SYLLABUS

1. Data about the study programme

1.1. University	**"1 Decembrie 1918"**
1.2. Faculty	**Faculty of Sciences**
1.3. Department	**Economic Science and Business Administration**
1.4. Field of Study	**Business Administration**
1.5. Cycle of Study	**undergraduate**
1.6. Academic programme / Qualification	**Business Administration**

2. Information of Course Matter

2.1. **Course**	**Statistics**			2.2. **Code**		**BA 122**	
2.3. **Course Leader/** Seminar Tutor		Assoc. prof. Nicoleta Breaz, Ph. D.					
2.4. Seminar Tutor		Assoc. prof. Nicoleta Breaz, Ph. D.					
2.5. Academic Year	**I**	2.6. Semester	**II**	2.7. Mode of assessment (E/C/Vs)	**E**	2.8. Course regime (**C** – compulsory, **E** - elective, **Op**– optional)	**F**

3. Course Structure (Weekly number of hours)

3.1. Weekly number of hours	**3**	3.2. course	**2**	3.3. seminar/lab	**1**
3.4. Total number of hours in the curriculum	**33**	3.5. course	**22**	3.6. seminar/lab	**11**

Allocation of time:	hours
Individual study of readers	**30**
Documentation (library)	**2**
Home assignments, Essays, Portfolios	**30**
Tutorials	**-**
Assessment (examinations)	**4**
Other activities…….	**-**

3.7 Total number of hours for individual study	**67**
3.8 Total number of hours in the curriculum	**33**
3.9 Total number of hours per semester	**100**
3.10 Number of ECTS	**4**

4. Prerequisites (*where applicable*)

4.1. curriculum-based	*It is highly recommended to attend following course from previous semester:* ***Mathematics Applied to Economics***
4.2. competence-based	C1. Knowledge and understanding of the fundamental concepts, theories, and methods in the field and specialty area; their adequate use in professional communication (part of the mathematical techniques) C2. Use of fundamental knowledge in order to explain and interpret various types of concepts, situations, processes, projects, etc. associated to the field (part of the mathematical techniques)

	C5. Drawing up professional projects with methods and principles acknowledged in the field (part of the mathematical techniques)

5. **Conditions** (if needed)

5.1. course-related	*Lectures, argumentation, discussions, examples and other teaching methods, the use of edited courses for both the theory and practice, other bibliographic sources from the Library (books in the field of statistics, statistical yearbooks, etc.)* ***Note: The students are strongly encouraged to attend the course, in order to gain knowledge for practical applications.***
5.2. seminar/laboratory-based	*The seminars are developed according with the edited course from the library, both for theory and practice and in accordance with other bibliographic sources available in the Library (exercise books in the field of statistics, statistical yearbooks, etc.). Students are encouraged to solve various problems specific to the discipline. The didactic strategies employed involve the students' active participation in the education process: case studies, discovery, theory motivation with examples, and other modern didactic strategies.* ***Note: Students are advised to attend all the seminars, in order to understand every step of the statistical applications. The attendance of at least 80% of seminars is compulsory, a student who doesn't attend 80% of practical classes being not allowed at the exam. The missed classes can be recovered by a student, during other classes, before the final examination, by completing a portfolio with all missed seminar works.***

6. Specific competences to be aquired (chosen by the course leader from the programme general competences grid)

Professional competences	**Cognitive competences**: to assimilate fundamental knowledge in the field of economic statistics, starting with aspects of descriptive statistics up to aspects about inferential statistics; **Technical/professional competences**: to form aptitudes needed for statistical data processing and analysis; this course graduate will be able to collect, systematize, graphically represent, and interpret statistical data, both at sample and population levels; **Affective and value competences**: to form and develop the capacity to relate to standards connected with rigor and accuracy in data analysis Taking into account the above mentioned specific competences, the course ensures the assimilation of the statistical apparatus that contributes to the formation of professional competences ensured by the study programme, i.e. ***Knowledge and understanding of the fundamental concepts, theories, and methods in the field and the specialty area; their adequate use in professional communication (C1), Use of fundamental knowledge in order to explain and interpret various types of concepts, situations, processes, projects, etc. associated to the field (C2), Application of fundamental methods and principles in order to solve well-defined, typical problems/situations in the field, with qualified assistance (C3), respectively The drawing up of professional projects with methods and principles acknowledged in the field (C5).*** They can be described with level descriptors related to: C4.1. The identification and description of the concepts of planning, organization, coordination and control in the human resource activity C5.1. The description of concepts, theories and methodologies for database administration specific to the field of business administration C4.2. Explanation and interpretation of the concepts of planning, organization, coordination and control in the human resource activity C5.2. Quantitative and qualitative explanation and interpretation of database information C5.3. Application of adequate tools for data analysis specific to the field of business administration C1.5. Drawing up of a research project about the relation of economic influence of the external environment on enterprise/organization C2.5. Drawing up an analysis about the relations with economic implications between the enterprise/organization units C3.5. Drawing up a study about an enterprise/organization unit functioning and administration C4.5. Project substantiation about human resource recruitment, selection, motivation, and payment in the field of business administration C5.5. Drawing up a research project associated to business administration, using specific databases
Transversal competences	-

