

COURSE SYLLABUS

(1) GENERAL

SCHOOL	HEALTH SCIENCES - MANAGEMENT AND ECONOMICS SCIENCES		
DEPARTMENTS	<ul style="list-style-type: none"> ▪ SOCIAL WORK ▪ NUTRITION AND DIETETICS SCIENCES ▪ BUSINESS ADMINISTRATION AND TOURISM 		
LEVEL OF STUDY	Graduate/Master's		
COURSE CODE	CDDA-A05	SEMESTER	1
SEMINAR COURSE TITLE	Biostatistics – Data analysis		
INDEPENDENT TEACHING ACTIVITIES	TOTAL TEACHING HOURS	CREDIT UNITS (ECTS)	
Lectures	12	Not awarded	
COURSE TYPE	General Knowledge - Mandatory without final exams		
PREREQUISITE COURSES:	-		
LANGUAGE OF TEACHING and EXAMINATIONS:	Greek		
THE COURSE IS OFFERED TO ERASMUS STUDENTS	-		
COURSE WEBSITE (URL)	https://eclass.hmu.gr/courses/SW355/		

(2) LEARNING OUTCOMES

Learning Outcomes
<p>After completing the course, students will have knowledge of the theory and application of descriptive and inductive Statistics and will understand how the social and medical sciences use it as a tool for applied research. In particular, they will be able to conduct descriptive statistics on a set of data, summarize the relationship between two variables, and compare groups of populations with each other on various quantitative characteristics. They will also be able to choose the appropriate procedure depending on the problem they are facing. Finally, using specialized Computer software to register their data and implement the methods they were taught.</p> <p>The course is offered at postgraduate level and the learning outcomes correspond to level 7 of the European Qualifications Framework for Lifelong Learning (EQF). Based on the above, after the successful completion of this seminar course, students are expected to be able to:</p> <p>Knowledge. Students will be able to:</p> <ol style="list-style-type: none"> 1. understand and be able to calculate concepts such as mean and standard deviation 2. understand the concept of correlation between two qualitative variables <p>Skills. Students will be able to:</p> <ol style="list-style-type: none"> 1. compare mean values from two groups or interventions with independent samples 2. compare mean values from two groups or interventions with correlated measurements (pairwise samples) 3. to estimate the significance of the results with the p-value. <p>Abilities. Students will be able to:</p> <ol style="list-style-type: none"> 1. create frequency tables with qualitative and quantitative data and the corresponding graphs 2. calculate percentages below the normal distribution 3. estimate the standard error of the mean and its 95% confidence interval 4. compare mean values from different groups or interventions with independent samples 5. estimate the significance of the results with the p-value 6. carry out post-hoc checks

General Skills

The course aims for the students to acquire the following general skills:

- Search, analysis and synthesis of data and information, using the necessary technologies
- Autonomous work
- Decision making
- Promotion of free creative and inductive thinking

(3) COURSE CONTENT

The course includes the following thematic sections:

- Basic Statistics Concepts – Describing data with tables and graphs
- Measures of Central Tendency and Dispersion – Normal distribution – estimation of population parameters - Error Pearson and Spearman's Correlation Coefficients – Simple Linear Regression
- χ^2 tests for qualitative data
- Comparison of population means by ANOVA
- Comparison of population means by t-test with independent observations or pairs

(4) TEACHING and LEARNING METHODS - EVALUATION

METHOD OF DELIVERY	The teaching of the course includes:	
	<ul style="list-style-type: none"> • Live interactive lectures (lectures), with additional critical commentary on studies / modern literature, exercises and assignments during the course. 	
USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES	Slide show. Use of the e-class electronic platform to access notes/ex. articles. By using the same platform and teachers.hmu.gr, frequent communication with the students about everything related to the educational process and academic life.	
TEACHING ORGANIZATION	Activity	Semester Workload
	Lectures, Seminars and Interactive teaching	12
	Study and analysis of articles - bibliography - Independent Study	12
	Total Course	24
STUDENT EVALUATION	The course does NOT have an assessment.	

(5) RECOMMENDED-BIBLIOGRAPHY

- **Suggested Bibliography:**

Dacey CP, Reidy J. (2020) Statistics without Mathematics. Athens: Critique

Howitt, D. & Cramer, D. (2010). Statistics with SPSS 16, with Applications in Psychology and the Social Sciences (4th ed.). Athens: Keydarithmos.

-**Related scientific journals:**

- Biometrics
- Journal of Applied Statistics
- Journal of Biostatistics
- Statistics in Medicine