

DESCRIPTION OF THE COLLEGE

GENERAL INFORMATION		
Course Holder	Dr.sc. Višnja Jurić	
Name of the College	Business Statistics	
Study program	Professional Short Study in Entrepreneurship	
Status of the College	Mandatory	
Code	PS-P-24	
Year	2. Year	
Point value and method of teaching	ECTS Student Workload Coefficient	6
	Number of hours (P+V)	30+30

DESCRIPTION OF THE COLLEGE
1.1. Objectives of the course
Introducing students to the basic statistical methods and techniques of collecting, presenting, organizing and analyzing data with an emphasis on the calculation and interpretation of the results of basic statistical indicators. Students will get acquainted with the basic procedures and ways of using and applying statistical computer programs and apply the acquired knowledge in the field of entrepreneurial practice.
1.2. Requirements for enrolment in the course
Passed subject Economic Mathematics
1.3. Expected learning outcomes for the course
1. Define basic statistical terms. 2. Calculate and interpret basic statistical indicators - measures of centrality and measures of data dispersion. 3. Calculate and interpret the correlation coefficient and regression equation coefficients using appropriate software. 4. Calculate and interpret chain and base indices and use appropriate software to model time series with a suitable trend model. 5. Apply the basic rules of combinatorics, set theory and probability. 6. Apply theoretical models of probability distributions of discrete and continuous random variables, (Binomial distribution, Normal distribution).
1.4. The content of the course
Basic statistical concepts. The concept of population and sample, population parameter and statistical characteristic. Simple random sampling. Descriptive and inferential statistics.

Objective, grouping and display of statistical data.

Graphical description of the data.

Qualitative and quantitative data. Measuring scales.

Graphical representations – bar graph, structure circle, Pareto diagram, time graph. Frequency distribution. Histogram.

Tree-leaf diagram. Form of distribution. Two-way table. Scatter diagram.

Numerical description of data

Basic statistical indicators.

Measures of centrality and measures of variability of data in a sequence. Coefficient of variation. interquartile rank. Box plot.

Correlation and regression analysis

Measures of correlation between two variables – covariance and correlation coefficient.

Simple linear regression model.

Definition and types of time series

Linear trend model. Exponential trend model.

Numerical analysis of time series. Base indices. Chain indices.

Combinatorics, set theory and probability.

Sets and cluster operations.

Definition of probability, basic rules of probability.

The Rule of Union and Complement.

Probability distribution of discrete and continuous random variables.

Discrete random variable distribution table.

The mean and variance of a discrete random variable.

Normal distribution.

It's a standard normal distribution. Determination of areas under the curve.

1.5. Types of teaching

X lectures

☐ Seminars and workshops

☐ X Exercises

☐ Distance education

☐ Field Teaching

☐ Independent tasks

X Multimedia & Network

☐ Laboratory

☐ mentoring work

☐ other

1.6. Obligations of students

Student obligations are prescribed in detail by the Statute, the Study Regulations and the Instructions on Student Obligations. The key obligations of students are:

ATTENDANCE AT CLASSES: *students are obliged to attend classes, actively follow lectures and exercises and participate constructively in classes, and in order to acquire the right to take the exam, it is necessary to attend classes in the percentages prescribed by the Study Regulations. For each student, their presence in class is recorded through the Infoeduka digital office system. The minimum commitments are;*

- *Full-time students must attend at least 70% of the total number of classes to be eligible to sign.*
- *Part-time students need to attend at least 50% of the total number of teaching hours to be eligible to sign.*

EXAM: *in order to achieve a positive grade, it is necessary to achieve at least 54 points of the total number of points and at least 50% of points for each learning outcome. A more detailed method of taking the exam is described in 1.8.*

ACTIVITY IN CLASS *includes writing (optional) homework, answering more complex queries and active work on the computer.*

1.7. Student Performance Monitoring

Attendance	x	Teaching activity	x	Term paper		Experimental work	
Written exam	x	Oral exam		Essay		Research	
Design		Continuous assessment of knowledge	x	Paper		Practical work	
Portfolio							

1.8. Assessment and evaluation of students' work during classes and at the final exam

Assessment and evaluation of students' work during classes and at the final exam is carried out on the basis of the Study Regulations of the EFFECTUS University of Applied Sciences.

In order to improve the effective progress of students in teaching, lectures, exercises, continuous testing of knowledge (intermediate exams and teaching activity) and the final exam are conducted. In this way, students acquire smaller teaching units and master the subject material more easily.