7. Course objectives (as per the programme specific competences grid)

7.1 General objectives of the course	The general aim of the discipline consists in forming data analysis skills in order to **know and understand the fundamental concepts, theories, and methods in the field and the specialty area and to use them in the professional communication in an adequate manner, to use the fundamental knowledge in order to explain and interpret various types of concepts, situations, processes, projects, etc.**

	associated to the field, to apply the fundamental methods and principles in order to solve well-defined, typical problems/situations in the field, with qualified assistance, and to draw up professional projects with methods and principles acknowledged in the field.
7.2 Specific objectives of the course	The object of study in economic statistics is given by statistical populations of economic type. From the point of view of statistical observation, one might mention two big branches of statistics: descriptive and inferential statistics. The main aim of descriptive statistics, in a first stage, is to collect and organize the statistics resulted from the observation of a sample or certain population, bringing them to the form of a statistical series initially reproduced in a table, and then being graphically represented. This stage is followed by the analysis of the resulted series. The main characteristics determine the main attributes of the sample or population. The aims are the following ones: to familiarize the student with the fundamental concepts in statistics (statistical population, sample, etc.), to form skills for statistical data processing and analysis, to acquire the capacity to analyze and interpret statistical results. The inferential or deductive statistics is complementary with the descriptive statistics. Nevertheless, in this case, the starting point in making the research upon the population is represented by the statistics resulted by sample observation, sample being extracted from the required population. Its aim is to extend the characteristics resulted at sample level for the statistical population out of which the sample emerged. The following aims are taken into account: to form skills and abilities of probabilistic calculation, to familiarize the students with estimation methods, with the testing of statistical hypotheses, interesting from economic perspective. The final aim of the discipline consists in the **quantitative and qualitative explanation and interpretation of the database information, the application of adequate tools to analyze data specific to the field of business administration in order to draw up a study about the relation of economic influence of the external environment on the enterprise/organization, the relations with economic implications between an enterprise/organization units, enterprise unit functioning and administration, and project substantiation about human resource recruitment, selection, motivation, and payment in the field of business administration.**

8. Course contents

8.1 Course	**Teaching methods**	**Observations**
CHAPTER I. Main concepts in statistics (4 hours) 1. Statistical population, sample, statistical unit and volume 2. Statistical variable 3. Statistical observation 4. Statistical indicator 5. Statistical series	***Lecture, discussions, argumentations, examples***	-
CHAPTER II. Observation, systematization and graphical representation of the statistical data (6 hours) 1. Steps of statistical observation 2. Systematization of the observation's results 3. Graphical representation of statistical series	***Lecture, discussions, argumentations, examples***	-
CHAPTER III. Statistical parameters (6 hours) 1. Parameters of central tendency (main trend) 2. Parameters of structure 3. Parameters of variance	***Lecture, discussions, argumentations, examples and learning by discovery***	-
CHAPTER IV. Correlation and regression(6 hours) 1. Basics concepts 2. Statistical analysis of the existence of correlation 3. Statistical analysis of the intensity degree of correlation 4. Making an hypothesis about the mathematical form of the correlation 5. Calculus of regression parameters 6. Statistical analysis of representativity of the regression model	***Lecture, discussions, theory argumentations with examples and learning by discovery***	-
CHAPTER V. Introduction to inferential statistics (6 hours) 1. Basic concepts, probabilities and sampling 2. Estimation of unknown parameters based on confidence intervals 3. Hypothesis testing	***Lecture, discussions, argumentations, examples***	

8.2 Bibliography

1. N. Breaz, ***Statistics- Theory And Applications***, Didactical Series, "1 Decembrie 1918" Universitty of Alba Iulia, (in printing), 2013
2. D. Freedman, R. Pisani, R. Purves, ***Statistics,*** New York; London:Norton&Company,1998
3. L.D., Hoffmann, ***Calculus For Business, Economics And The Social And Life Sciences***, McGraw-Hill Book Company,1986
4. R.I. Levin***, Statistics For Management,*** New Jersey:Prentice-Hall,1976
5. G. R. Loftus, E.F. Loftus***, Essence Of Statistics,*** New York: Alfred A. Knopf,1988
6. S. Nolan***, Introductory Statistics: Student Solutions Manual***, Prentice Hall, 2006.

