Course Title	**Biostatistics**				
Course Code	**NURS204**				
Course Type	Compulsory				
Level	Bachelor (1st Cycle)				
Year / Semester	2nd / Spring				
Instructor's Name	Dr Petroula Mavrikiou				
ECTS	3	Lectures / week	2+1 tutorial	Laboratories/week	
Course Purpose	The purpose of this course is to provide students with the foundations of biostatistics. The main aim is to introduce students to the statistical analysis of simple datasets, using inferential statistics to draw conclusions. Students are familiarised with the collection and analysis of data, errors in the interpretation of results and conclusions.				
Learning Outcomes	- Define the concept of biostatistics - Analyse basic datasets using descriptive statistics and extract conclusions from the results - Select appropriate techniques using inferential statistics to draw conclusions - Perform appropriate statistical analysis for more complicated datasets. - Present and support results using appropriate statistical tools to draw conclusions - Develop critical thinking about the results of complex data sets.				
Prerequisites	None	Corequisites	None		
Course Content	Basic biostatistics: concepts and tools. - Summarizing data. - Tables and graphs. Pie charts, bar charts and histograms. Line graphs. Frequency distributions and histograms. Normal distributions. - Summarising numbers: - Means, medians and mode. Variances, standard deviations and standard errors. - Basic concepts of statistical inference. - Using samples to understand populations. Confidence intervals. Hypothesis tests, p-values, statistical power. The p-value. Statistical power. - Basic methods: - t-tests. Chi-squared tests for cross tabulations. Correlation Regression. Linear regression. Logistic regression.				
Teaching Methodology	The course is delivered to the students by means of lectures and tutorials, conducted with the help of computer-based presentations. Lecture notes				

	and presentations are available through the web for students to use in combination with the textbooks. During the tutorials students are encouraged to participate in discussions and class work. At the same time, students are given problems and exercises to solve at home. Students will also have the opportunity during the tutoring exercises to understand and consolidate the theoretical part of the course.
Bibliography	(a) **Textbooks:** • Petrie, A. & Sabin, C. (2016). *Ιατρική Στατιστική με μια ματιά* (3η Εκδ.) ΕΚΔΟΣΕΙΣ ΠΑΡΙΣΙΑΝΟΥ Α.Ε **(In Greek)** • Riffenburgh, R. H., & Gillen, D. (2020). *Statistics in Medicine*. Elsevier Science & Technology. (b) **References:** • Indrayan, A. (2008). *Medical Biostatistics*. Publisher: Boca Raton Chapman And Hall • Bernard Rosener (2006). *Fundamentals of Biostatistics*. Australia Thomson • Pagano, M. & Gauvreau K. (2002). *Αρχές Βιοστατιστικής. Εκδ. Ελλην* **(In Greek)** (c) **E-books:** • Selvin, S. (2015). A Biostatistics Toolbox for Data Analysis. Cambridge: Cambridge University Press. • Bryan Kestenbaum (2019) Epidemiology and Biostatistics: An Introduction to Clinical Research, Springer • Sylvia Wassertheil-Smoller, Jordan Smoller (2015) Biostatistics and Epidemiology: A Primer for Health and Biomedical Professionals, Springer *Through the services of the university library, access is provided to electronic repositories of scientific journals and articles, indicatively* ***ProQuest, Cambridge University Press*** and ***Science Direct*** *with thousands of scientific journals in the fields of health sciences.*
Assessment	The assessment of this course consists of the coursework (midterm exam, assignment, class participation) and final exam. **Mid-Term Exam: 40%.** A written midterm exam will be comprised by multiple choice questions, short answer and open questions. **Student Participation: 10%.** The class participation includes formative assessments with interactive problem solving questions. **Written Final Exam: 50%.** A written final exam will be comprised by multiple choice questions, short answer and open questions.
Language	Greek / English