Course Description Form

1. Course Name:
Computer applications4

2. Course Code:
AGEX24_F4124

3. Semester / Year:
Spring semester/ 2023−2024

4. Description Preparation Date:
25/3/2024

5. Available Attendance Forms:
Blended learning (Attendance + Electronic)

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	1. Applying modern strategies for education. 2. Providing learners with many different skills and knowledge. 3. Increase students' ability to learn. 4. Diversity in methods and implementation of the curriculum in the teaching process, taking into account individual circumstances, abilities and potentials of learners. 5. Learning and teaching are carried out according to the latest self-education tools using computers and through modern programs in the fields of education. 6. Use effective modern teaching strategies that help all types of students participate in educational materials.

10. Course Structure

Week	Hours	Required Learning Outcomes	Unit or subject name	Learning method	Evaluation method
1	3 practical	The student should be able to know and understand the nature and objectives of the SAS program and the tools necessary to analyze the data available in the program.	What is the SAS program - storing and retrieving information - modifying and programming data - writing reports - statistical analysis - processing records	Lectures, audio materials, reports, and images with practical application of exercises and experiments using the SAS program	Exams, reports, discussions, quizzes
2	3 practical	The student should be able to know and understand SAS windows and practical application therein	SAS windows - writing and loading the program window - program execution steps window - results window. Who uses SAS software? Why SAS	Lectures, audio materials, reports, and images with practical application of exercises and experiments using the SAS	Exams, reports, discussions, quizzes

				program	
3	3 practical	The student should be able to know, understand and practically apply the general steps for writing a SAS program.	General steps for writing a SAS program.	Lectures, audio materials, reports, and images with practical application of exercises and experiments using the SAS program	Exams, reports, discussions, quizzes
4	3 practical	The student should be able to know, understand, and practically apply the use of functions, their importance, and formulas for using them in writing a program in the SAS language.	Functions	Lectures, audio materials, reports, and images with practical application of exercises and experiments using the SAS program	Exams, reports, discussions, quizzes Exams, reports, discussions, quizzes
5	3 practical	The student should be able to know, understand and practically apply to create 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.	Lectures, audio materials, reports, and images with practical application of exercises and experiments using the SAS program	Exams, reports, discussions, quizzes

6	3 practical	The student should be able to know, understand and practically apply to generate statements using IF conditionals. The use of conditional statements to delete data from the data set and the formulas for using them in writing a program in the SAS language	- Generate data using IF conditional statements. - Using conditional statements to delete data from the data set in the program + scientific visit.	Lectures, audio materials, reports, and images with practical application of exercises and experiments using the SAS program	Exams, reports, discussions, quizzes
7	3 practical		Semester exam 1	Lectures, audio materials, reports, and images with practical application of exercises and experiments using the SAS program	Exams, reports, discussions, quizzes
8	3 practical	The student should be able to know, understand, and practically apply sorting and arranging data and the formulas used in writing a program in the SAS language.	- Sorting and arranging data Use the PROC SORT statement	Lectures, audio materials, reports, and images with practical application of exercises and experiments using the SAS program	Exams, reports, discussions, quizzes
9	3 practical	The student should be able to	- Applications in descriptive statistics	Lectures, audio	Exams, reports,

		know, understand and practically apply to find one-way and two-way frequency distribution tables and the formulas for using them in writing a program in the SAS language.	- One-way frequency distribution table - Two-way frequency distribution table PROC FREQ	materials, reports, and images with practical application of exercises and experiments using the SAS program	discussions, quizzes
10	3 practical	The student should be able to know, understand, and practically apply measures of averageness and dispersion and formulas for using them in writing a program in the SAS language.	-Measures of mediation and measures of dispersion. PROC MEANS	Lectures, audio materials, reports, and images with practical application of exercises and experiments using the SAS program	Exams, reports, discussions, quizzes
11	3 practical	The student should be able to know, understand and practically apply T-test formulas to use in writing a program in the SAS language	- Test of means and analysis of variance - t-test	Lectures, audio materials, reports, and images with practical application of exercises and experiments using the SAS program	
12	3 practical	The student should be able to know, understand and	- Analysis of variance formula PROC ANOVA- - PROC GLM	Lectures, audio materials, reports, and	Exams, reports, discussions, quizzes

		practically apply the analysis of variance table and formulas to use in writing a program in the SAS language		images with practical application of exercises and experiments using the SAS program	
13	3 practical		Semester exam 2	Lectures, audio materials, reports, and images with practical application of exercises and experiments using the SAS program	Exams, reports, discussions, quizzes
14	3 practical	The student should be 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	Lectures, audio materials, reports, and images with practical application of exercises and experiments using the SAS program	Exams, reports, discussions, quizzes
15	3 practical	The student should be able to know, understand and practically apply to find the regression equation and the formulas for using it in	PROC REG REGRESSION FORMULA	Lectures, audio materials, reports, and images with practical application of exercises and experiments using the SAS	Exams, reports, discussions, quizzes

		writing a program in the SAS language		program	

11. Course Evaluation

Distributing the score out of 100 according to the tasks assigned to the student such as daily preparation, daily oral, monthly, or written exams, reports .... etc

12. 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/

رئيس القسم

مدرسة المادة

أ.م.د. طلال سعيد حميد

نجلاء متي اسحق

اللجنة العلمية

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