The total number of points is distributed through the following activities:

Activity	ECTS credits	Learning outcomes	Studneata activity	Valuation methods	Maximum number of j rating points
Attendance	2	1 - 6	Participation in lectures and exercises	Attendance records	0
Intermediate exams	3,5	Intermediate exam 1 – outcomes 1,2,3 Intermediate exam 2 – outcomes 4,5,6	Participation in the written examination (intermediate exams) in which the tasks of calculation and interpretation of statistical results are included, as well as the creation and interpretation of computer calculations (outputs).	Intermediate 1 is valued with 16 points per outcome. Intermediate exam 2 is valued with 16 points per outcome.	0 - 96
Class Activity	0,5	Out of the Box	Writing (optional) homework, answering more complex queries and active work on the computer.	Max 4 points	4
Final exam*		1-6	Attendance at the written examination with problem-type questions from economic practice	Checking the correct answers (grading)	0-96*
Total	6				100

**FINAL EXAM – a student who has not met the conditions for passing the exam during the continuous examination (has achieved a total of at least 54 points in the course and met the lower point threshold for the acquisition of each learning outcome, i.e. at least 50% of the points of each learning outcome), may take the learning outcomes of the course at the final exam. A maximum of 96 points can be achieved at the final exam. (100 points – class activity 4 points = 96 points).*

A student can get additional points through the Challenge learning outcome.

Passing outcomes is shown in more detail in the table below:

NAME OF LEARNING OUTCOMES	INTERMEDIATE EXAM/EXAM	CLASS ACTIVITY	TOTAL
OUTCOME 1	16	0	16
OUTCOME 2	16	0	16
OUTCOME 3	16	0	16
OUTCOME 4	16	0	16
OUTCOME 5	16	0	16
OUTCOME 6	16	0	16
OUT OF THE BOX		4	4
TOTAL	96	4	100

JUDGING:

In order to achieve a positive grade in the course, the student must cumulatively meet two conditions: achieve a total of at least 54 (fifty-four) points in the course and meet the lower point threshold for the adoption of each individual learning outcome, which is 50% of the total points of the learning outcomes.

Grades are calculated based on the following distribution of points:

NUMBER OF POINTS	RATING
0,00 – 53,90	<i>Insufficient (1)</i>
54,00 – 64,90	<i>Sufficient (2)</i>
65,00 – 79,90	<i>Good (3)</i>
80,00 – 89,90	<i>Very Good (4)</i>
90.00 and more	<i>Excellent (5)</i>

The evaluation is carried out in a transparent manner by collecting points. The course is valued at 100.00 points (with the possibility of achieving an additional 8 points on the Challenge learning outcome).

CHALLENGE LEARNING OUTCOME - through the Challenge learning outcome, the student has the opportunity to earn an additional (max) 8 points. In order to earn "challenge" points, the student independently collects data, and with the help of appropriate computer software, conducts a statistical analysis of the collected data and presents the results obtained during class. Points for the Challenge learning outcome are not distributed according to the learning outcomes, but the number achieved is an additional number of points to the total number of points achieved according to the learning outcomes.

<i>Before taking the final written exam, each student must meet the prescribed conditions, which primarily means that he or she has attended a certain percentage of classes determined by the Study Regulations and that he or she has received an electronically encrypted permission to take the exam.</i>		
1.9. Required literature and number of copies in relation to the number of students currently attending classes in the course		
<i>Title</i>	<i>Number of copies</i>	<i>Number of students</i>
<i>Papić, Milan.: Applied Statistics in MS Excel, Likarija d.o.o, Zagreb, 2024.</i> <i>Lectures and materials published on the Infoeduka portal</i>	50	50
1.10. Supplementary literature		
<i>Rozga, A.; Statistics for Economists, Faculty of Economics, Split, 2017.</i>		
1.11. Quality monitoring methods that ensure the acquisition of output knowledge, skills and competences		
• <i>statistical processing and analysis of exam results (verification of the Gaussian curve – normal distribution of performance, comparison and monitoring of exam results of different generations, analysis of understanding of individual modules/questions on the exam, etc.),</i> • <i>conducting a survey among students,</i> • <i>evaluation and self-evaluation of teachers,</i> • <i>achieved results, level of understanding and knowledge during the preparation of the seminar paper,</i> • <i>the achieved results and the level of knowledge presented during the preparation and defense of the final thesis (of students who choose the graduate thesis in this subject),</i> • <i>analysis of the reports of the head of the quality center, and</i> • <i>Feedback from students who have already graduated about the usefulness of the content of this course in the performance of the tasks they are engaged in.</i>		