Subject name: Statistics I.		subject code: GMEST2CBNF GMEST2CBLF	weekly/semester hours: full time: 1Lc+2Pr+0lab part-time: 5Lc+10tgy+0lab
Credits: 4 Requirement: midterm mark		Pre-requirement: -	
Subject owner: Dr. Viktor Nagy	Position: associate professor	Faculty and Department name: Keleti Károly Faculty of Business and Management Department of Marketing, Management and Methodology	

Way of Assessments:
written exams

Course description:

The development of Hungarian statistics, a brief overview of its history. The institutional framework of official statistics (UN Statistical Division, Eurostat, The Hungarian Statistical Service). Basic concepts: statistics; the population and criteria; statistical series and tables; measurement, measurement scales, data accuracy; calculated averages: averages; ratios. Quantitative analysis of a population I: frequency, relative frequency; class intervals; graphical illustrations; sum of values, relative sum of values; cumulation; situation indicators (mean, mode, median, quantile). Quantitative analysis of a population II. : variance indicators (spread, mean deviation, standard deviation, relative standard deviation, mean difference). Quantitative analysis of the population III: shape indicators (asymmetry, peak); concentration (Lorenz curve, Herfindahl-Hirschman index); additional graphical charts (age tree, box plot). Simple analyses by time criterion. Multi-criteria analysis of a manifold: analysis of simple tables; analysis of clustering tables; analysis of combinatorial tables (association, mixed relationship, correlation). Comparison of composite intensity ratios: difference decomposition; quotient decomposition. Index calculation: comparing two periods (volume, price, value; average forms of indices); comparing several periods; spatial comparisons; some important practical index numbers.

Detailed description of the subject, schedule

Education weeks	Topics for lectures and practices
1.	The field of Statistics. Descriptive and inferential Statistics. Data, information. Sources: primary and secondary. Qualitative and quantitative data. Direct observation, experiments, surveys.
2.	Population, subpopulation, sample. Parameter, statistic. Measurement scales. Basic jargon. Discrete and continuous variables.
3.	Comparison, ratios, harmonic, geometric, arithmetic, quadratic means.
4.	Frequency distributions, classes, Lorenz curve, concentration.
5.	Measures of central tendency, percentiles. Measures of dispersion, measures of relative position.
6.	Graphing categorical and numerical data, charts.
7.	Test 1
8.	Contingency tables I. Measures of association.
9.	Contingency tables II. Mixed relationship.
10.	Contingency tables III. Correlation.
11.	Comparison with the method of standardization.
12.	Index numbers: simple indices, weighted aggregate indices: Laspeyres' and Paasche's indices, Fisher indices.
13.	Test 2
14.	makeup exams

Mid-term requirements

Two tests.

Midterm papers, exams, submissions:	
1.	
2.	
3.	
4.	

The signature requirement, the method used to form an exam mark:
The grade on this course is calculated numerically based on the total points of the two tests, although the instructor may raise or decrease it by one grade based on the active/inactive participation in classes or the level of the homework. Students may get homework, which should be handed in by the next lesson or presented in a few minutes. If the student does not show up or there is no homework prepared, the total performance decreases by 10 points per homework at the end of the semester before the final grading. The grade is based on the total points of the two tests. Grading: 5 (excellent): 87 – 100 4 (good): 75 – 86 3 (satisfactory): 63 – 74 2 (pass): 51 – 62 1 (fail): 50 or less Should a student accumulate a total of 50 or less, an additional chance is given to him/her to meet the requirements. This make-up exam consists of all the topics of the semester. Grading: same proportions applied as displayed above. After this, the grade will be registered in the Neptun system. A "signature retake exam" will be available on Neptun to have this as a final opportunity to have a grade different from 1 (fail). The exact date will be determined later, but it will take place during the first two weeks of the exam period. Based on the regulations, only those who are on the Neptun list can take this exam. Registering is needed no later than 12:00 on the day before the announced exam date.

Professional competences to be acquired

Knowledge:
    - Knowledge of the basic, broad concepts, theories, facts, national economic and international contexts of economics, relevant economic actors, functions and processes.
    - Acquire the basic theories and characteristics of the micro and macro levels of organisation of the economy, and have a command of basic methods of information gathering, mathematical and statistical analysis.
Abilities:
    - Plan and organise economic activities, projects, small businesses and business organisations, manage and control. By applying the theories and methods learnt, he/she identifies facts and basic relationships, organises and analyses, draws independent conclusions, makes critical observations, prepares proposals for decisions, and makes decisions in routine and partly unfamiliar contexts, both national and international.
    - Follows and interprets global economic and international business processes, changes in economic policy and related policies and legislation relevant to the field, their effects, and takes them into account in his/her analyses, proposals and decisions.
Attitude:
    - In the effort to achieve quality work, he/she is problem-sensitive, proactive, constructive, cooperative and proactive in projects and team work.
Autonomy and responsibility:
    - Assumes responsibility for his/her analyses, conclusions and decisions.

Literature
Required: Louise Swift and Sally Piff: Quantitative Methods for Business, Management and Finance, Macmillan Education UK, 2014

Les Oakshott: Essential Quantitative Methods: For Business, Management and Finance. 6th Edition, Palgrave, 2016

Les Oakshott: Quantitative Methods. Palgrave, 2014

Robert Donnelly: The Complete Idiot`s Guide to Statistics. 2nd Edition, Alpha, 2007

Deborah J. Rumsey: Statistics For Dummies. 2nd Edition, Wiley, 2011

Recommended:

David Freedman, Robert Pisani, Roger Purves: Statistics (4th Edition), W.W.Norton & Company Inc, 2007