



People's Democratic Republic of Algeria  
Ministry of Higher Education and Scientific Research  
Mohamed Kheider University of Biskra  
Faculty of Letters and Languages  
Department of Foreign Languages  
Section of English



# Research Statistics Syllabus

**Lecturer in charge:** Pr. Saliha CHELLI

**Level:** Master

**Semester:** Three

**Required books:**

Greasley, P. (2008). Quantitative data analysis: an introduction for health social science. Grew Hill. Open University.

Howit, D, Cramer, D. (2005). First steps in research and statistics: A practical workbook for psychology students. Taylor & Francis Group: Routledge.

Miller, S. (1984). Experimental design and statistics (2<sup>nd</sup> ed.). London and New York: Routledge

## Course Description

This is an introductory course in statistics designed to provide students with the basic concepts of data analysis and statistical computing. Topics to be covered include levels of measurement, basic descriptive measures, measures of association, and hypothesis testing. The main objective is to provide master students with tools for analyzing both qualitative and quantitative data . This can help them conduct their own statistical analyses.

## Course Objectives

At the end of this course, students should be able to:

- Demonstrate their understanding of descriptive statistics and data visualization
- Demonstrate their knowledge of the basics of inferential statistics by making valid generalizations from sample data.

## Recommended Books

Aldritch, J.O. (2016). Using SPSS statistics: an interactive hands-on approach. 2<sup>nd</sup> ed. California State University, Nortridge: Sage Publication

Larson-Hall, J. (2016). A guide to doing statistics in second language research Using SPSS and R. 2<sup>nd</sup>ed.Taylor&FrancisGroup:Routledge.

Little.Todd D (Ed). (2013). The Oxford handbook of quantitative methods. 2<sup>nd</sup> ed., Vol 2. Oxford: Oxford University Press.

## Course Schedule

MONTH	WEEK	LECTURE/ TUTORIAL	OBSERVATION
December	3	<b>Lecture 1:</b> <b>Review of levels of measurement</b>	
	4	<b>Lecture 2</b> <b>Data analysis:</b> Descriptive statistics - Describing and summarizing category data (qualitative)	
January	1	<b>Lecture 3</b> <b>objectives</b> <b>Data analysis: Descriptive statistics</b> Describing and summarizing numerical data/ score data ( quantitative)	
	2	<b>Lecture 4</b> <b>Objectives: Introducing inferential statistics</b> Parametric and non-parametric tests	
	3	<b>Lecture 5</b> <b>Objective : Entering data in SPSS and introducing the chi-square test</b> Types of questionnaire data and relevant analyses Coding data for SPSS, setting up an SPSS database and entering the data <b>Introducing the chi-square test (non- parametric test)</b>	
	4	<b>Follow-up</b> <b>Cross tabulation and the chi-square statistics</b>	

<b>February</b>	<b>1</b>	<b>Lecture 6</b> <b>Objective:</b> Examining correlation between two sets of scores - Calculating Pearson correlation $R$	
	<b>2</b>	<b>Lecture 7</b> <b>Objective:</b> Introducing the dependent t-test (parametric test) - Computing the dependent t-test ( parametric)	
	<b>3</b>	<b>Lecture 8</b> <b>Objective:</b> Introducing the independent t-test (parametric test) - Computing the independent t-test ( parametric)	
	<b>4</b>	<b>General review</b>	

**Course material:** The course material consists of power-point presentations, readings selected from the required books and videos which will be uploaded.

**Assessment:** The exam (100%) is based on the lectures and readings.