Theoretical Fundamentals of the Master Work Preparation Course

Name of the subject: **Theoretical Fundamentals of the Master Work Preparation - MSc**	*SUBJECT code:*	Weekly hours: 4 **2 lectures+2 practices**	Credit: **8 ECTS**
Subject leader: **Dr Djordje Nikolić**	*Academic Degree:* **Associate Professor**	Prerequisites: **Knowledge gained through the commitment and elective courses Curriculum**	

Purpose: Acquiring knowledge to define the research problem, its development, writing and public presentation of master thesis. Furthermore, this obligatory course will enable students a good understanding of mathematics and statistics in a business context.

Course description: Defining and understanding the stages and structure of the Master Thesis. Scientific literature searching. Furthermore, the focus of this course is to provide clear guidelines how to firstly select and apply proper statistical methods considering different research problem, and afterword how to perform reliable interpretation of the results findings. All chapter's examples will be analyzed and discussed by using SPPS software. Additionally, to perform SEM analysis for considered case study example, LISREL software solution will be used.

Schedule	
Weeks	**Topics**
1.	**Stages and structure of Master Thesis development:** 1. Defining research topic; 2. Research of the scientific literature (Kobson; Citation index database: Web of Science, Scopus, Scindex; Publishers of the scientific literature: Science Direct, Springer, Emerland, Elsevier); 3. Creating research plan; 4. Research plan realization; 5. Writing the Master Thesis. **Understanding Quantitative Information**: Quantitative approach; Managing Data; Survey Methods.
2.	**Describing data:** Presentation of data; Measures of location; Measures of dispersion. **Measuring uncertainty:** Probability; Discrete probability distributions; The Normal distribution.
3.	**Using statistical inference:** Samples; Estimation; Confidence Intervals (t-test, z-test).
4.	**Using statistical inference (continued):** Significance testing (One-Sample Hypothesis Tests, Two-Sample Hypothesis Tests.
5.	**Using statistical inference (continued):** Significance testing (Analysis of variance, Factorial Analysis of Variance, General Linear Model (GLM) Multivariate Analysis)
6.	**Test**
7.	**Using statistical inference (continued):** Non-parametric Test (Chi-squared tests, Mann-Whitney test)
8.	**Relating variables and predicting outcomes:** Correlation
9.	**Relating variables and predicting outcomes (continued):** Simple linear regression, Multiple regression analysis.
10.	**Relating variables and predicting outcomes (continued):** Factor analysis, Cluster analysis.
11.	**Modeling:** Introduction to the Structural Equation Modeling
12.	**Modeling (continued):** Exploratory Factor Analysis, Confirmatory Factor Analysis
13.	**Modeling (continued):** Path analysis
14.	**Test**

Final grade:

The grading structure is as follows:

Activity	Points
Final examination	40
Case study preparation and class presentations	10
Tests	40
Participation in class	10

Grading scale:

Points	Grade
0-50	5 (fail)
51-60	6 (satisfactory)
61-70	7 (good)
71-80	8 (very good)
81-90	9 (excellent)
91-100	10 (excellent- outstanding)

Compulsory literature:

1. Wall, S., Coday, C., Mithchell, C. (2014). Quantitative methods for business and management, An Entrepreneurial Perspective, Pearson.
2. Wisniewski, M. (2009). Quantitative methods for decision makers (fifth edition), Prentice Hall,

Supplemental literature:

1. Sweeney, D. J., Anderson, D. R., Williams, T.A., Camm, J. D., Martin, R. K. (2009), Quantitative Methods for Business, South-Western Cengage Learning, USA,