

Study program: Economics and Business Management, Business Informatics			
Type and level of studies: Master studies			
Course unit: Decision Support Systems			
Teacher in charge: Mimović Predrag			
Language of instruction: English			
ECTS:8			
Prerequisites:			
Semester: Summer Semester			
Course unit objective			
The aim of this course is to train students in the decision-making process, especially in conditions of complexity and uncertainty, and to acquaint them with the technologies and processes used in the creation and management of decision support systems.			
Learning outcomes of Course unit			
Students who complete the course will be prepared to analyze decision-making processes and design and determine decision support systems that will support those processes. They will also be able to create individual and group decision support systems using Microsoft Excel and other software packages to support multicriteria decision making and optimization.			
Course unit contents			
Decision Support Systems (DSS): general structure and components. Models. Qualitative aspects in decision making. Structuring decision problems. Use of tables. Multicriteria analysis. Situations of complexity, uncertainty and risk. Problems of multicriteria decision making. Problem formulation and optimization methods and models. Combinatorial optimization problems: a heuristic method for solving practical problems - design and application. Simulation models and applications. Decision support system design methodologies and implementation tools. User interfaces in decision support systems. Expert systems and DSS. Group decision support systems. Organizational aspects in DSS design. Business and predictive analytics. DSS specification and development: examples.			
Practical teaching:			
Case study presentations and discussion.			
Software			
Microsoft Excel and software packages to support multicriteria decision making and optimization.			
Literature			
[1] Power, D. J. Decision Support Systems: Concepts and Resources for Managers, Faculty Book Gallery, 2002, https://scholarworks.uni.edu/facbook/67			
[2] Albright, C.S, Winston, W.L., Management Science Modeling, South – Western, 2012.			
[3] Powell, S., Baker, K. Management Science: the art of modeling with spreadsheets, John Wiley & Sons, Inc., 2014.			
[4] Ishizaka, A., Nemery, P. Multi-Criteria Decision Analysis, Methods and software, John Wiley & Sons, Ltd, 2013.			
Number of active teaching hours			Other classes: 1
Lectures: 3	Practice: 2	Other forms of classes: Independent work:	
Teaching methods: Lectures. Consultations. Mentorship. Software Support - Excel QM, Expert Choice, Superdecisions.			
Examination methods (maximum 100 points)			
Exam prerequisites	No. of points:	Final exam	No. of points:
Student's activity during lectures	5	Verbal examination	30
practical classes/tests	5	Written examination	30
Seminars/homework	20	
Projects	10		
Other			
Grading System			

Grade	No. of points	Description
10	91-100	Excellent
9	81-90	Exceptionally good
8	71-80	Very good
7	61-70	Good
6	51-60	Passing
5	Under 50	Failing