UNIVERSITY OF MISKOLC
Faculty of economics
Institute of Economic Theory and Methodology
Department of Business Statistics and Forecasting

Schedule

QUANTITATIVE STATISTICAL METHODS (GTÜSE2015AML)

Faculty of Economics, MBA master

2nd semester, 2023/2024 academic year

Course title: QUANTITATIVE STATISTICAL METHODS	**Neptun code of course:** GTÜSE2015AM
	Course type: Compulsory
Course coordinator: Roland Szilágyi, Ph.D., Associate professor **Teaching staff involved:** Levente Lengyel, Assistant lecturer	
Recommended semester: 2nd	**Preconditions:** -
No. of lessons: 12 + 9	**Acknowledgement of course completion:** practical course mark
Credit value: 5	**Type of course:** Lecture and practice

Aim and content of course:

Having finished the course students will be able to analyse the main process of the business life with quantitative methods using statistical programs. Aim is to develop the students' analytical and decision-making ability, the recognition skills of causal relationships and the fundamental long-term trends, moreover, to introduce them into forecasting and business planning.

Thematic description of course content:

1. **6th April 8.30-11.00, 11.20-13.50 online**
   Introduction to Statistics. Data Collection (Types of Data, Types of Data Sources).
   Descriptive Statistics (Measure of Central Tendency, Measure of Variability).
   Association, Mixed Dependence.
   Rewiew of bivariate correlation, regression.

2. **19th April 13.20-15.50, 16.00-18.30 online**
   Multiple correlation and determination coefficients.
   Multiple regression analysis, multiple linear regression model. Assumptions of the error term, assumptions of the independent variables. Defining the optimal number of independent variables. Application of the SPSS program.

3. **20th April 8:30 – 13:30 online**
   Logistic regression model and it's application in SPSS.
   Introduction to cluster analysis. General stages of cluster analysis. Main methods of cluster analysis.
   Introduction to factor analysis. General stages of factor analysis. Testing the assumptions for factor analysis.

4. **10th May 13:20-15:50; A1/128**
   Test

Requirements:

Method and evaluation of in-semester assessment:

Test in written and with the help of SPSS or Presentation.

Completion requirements and evaluation criteria for seminar grades and exams:

The practical grade is defined by the tasks performed during the semester.
0% - 50% fail
51% - 60% pass
61% - 75% satisfactory
76% - 89% good
90% - 100% excellent

Other information:

Consultation:

it can be find at the webpage of the Institute of Economic Theory and Methodology
http://gtk.uni-miskolc.hu/gei/faculty

Compulsory literatures:

1. Varga - Szilágyi: Quantitative Information Forming Methods
   http://www.tankonyvtar.hu/hu/tartalom/tamop425/0049_08_quantitative_information_forming_methods/6080/index.html
2. Besenyei-Domán: Time Series Models of Business Prognostics
   http://www.tankonyvtar.hu/en/tartalom/tamop425/0049_09_time_series_modes_of_business_prognostics/6476/index.html
3. Petra Petrovics: Tutorial and Exercise Book for Business Statistics (handout)
   http://gtk.uni-miskolc.hu/files/11206/SPSS+Tutorial+and+excersise+book.pdf

Recommended literatures:

1. Tutorial of SPSS program
2. Curwi, Jon: Quantitative Methods for Business Decisions, London [etc], Thomson Learning, 2002 ISBN: 9780412402401

30th January, 2024

Roland Szilágyi, Ph.D.
associate professor