Course Title	Biostatistics				
Course Code	MPH 612				
Course Type	Compulsory				
Level	Masters (2nd Cycle)				
Year / Semester	1st year / 1st semester				
Teacher's Name	TBA				
ECTS	10	Lectures / week	N/A	Laboratories / week	None
Course Purpose and Objectives	This course aims to introduce students to the basic concepts (such as variable and data, population and sample, sample estimate and population parameter) and analytical procedures (confidence intervals, hypothesis tests, statistical tests, association, linear regression and logistic regression) that are used for quantitative research in Health Sciences. This course sets the goal to make students appreciate the fundamental role of Biostatistics in quantitative research, given that this particular field of science contributes to the collection and analysis of properly chosen data aiming to draw safe conclusions about the population under examination. Upon completion of this course students should be able to process data, prepare tables and charts, produce statistical results and asses the outcomes of epidemiologic researches and other research designs in the field of Public Health.				
Learning Outcomes	Upon successful completion of this course students should be able to: • Recognise the role of statistics as a fundamental instrument of quantitative research in Health Sciences • Manage data and select the suitable tables, charts and numerical descriptive measures for their summarised presentation • Select the suitable statistical test to examine the association between two variables • Implement statistical tests and hypothesis tests on real data and explain statistical outcomes • Recognize the types of sampling strategies and be able to calculate the required sample size according to the research question and the research design • Assess statistical analysis that has been used in published research studies and interpret outcome tables and charts that are presented in such studies				

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<tr><td></td><td colspan="3">Apply biostatistical methods to evaluate outcomes of research designs and strategies in the field of Public Health
Learn the SPSS software as a necessary instrument of research in the field of Health</td></tr>
<tr><td>Prerequisites</td><td>None</td><td>Required</td><td>None</td></tr>
<tr><td>Course Content</td><td colspan="3">Upon completion of this course students will be able to understand the basic concepts, purposes and goals of Biostatistics. They will learn the basic concepts of the discipline of statistics involved in the organisation, collection and presentation of a set of data. They will identify inferential statistics, in which the basic concepts of the discipline of statistics are developed that is used for generalisations based on information of the patients who are subjects of the measurements. They will be able to examine phenomena based on sample data and draw conclusion from the sample of the population under examination. They will develop different sampling ways and methods for the calculation of the required sample size according to the research question and design. At the same time, they will understand linear and logistic regression, whereby by means of more specialised statistical analysis instruments they will be able to estimate how different parameters and characteristics affect the outcomes under examination and how they interact, both individually and jointly. They will be able to analyse the methodology for the implementation of linear and logistic regression, interpret parameters and apply the strategy for the creation of the most appropriate model on real data.

The theoretical concepts will be specialised in the context of the weekly computer laboratory, where students will process and analyse data by means of the statistical software SPSS, so that upon completion of the course they will be able to process data, prepare tables and charts and produce statistical results in their own scientific work.</td></tr>
<tr><td>Teaching Methodology</td><td colspan="3">Distance Learning</td></tr>
<tr><td>Bibliography</td><td colspan="3">Educational Handbook:

Bowers, D. (2008). Medical Statistics from Scratch. An Introduction for Health Professionals.John Wiley & Sons.

Recommended reading:

Pagano, M., Gauvreau, K. Principles of Biostatistics.

RECOMMENDED SCIENTIFIC JOURNALS:

• Biostatistics
• Biometrics
• Journal of Biometrics & Biostatistics</td></tr>
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	• Statistics in Medicine
Assessment	Examinations 50% On-going evaluation 50%
Language	English