Basic data of the subject	
Academic unit:	**Faculty of Engineering and Informatics** **Applied Informatics**
Title of the subject:	**Statistical Modelling**
Level:	**Bachelor**
Course Status:	**Obligatory**
Year of studies:	**II**
Number of hours per week:	**3**
Value of Credits - ECTS:	**5**
Time / location:	
Course lecturer:	**Prof.Ass.Dr. Bashkimi Cerkini**
Contact details:	Bashkim.cerkini@ushaf.net
Course Description:	*Statistical modelling is concerned with building a model which attempts to explain how measurements are related in the presence of random variation. In this course, we are interested in modelling the average value of a response variable given the values of one or more explanatory variables. In this module, we consider linear models which are subject to normally distributed variation. We look at various different ways of estimating model parameters, see how to check that the models we fit are adequate, and discuss how to interpret the models.*
Objectives of the course:	*The aim of the course is to train students in understanding the basic concepts from statistics, their training in the application of statistical instruments in examples of different from Applied Informatics and other fields.* *In this module, students will learn how to carry out empirical quantitative studies, including design, data collection and data analysis.*
Expected learning outcomes:	*Upon successful completion of this course, student will be able to:* • *To acquire basic statistical concepts, data, their characteristics, forms of their presentation.* • *To be able to determine the arithmetic, harmonic, geometric mean; Median and fashion.* • *To master the concept of dispersion, standard deviation and their implementation with examples from economics.* • *Carry out empirical research* • *Design a questionnaire and test it* • *Collect and process the data* • *Regression model for metric variables* • *Summarize the findings in a structured report.*
Contribution to the student load (which must correspond with learning outcomes)	

Activity	Hour	Day/Week	In total
Lectures with numerical exercises	3	15	45
Internship			
Contacts with teacher / consultations			
Field exercises			
Midterm, seminars and projects.	3	2	6
Homework			
Self-learning time student (at the library or at home)	3	15	45
Final preparation for the exam	7	2	14
Time spent on evaluation (tests, quiz and final exam)			
Projects and presentations.	3	5	15
Total			**125**

Teaching methodology:	*The course takes 15 weeks with 2 hours of lectures and 2 hours weekly individual and group exercises.* *Exercises will be held in the form of individual and group work in which concrete examples will be discussed.* *Active participation is extremely important so students are encouraged to attend lectures and exercises regularly and contribute to the discussions that take place in lectures. Lectures, exercise, individual work, discussions and group work.*
Assessment methods:	*Test 1, Test 2, Attendance and Activity.* *Final exam: 100%*
The ratio of theory and practice:	*100% Theory with numerical exercises.*
Literature	
Basic Literature:	1. *Nuhiu, Shala , Fundamentals of Statistics, UP* 2. *Rahmije Mustafa - Topxhiu: HYRJE NË STATISTIKË, Prishtinë, 2016*
Additional Literature:	1. *Materials provided by the module leader*
Designed learning plan	
Week:	**Lectures and exercises to be held**
Week one:	*Course presentation*
Week two:	*Basic statistical meanings* *Massive phenomenon* *Variables* *Samples* *Statistical units*
Week three:	*Stages of statistical study* *Statistical survey.* *Data grouping.* *Statistical analysis* *Publication and interpretation of data*

Week four:	*Graphical representations and average algebraic sizes* *Graphs* *Simple and weighted arithmetic mean,* *Geometric mean (geometric mean) simple and weighted.*
Week five:	*Average position sizes* *Median (median)* *Moda* *Quartiles*
Week six:	*Absolute indicators of variation* *Variance* *Average deviation* *Standard deviation* *Dispersion*
Week seven:	*Test 1*
Week eight:	*Methods of data collection.*
Week nine:	*Data analysis.*
Week ten:	*Presentation of data.*
Week eleven:	*Theories of probability distributions.*
Week twelve:	*Setting up hypotheses.*
Week thirteen:	*Linear and non-linear regression.*
Week fourteen:	*Test 2*
Week fifteen:	*Course summary and exam preparation*
Academic policies and rules of conduct	
Regular attendance of lectures and exercises is necessary, as well as active participation with discussion and solution of tasks. Not impeding the progress required for learning using mobile phones turned off or in silent mode.	