

## SYLLABUS

### I. IDENTIFICATION

<b>Degree Course:</b> Business Administration		
<b>Departament:</b> Departamento de Administração Empresarial		
<b>Course:</b> Statistical Methods		<b>Código:</b> 21MEES
<b>Carga horária:</b> 72 hours/class	<b>Período letivo:</b> 2023-1	<b>Phase:</b> 2º
<b>Professor:</b> Eduardo Janicsek Jara, Dr.		
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### II. SUMMARY

Data collection techniques (notions of sampling and creation of questionnaires). Data preparation for statistical analysis. Graphic representation. Statistical series. Location and dispersion measures applied to quality and economy. Probability (Bayes). Probability distributions. Association Measures (parametric and non-parametric). Laboratory of statistical methods as support to theoretical concepts, applied to administration problems.

### III. GOALS AND OBJECTIVES

To present the basic concepts related to descriptive statistics, focusing on measures on a distribution and the estimators necessary for the development of statistical analysis. Enable students to calculate the main statistical measures about a distribution and apply statistical principles in the interpretation of results and predictions, algebraically and using statistical packages for the computer: SPSS, EXCEL, R and others.

### IV. DIDACTIC PROGRAM

1. Rounding to the desired precision. 2.Sampling: Types of sampling: probabilistic and non-probabilistic. Sample size calculation. 3.Preparation of data for statistical analysis. 4.Graphic representation of frequency distributions. 5. Measures of central tendency (Mean, Mode, Median). 6. Measures of dispersion (Mean Deviation, Variance, Standard Deviation, Coefficient of Variation). 7. Measures of Correlation between correlation variables and simple and multiple regression 8.Statistical series time series 9.Forecast: Naive Method; Moving average; Classical Decomposition.10.Probabilities: Definition of probability; Probability function; Probability of an event. Operations with events; Calculation of Probabilities. Discrete and probability distributions. Normal Distribution.

### V. TEACHING METHODOLOGY

Lecture/dialogue class with elaboration of exercises individually or in groups. Synchronous and asynchronous classes; asynchronous exercises. Use of Excel and SPSS spreadsheet and others statistical packages for computer.

### IV. SISTEMA DE AVALIAÇÃO

Students will be evaluated through individual tests, exercises solved individually or in groups and a work paper. There will be 2 tests referring to the contents mentioned in the mentioned didactic program. The semester grade will be formed by the average of the tests (Weight = 70% by the Work Paper (weight = 30%). In this way, the student's final average will be calculated from the formula: Final Average =  $0.7 \cdot (T1+T2)/2 + 0.30 \cdot (WP)$ : MédiaFinal =  $0,7 \cdot (P1+P2)/2 + 0,30 \cdot (TI)$

## V. BIBLIOGRAPHY

### BASIC BIBLIOGRAPHY

SPIEGEL, Murray R. **Statistics**. Mc Graw – Hill. 1980

ANDERSON, David R. SWEENEY, Dennis J., WILLIAMS, Thomas A. **Statistics For Business and Economics**. Thomson Learning, 2003.

SAMOHYL, Robert W.; McCLAVE, James T; BENSON, P George; SINCICH, Terry. **Statistics for Business and Economics**. Pearson Prentice Hall, 2009.

HAIR, Joseph, BLACK, Willian; BABIN, Barry; ANDERSON, Rolph.. **Multivariate data analysis** 7th, 2009

### SUPPLEMENTARY BIBLIOGRAPHY

AGRESTI, Alan. **Statistical Methods for the Social Sciences**. Pearson, 2017

BARBETTA, Pedro. **Estatística Aplicada às Ciências Sociais**. Florianópolis: Ed. UFSC, 1994.

FIELD, Andy; MILES, Jeremy; FIELD, Zoë. **Discovering Statistics Using R** . SAGE Publications Inc. London. 5ed. 2012.

FIELD, Andy; MILES, Jeremy; FIELD, Zoë. **Discovering Statistics Using IBM SPSS Statistics** SAGE Publications Inc. London. 5ed. 2012.

TRIOLA, Mario F. **Introdução à Estatística**. 9.ed. Rio de Janeiro: Livros Técnicos e Científicos, 2005.