Course Specifications

General Information

Course name	Statistical Laboratory(2)
Course number	STAT4312
Faculty	
Department	
Course type	Major Needs
Course level	4
Credit hours (theoretical)	3
Credit hours (practical)	0
Course Prerequisites	

Course Objectives

1 - Development of the students levels in analytical and intellectual capabilities
2 - Linking what the students learned in theoretical courses with applied cases
3 - Training on dealing with real data sets and problem solving independently and through working in groups
4 - Building a statistical model to analyze the phenomena
5 - Preparing Statistical reports in a professional manner
6 - Working in groups and dialogue in order to solve practical problems

Intended Learning Outcomes

Knowledge and Understanding	* Learning the application of important statistical models and data analysis techniques * Identify ways of writing statistical reports and statistical reporting elements * Develop the skills to use various statistical software packages in practical situations
Intellectual Skills	* Linking the theoretical knowledge with practical applications * Selection of appropriate statistical methods to data in a variety of situations * Choosing the appropriate statistical model to describe and interpret the phenomenon * Building appropriate statistical models to real data * Examining the assumptions of the models
Professional Skills	* Analyzing data sets in the forms of tables, surveys and historical data using various statistical methods * Using a variety of appropriate statistical software for data analysis * Fully implementing a statistical study of integrated work nature * Presenting the results of statistical analysis in professional reports
General Skill	* Team working * Presenting own results

Course Contents

1 - Linear Modes
2 - Analysis of Variance (between treatments)
3 - Repeated Measures
4 - Correlation
5 - Contingency Tables
6 - Logistic Regression
7 - Loglinear Analysis

Teaching and Learning Methods

1 - Lecturing
2 - Case Studies and Statistical Reports
3 - Presentations
4 - Discussion

Teaching and Learning Methods for the Disabled Students

1 - NA

Students Assessment

Assessment Method	TIME	MARKS
Midterm Exam	8th week	20
Discussion	All weeks	10
Presentations of Case Studies	12th week	20
Final Exam	16th week	50

Books and References

Essential books	Okasha, Mahmoud K. (2002), "Statistical Analysis Using SPSS" Al Azhar University Gaza, Palestine
Recommended books	Everitt, B. S. and Hothorn, T. (2006). A Handbook of Statistical Analyses Using R. Chapman & Hall/CRC
	Venables, W. N. & Ripley, B. D. (2002), Modern Applied Statistics with S; 4th Ed. Springer Verlag
	Dobson, A.J. (2002); An Introduction to Generalized Linear Models, 2nd Edn, Chapman and Hall

Knowledge and Skills Matrix

Main Course Contents	Study Week	Knowledge and Understanding	Intellectual Skills	Professional Skills	General Skill
Linear Modes	1-2	Learning the application of important statistical models and data analysis techniques	Linking the theoretical knowledge with practical applications	Analyzing data sets in the forms of tables, surveys and historical data using various statistical methods	Team working
Analysis of Variance (between treatments)	3-4	Develop the skills to use various statistical software packages in practical situations	Selection of appropriate statistical methods to data in a variety of situations	Using a variety of appropriate statistical software for data analysis	Team working
Repeated Measures	5-6	Learning the application of important statistical models and data analysis techniques	Selection of appropriate statistical methods to data in a variety of situations	Using a variety of appropriate statistical software for data analysis	Team working
Correlation	7-8	Develop the skills to use various statistical software packages in practical situations	Examining the assumptions of the models	Using a variety of appropriate statistical software for data analysis	Presenting own results
Midterm Exam	9				
Contingency Tables	10-11	Learning the application of important statistical models and data analysis techniques	Analyzing data sets in the forms of tables, surveys and historical data using various statistical methods	Fully implementing a statistical study of integrated work nature	Presenting own results
Logistic Regression	12-13	Develop the skills to use various statistical software packages in practical situations	Building appropriate statistical models to real data	Presenting the results of statistical analysis in professional reports	
Loglinear Analysis	14-15	Learning the application of important statistical models and data analysis techniques	Building appropriate statistical models to real data	Using a variety of appropriate statistical software for data analysis	

Final Exam	16				Presenting own results