FACULDADE DE MEDICINA
CENTRO DE PÓS-GRADUAÇÃO
Av. Prof. Alfredo Balena 190/sala 7009
Belo Horizonte – MG - CEP 30.130-100
Fone: (031) 3248.9641   FAX: (31) 3248.9640
E-mail: cpg@medicina.ufmg.br

CIR 876 Quantitative Methods Applied to Surgery

Workload: 30 horas
Credits: 02
Nature: Optional Master and PhD
Professors: Carla Jorge Machado; Vivian Resende

Disicipline Syllabus: The objective of this course is to provide essential introductory elements for further training in the statistical analysis of data relating to research in the field of public health. Definitions in statistics. Probability. Conditional Probability. Frequency definition of probability. Events. Types of variables. Descriptive measures of distribution according to variables. Measures of central tendency. Measures of variability. Concept of population and concept of sample. Confidence interval. Sample size. Tests: parametric and non-parametric. Study designs and relevant measures. Notions of univariate and multivariate regression. Applications of the concepts studied to surgery.

The course will be developed through lectures and the use of portable computers brought by students. Individual and group work will be carried out on the content of the course: exercises with practical problems, preferably already brought by the student. With such activities, it is intended to promote the training of statistical reasoning to facilitate the development in future courses in statistics and to assist in the development of the research project.

The rating criteria will consider works (individual and group) on the statistical methodology discussed (in traditional exercises or scientific articles) and analysis of simple data with computer use. There will be encouragement for students to constantly bring their problems to their own research in progress.

UNITS OF TEACHING

1. SOME BASIC CONCEPTS IN STATISTICS.
2. PROBABILITY
3. DISTRIBUTION OF PROBABILITY
3.1. Continuous Distributions: uses and applications
3.2. Discrete Distributions: uses and applications
4. THE NORMAL DISTRIBUTION
4.1. Normal Distribution Properties
4.2. The normal distribution as the main parametric distribution: uses and applications
5. ESTIMATION
5.1. Point estimate
5.2. Interval estimation
5.3. Sample size
5.4. Study design and sample size: uses and applications
5.5. Parametric and non-parametric tests.
5.6. Uses and applications of univariate and multivariate regression

Bibliographic References

Sabin, Caroline; Petrie, Aviva - Estatística Médica. (ISBN: 857241701X). 2a. Edição. Editora ROCA. 2008. 176 páginas

CRESPO, A. A. Estatística fácil – 19a edição atual. São Paulo: Saraiva, 2009. https://dl.dropbox.com/u/1863356/anota%C3%A7%C3%B5es%20em%20constru%C3%A7%C3%A3o%20-%20quantitativo.pdf

Soares, J.F., Farias, A. A. E Cesar, C.C. Introdução à estatística, 2ª edição, LTC, 2003
Triola, M. F. Introdução à estatística. 9ª edição – 2005. 682 pgs.

.