

Milena Bieniek, PhD

Statistics and Econometrics Department

Faculty of Economics

Maria Curie-Skłodowska University in Lublin

Syllabus of the course

Statistical Inference

Academic year 2017/2018

Course title	Statistical Inference
Subject area	Economics
Type of studies	full-time Master studies
Course ID	
Erasmus code	
Source unit (the one that the course is offered by)	Faculty of Economics, Statistics and Econometrics Department
Target unit (the one that the course is offered for)	
Type of course	Facultative courses
Course description	The main purpose of the lecture is to present the probability theory background and theory of statistical inference. The subjects that will be treated are among others: normal distribution, estimation and statistical tests. An important part of the lecture will examine given models in practical exercises.
Educational outcomes	Knowledge: 1. about main probability distributions 2. about the punctual and interval estimation 3. about the hypothesis testing Skills: 1. understand the types of questions that the statistical method addresses 2. use the method to other examples and situations 3. interpret the results in a way that addresses the question of interest

	Attitudes: 1. ability to working and learning and continuing education and improvement of acquired skills and knowledge 2. ability to communicate the purposes of the analyses, the findings from the analysis, and the implications from those findings
Language of instruction	English
Course coordinator	Milena Bieniek, PhD
Additional remarks	milena.bieniek@umcs.lublin.pl

Academic year	2017/2018
Semester	spring
Number of hours in semester	15
Name of the academic teacher	Milena Bieniek, PhD
Level of the class	Intermediate
A list of topics	Topics: 1. Fundamentals in probability a) Random variables: discrete and continuous b) Expectation and variance of random variables c) Probability distributions: Binomial, Bernoulli, Normal, Poisson distribution 2. Confidence intervals a) for mean b) for variance c) for fraction d) minimal sample size 3. Hypothesis testing a) parametric tests: for one or two means, for variance, for fraction

	b) nonparametric tests
Educational outcomes	Knowledge: - about main probability distributions - about the punctual and interval estimation - about the hypothesis testing Skills: - understand the types of questions that the statistical method addresses - use the method to other examples and situations - interpret the results in a way that addresses the question of interest Attitudes: - ability to working and learning and continuing education and improvement of acquired skills and knowledge - ability to communicate the purposes of the analyses, the findings from the analysis, and the implications from those findings
Form of the class	lecture
Learning activities and teaching methods	information lecture
Type of assessment	credit (getting a pass expressed as a digit)
Assessment methods and criteria for this course	written exam
Reading list	- Aczel–Sounderpandian: Complete Business Statistics 7th ed McGraw-Hill/Irwin - David s. Moore, George P. McCabe: Introduction to the Practice of Statistics 5th edition 2006 W.H. Freedman and Company. - Prasanna Sahoo: Probability and Mathematical Statistics http://www.math.louisville.edu/~pksaho01/teaching/Math662TB-09S.pdf
Additional remarks	milena.bieniek@umcs.lublin.pl

