas.com/en_sg/training/offers/free-training.html https://video.sas.com/detail/videos/how-to-tutorials https://www.udemy.com/course/sas-programming-for-beginners https://sascrunch.com/courses/sas-base-programming-for-absolute-beginners-free-version/

subject teacher: Najla Matti Isaac

Chairman of the Scientific Committee: Head of the Department:

Prof. Dr. Weam Yahya Rasheed   Mayassar Mohammed Aziz