



Short Program of Course:

Academic Year: 2021 – 2022

STATISTICS

"Bachelor" in "Agribusiness Management"
First Cycle Study Program (180 ECTS)

Type of activity	hours
Lectures:	45
Seminars:	15
Exercises:	
Laboratory:	
Fieldwork practice:	
Clinical practice:	
Sportive practice:	

Credits:	5
Discipline:	B

Total workload	5	x	25	=	125
Class workload:					60
Individual workload:					65

Code:	AGR-A-05
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Description of Course

INTRODUCTION

- 1.1 Statistics and its duties
- 1.2 Statistics branches
- 1.3 The nature of phenomena that studies the statistics
- 1.4 Types of problems and users of statistics
- 1.5 Variables and their types

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DATA COLLECTION AND GROUPING METHODS

- 2.1 The meaning and significance of the collection and data grouping
- 2.2 Structural grouping
- 2.3 Typological grouping
- 2.4 Analytical grouping
- 2.5 Measurement of structural changes by the group

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USE OF DATA SERIES AND STATISTICAL TABLES

- 3.1 Statistical series: meaning, importance and their use
- 3.2 Types of statistical series
- 3.3 Time or dynamic series
- 3.4 Local series
- 3.5 Distribution series

3

ABSOLUTE AND RELATIVE FREQUENCIES

- 4.1 The basic knowledge
 - 4.2 The relative frequencies (RF)
 - 4.3 Use of coordinated absolute and relative frequencies
- Seminars: Questions and exercises.

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CHARTS FOR STATISTICAL DATA REPRESENTATION

- 5.1 Understanding the importance and the elements of statistical graphs
 - 5.2 Types of statistical graphs
 - 5.3 Graph scale and possibilities to misuse them
- Seminars: Questions and exercises.

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DESCRIPTIVE STATISTICS

- 6.1 Average as generalized indicator of data localization
 - 6.2 The general formula of averages, types of averages, choosing the best average for a specific case.
- Seminars: Questions and exercises.

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	DESCRIPTIVE STATISTICS
7	6.3 Harmonic average 6.4 Quadratic average 6.5 Position averages 6.6 Median, quartiles, deciles, percentile 6.7 Mode, other types on average
	DESCRIPTIVE STATISTICS
8	6.9 Quintiles 6.10 Graph box-whisker 6.11 The comparison of averages 6.12 The variance and the indicators of variance 6.13 The comparison of the indicators of variance
	STATISTICAL DISTRIBUTIONS
9	7.1 The basic knowledge 7.2 Normal distribution 7.3 Binomial distribution 7.4 Geometric distribution 7.5 The negative binomial distribution
	STATISTICAL DISTRIBUTIONS
10	7.7 Exponential distribution 7.8 Uniform distribution 7.9 Student distribution (t) 7.10 Hi-square distribution 7.11 Fisher distribution (f)
	SAMPLING
11	8.1 Sampling understanding and representation 8.2 How to sample 8.3 Random sample method 8.4 Typical sample (or stratified in groups) and its formation 8.5 The multi-stage sample
	SAMPLING
12	8.8 Sample errors and their calculation 8.9 Errors in random sample 8.10 Errors in typical sample 8.11 Sample estimates 8.12 Confidence interval evaluation
	HYPOTHESIS TESTING
13	9.1 What are the statistical hypotheses? Their importance and control of their authenticity in different situations of economy and business 9.2 Essential concepts (definitions) in testing the statistical hypotheses 9.3 The concept of base hypothesis and alternative hypotheses 9.4 The concept of parametric and non-parametric hypotheses
	HYPOTHESIS TESTING
14	9.7 Testing the hypothesis on the equality of the arithmetic mean 9.8 Hypothesis testing on proportionality equation 9.9 Hypothesis testing on the equality of two arithmetic means 9.10 Hypothesis on the difference of two means in pair comparisons 9.11 Hypothesis testing on the equality of two proportions
	HYPOTHESIS TESTING
15	9.13 Hypothesis testing on the ratio of two dispersions 9.14 Testing on the equality of some dispersions 9.15 Hypothesis testing on the form of distribution 9.16 Hypothesis testing on normal distribution 9.17 Hypothesis testing on Pauson distribution