Course Description Form Computer applications4

1. Course Name:
Computer applications4
2. Course Code:
COMA401
3. Semester / Year:
Second semester/ 2024-2025
4. Description Preparation Date:
1/2/2025
5. Available Attendance Forms:
In presence , Online
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	1: The student learns about the SAS program and its importance in analyzing reactive analytics and the fraudulent tools in it. The student learns Methods of entering data into the SAS package	What is the SAS program - storing and retrieving information - modifying and programming data - writing reports - statistical analysis - processing records. * Methods of entering data *into the SAS package*	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Final test.
2	3 practical	a2: The student is familiar with the windows of the SAS program, the information from each window, and how to deal with them, and is familiar with the general matters that people who want to use the SAS program must have in order to use 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 The student shows the negative trace of SAS. The student shows Stages of computer analysis	* Stages of computer analysis General steps for writing a SAS program.	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Homework1, Final test.
4	3 practical	c2: The student employs functions, their importance, and usage formulas in writing a program in the SAS language	Functions (abs,int,sqrt,mod,min,max,arsin,sin,cos,log,log10) (N,SS,mean,std,var,stderr,sum,cv,uss,css,range)	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz1, Final test.
5	3 practical	D1: The student applies the creation of new data from the input data set using	Create new data from an input data set using mathematical operations or	Interactive lecture, brainstorming, dialogue and	Homework2, Final test.

		mathematical operations or functions and formulas used in writing a program in the SAS language.	functions.	discussion, practical exercises, and self-learning.	
6	3 practical	d2: The student tests creating data using the IF statement and the formulas used in writing a program in the SAS language The students test converting a continuous variable to categories	- Generate data using IF conditional statements. * How to convert a continuous variable to categories + scientific visit.	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	scientific visit, Final test.
7	3 practical	:d3 The student implements the use of Portuguese sentences to delete data from a data set and the usage formulas 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	b1: The child sorts and arranges data and formulas used in writing a program in the SAS language The student Determine whether the variable follows the normal distribution or not	- Sorting and arranging data Use the PROC SORT statement * Determine whether the variable follows the normal distribution or not Proc univariate	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	practical test1, Final test.
9	3 practical	b2: The artist uses the iterative profit plan tool with only one orthogonal syntax and their formula in writing an integrated SAS program.	- 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	b3: The student produces cooperation and association standards by using their formulas in writing a program in the SAS language	-Measures of mediation and measures of dispersion. PROC MEANS	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Quiz2, Final test.
11	3 practical	b4: The student tries out the T-test response and the formula used 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	b5: The student evaluates the balanced analysis of variance plot and the formula	Analysis of variance for balanced data - Analysis of variance formula	Interactive lecture, brainstorming, dialogue and discussion, practical	practical test2, Final test.

		used in writing a program in the SAS language	PROC ANOVA-	exercises, and self-learning.	
13	3 practical	b6: The student experiments with the unbalanced analysis of variance and the formulas used in writing a program in the SAS language	Analysis of variance for unbalanced data PROC GLM + Semester exam 2	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	semester test2, Final test.
14	3 practical	:b7 The student defines the contract and syntax used in writing a Bulgarian SAS program	PROC CORR correlation coefficient formula	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	Homework, Final test.
15	3 practical	:b8 The student does not rule out the regression equation and the formulas used in writing the Bulgaria SAS program	PROC REG REGRESSION FORMULA	Interactive lecture, brainstorming, dialogue and discussion, practical exercises, and self-learning.	practical test3, Final test.

11. 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%

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/

subject teacher: Najla Matti Isaac

Chairman of the Scientific Committee:

Head of the Department:

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