7. A. Siegel, ***Practical Business Statistics***, 6th Edition, Elsevier, Academic Press, 2011
8. G. Smith, ***Essential Statistics, Regression, and Econometrics*****,** 1st Edition, Elsevier, Academic Press, 2011
9. L. Swift, ***Mathematics And Statistics For Business, Management And Finance,*** Hampshire: MacMillan Publishers LTD,1997
10. ***, ***Statistical Yearbook***, 2011

Seminar		
S1. Examples for the main concepts in statistics (2 hours) - statistical universe, sample, statistical unit, volume - statistical variable, random variable - statistical observation - statistical indicator - statistical series	**Coordination and verification of seminar applications, examples, case studies**	
S2. Applications for statistical observation, systematization and presentation of data (3 hours) 2.1. Application for the statistical observation 2.2. Application and examples about data systematization, elaboration of primary series, derived series and chronological series 2.3. Application for statistical series presentation and graphical representation	**Coordination and verification of seminar applications, examples, case studies**	
S3. Parameters calculus (3 hours) 3.1. Calculation and interpretation of the parameters of the central tendency, mean value, median value, modal value 3.2. Calculation and interpretation of the parameters of structure 3.3. Calculation and interpretation of the parameters of variance	**Coordination and verification of seminar applications, examples, case studies**	
S4. Applications and case studies for correlation and regression (3 hours) 4.1. Applications for statistical analysis of the existence of correlation 4.2. Applications for statistical analysis of the intensity degree of correlation 4.3. Case studies about the mathematical form of the correlation 4.4. Calculus techniques for the regression parameters 4.5. Applications for representativity of the regression model	**Coordination and verification of seminar applications, examples, case studies**	
S.5. Applications to inferential statistics (3 hours) 5.1. Examples of sample, random variable, sampling vectors, estimators 5.2. Applications for estimation of unknown parameters based on confidence intervals- confidence interval for unknown mean 5.3. Applications for hypothesis testing-significance test for unknown mean Synthesis applications	**Coordination and verification of seminar applications, examples, case studies**	

Bibliography

1. N. Breaz, ***Statistics- Theory And Applications***, Didactical Series, "1 Decembrie 1918" Universitty of Alba Iulia, (in printing), 2013
2. D. Freedman, R. Pisani, R. Purves, ***Statistics,*** New York; London:Norton&Company,1998
3. L.D., Hoffmann, ***Calculus For Business, Economics And The Social And Life Sciences***, McGraw-Hill Book Company,1986
4. R.I. Levin***, Statistics For Management,*** New Jersey:Prentice-Hall,1976
5. G. R. Loftus, E.F. Loftus***, Essence Of Statistics,*** New York: Alfred A. Knopf,1988
6. S. Nolan***, Introductory Statistics: Student Solutions Manual***, Prentice Hall, 2006.
7. A. Siegel, ***Practical Business Statistics***, 6th Edition, Elsevier, Academic Press, 2011
8. G. Smith, ***Essential Statistics, Regression, and Econometrics*****,** 1st Edition, Elsevier, Academic Press, 2011
9. L. Swift, ***Mathematics And Statistics For Business, Management And Finance,*** Hampshire: MacMillan Publishers LTD,1997
10. ***, ***Statistical Yearbook***, 2011

9. Corroboration of the course content with the expectations of the representatives of epistemic communities, professional associations and representative employees in the field of the programme

Since it provides the skills for statistical calculation and analysis, and the understanding of the phenomena from the economic field, mainly in the field of business administration, the course leads to a well trained economist, able to operate with indicators employed in phenomena specific to the field, to understand and control the respective phenomena through correlations and statistical analysis, i.e. the course helps the graduates to adapt themselves to various fields of activity on the labor market where specialists in business administration are needed.

10. Assessment

Type of activity	10.1 Assessment criteria	10.2 Assessment methods	10.3 Weight of the final grade
10.4 Course	*- to understand the fundamental concepts of statistics* *- to use the statistical methods and formula correctly* *- to interpret the obtained results correctly*	***Final assessment – written exam*** *Assessment of the statistical knowledge during the synthesis problem solving process*	90%

10.5 Seminar/lab	*- original examples and applications proposed in their own homework* *- to solve correctly the statistical problems during the seminars*	***Verification during the semester :*** *assessment of the practical skills in solving statistical problems, by assessing the individual portfolio with applicative works (written papers) presented at the seminars, according to a specified schedule*	10%

10.6Minimum performance standard:

For the minimum performance standard, the student should demonstrate competence in understanding and working with statistical concepts and in interpretation of the main statistical parameters (for credits, at least the medium value and the dispersion of a variable)**, in order to know and understand the fundamental concepts, theories, and methods in the field and the specialty area and to use them in professional communication in an adequate manner, to use the fundamental knowledge in order to explain and interpret various types of concepts, situations, processes, projects, etc. associated to the field, to apply the fundamental methods and principles with a view to solving well-defined, typical problems/situations in the field, with qualified assistance, and to draw up professional projects with methods and principles acknowledged in the field.** The minimum performance standard requested for the present course contributes to the accomplishment of the minimum performance standard for assessing the specific competences in the field**, i.e. to select a data set for solving problems in the field of business administration.**

Note: See also pct. 5 (conditions) about the compulsory classes. At the same time, the student who is not present at the final exam will be mentioned as being absent, no matter the grade obtained at the examination during the semester.

Fill in date Course titular's signature Seminar titular's signature

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Approval date in department Department director's signature

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