Course unit Descriptor	Faculty of Economics Subotica	UNIVERZITET U NOVOM SADU UNIVERSITY OF NOVI SAD

Study program in which the course unit is offered	Business Information Systems
Course unit title	Knowledge Based Systems
Course unit code	MPI-04
Type of course unit[1]	Optional
Level of course unit[2]	Master
Semester when the course unit is offered	First
Year of study (if applicable)	Fifth
Number of ECTS allocated	6
Name of lecturer/lecturers	Zita Bosnjak, Olivera Grljevic
Mode of course unit delivery[3]	Face-to-Face
Course unit pre-requisites (if any)	None

PURPOSE AND OVERVIEW (max 5-10 sentences)

Students understand the role of knowledge-based systems in the business world, become acquainted with the specific technology of knowledge-based systems from a user perspective and acquire theoretical and practical knowledge for the development of these systems through illustrative examples and independent work.

LEARNING OUTCOMES (knowledge and skills)

Upon completion of the course, the student will be able to independently build a knowledge-based system as a support to managerial decision making: he/she can objectively assess the adequacy of the problem for the design of a knowledge-based system, he/she can carry out the correct process of knowledge engineering and knowledge base and intelligent system design, can select out the most adequate development tool, can model the uncertainty of the real world and apply the technology in a real world environment.

Upon completion of the course, the student knows how to evaluate the potential benefits of these technologies for the efficiency and competitiveness of business entities.

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[1] Compulsory, optional
[2] First, second or third cycle (Bachelor, Master's, Doctoral)
[3] Face-to-face, distance learning, etc.

SYLLABUS (outline and summary of topics)

Theory

Characteristics and architecture of knowledge based systems;
Knowledge representation schemes;

Knowledge Engineering: collecting, analyzing, structuring the knowledge;

Design of knowledge bases;

Development of KBSs;

Inference mechanisms;

Modeling uncertainty in KBSs;

Fuzzy reasoning;
Automated knowledge acquisition;
Application of KBS in business decision-making; web-based KBS success stories.

Practice

Step-by-step development of KBSs in a web-based development tool.

LEARNING AND TEACHING (planned learning activities and teaching methods)

lectures, discussions, case studies, exercises in a computer laboratory

REQUIRED READING

Selected chapters from:
1. Akerkar, R. Priti, S. (2010). Knowledge-Based Systems, Jones & Bartlett Learning.
2. Benson, M. (2015). Handbook of Expert Systems, Clanrye International
3. Beard, M. (2014). Expert Systems: An introduction, Kindle Edition

ASSESSMENT METHODS AND CRITERIA

Preliminary exam – 40 points, Oral exam – 30 points, Development project – 30 points

LANGUAGE OF INSTRUCTION

English