

Course Title	ADVANCED STATISTICS				
Course Code	PSY712				
Course Type	COMPULSORY				
Level	Doctorate (3 <sup>rd</sup> Cycle)				
Year / Semester	1 <sup>st</sup> /1 <sup>st</sup> semester				
Teacher's Name	TBA				
ECTS	10	Lectures / week	none	Laboratories / week	3/14 weeks
Course Purpose and Objectives	<p>The course aims to perform an analytical presentation of variables types, statistic methods and models that aims to provide students with the skills to apply statistical methods and evaluate the results of research designs in the field of Psychology.</p> <p>The PhD candidates will be trained in the use of simple and complex statistical methods so as to be able to describe, interpret and use research results as well as apply such methods to their own research.</p>				
Learning Outcomes	<p>After the completion of the course, students will be able to:</p> <ul style="list-style-type: none"> <li>• Recognise and appreciate the role of statistics as a fundamental tool of quantitative research in the field of Psychology and define the importance of statistics as the science that contributes to the management and analysis of data in the field of Psychology.</li> <li>• Organise, design and implement research projects in the field of Psychology</li> <li>• Implement and explain the statistical methods taught</li> <li>• Select and apply the adequate statistical methods for each research question,</li> <li>• Apply hypotheses tests and statistical methods in real data</li> <li>• Develop various methods of data collection and the methods for calculating the adequate sample size corresponding to the research question and design.</li> <li>• Analyse data and create tables and diagrams for the results presentation.</li> <li>• Define and interpret correctly the results of statistical analyses.</li> <li>• Evaluate the methodology used in published studies and interpret the tables and diagrams presented in such studies</li> <li>• Use simple and complex statistical methods and evaluate results of research methods in the field of psychology,</li> <li>• Use SPSS and other statistical programs as necessary tools in the field of Psychology</li> </ul>				
Prerequisites	None	Co-requisite	None		

<p>Course Content</p>	<p>By the end of the course, students will be able to understand inferential statistics and examine various phenomena based on the sample data and also reach to conclusions for the population under study. They will be also be able to apply various methods of sampling and calculate the adequate number of participants for answering the research question in a satisfactory way. They will also be able to understand the process of regression using advanced statistic tools, to evaluate how variables can be confounders or correlated when predicting a results. They will be able to analyse the methodology of simple and multiple regression, interpret the parameters and chose the most adequate model for each data analysis. Moreover, specific issues of statistics related to meta-analysis, analysis of variance (ANOVA), multiple analysis of variance(MANOVA) uni &amp; multifactorial analysis, General Linear Models, Principal Component &amp; Factor Analysis and Moderators &amp; Mediators.</p> <p>The theoretical concepts will be applied in the lab, where students will be able to analyse data using the SPSS, so that by the end of the course they will be able to treat data, prepare tables and produce statistical results in their own project.</p>								
<p>Teaching Methodology</p>	<p>Face to face</p>								
<p>Bibliography</p>	<p>1. Field, A. (2013). <i>Discovering statistics using IBM SPSS statistics</i>. CA: Sage  2. Cooper, H., Hedges, L. V., &amp; Valentine, J. C. (Eds.). (2009). <i>The handbook of research synthesis and meta-analysis</i>. Russell Sage Foundation.</p>								
<p>Assessment</p>	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="padding: 5px;">Assignments</td> <td style="text-align: center; padding: 5px;">60%</td> </tr> <tr> <td style="padding: 5px;">Participation</td> <td style="text-align: center; padding: 5px;">10%</td> </tr> <tr> <td style="padding: 5px;">Presentation</td> <td style="text-align: center; padding: 5px;">30%</td> </tr> <tr> <td></td> <td style="text-align: center; padding: 5px;">100%</td> </tr> </table>	Assignments	60%	Participation	10%	Presentation	30%		100%
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<p>Language</p>	<p>English</p>								