Course Unit Descriptor

Study Programme: Computer Science – Master	
Course Unit Title: Business Intelligence	
Course Unit Code: CS713	
Name of Lecturer(s): Aleksandra Klašnja Milićević	
Type and Level of Studies: Master Academic Degree	
Course Status (compulsory/elective): Elective	
Semester (winter/summer): Winter	
Language of instruction: Serbian (primary), English (secondary)	
Mode of course unit delivery (face-to-face/distance learning): Face-to-face	
Number of ECTS Allocated: 6	
Prerequisites: None	

Course Aims:

The course aims at examining relevant business intelligence theories, concepts and techniques necessary for solving real-world business problems and enhancing students' knowledge and skills in the current trends of emergent business intelligence (BI) technologies.

Learning Outcomes:

Minimum: At the end of the course, successful students should be able to identify business and technical requirements for BI solutions and can understand how business uses BI successfully.

Desirable: At the end of the course, successful students should achieve a profound understanding of key concepts, research trends and emerging BI technologies and be able to apply them in a business processes and integrate them into decision-making processes.

Syllabus:

Theory

Business intelligence essentials: BI scenarios, perspectives, views of business processes and goals of business intelligence. Models and modelling in business intelligence: modelling using logical and algebraic, graph and analytical structures. Description and visualization of business processes. Basic visualization techniques. High-level reporting. Infographics. Business process analysis and simulation. Business process performance management and warehousing. Business process mining. Business process compliance. Social network analysis and organizational mining techniques for business processes. Business intelligence and management of decision support systems. Decision Point Analysis (DPA) in a business process.

Practice

The practical exercises combine analysis of realistic examples based on use cases in different areas, testing of finished solutions, applying BI tools and discussion on the possibilities of application. Class project involving development of a complete business intelligence solution, according to specifics about the acceptable business problems. Project tasks can be solved individually or in a team of 2-3 students. Each student/team should submit a proposal, a progress report and final report, and should present the project in class at the end of the semester.

Required Reading:

Grossmann, W., & Rinderle-Ma, S. (2015). *Fundamentals of Business Intelligence*. Springer.
Sherman, R. (2014). *Business Intelligence Guidebook: From Data Integration to Analytics*. Newnes.

Weekly Contact Hours: 4	Lectures: 2	Practical work: 2

Teaching Methods:

This course includes lectures, presentations, and demonstrations that emphasize discussion and illustration of methods, as well as hands-on, practical exercises that provide both a sound base of learning and an opportunity to test and develop skill. The use of business intelligence software supports the presentation of the material. Students complete assigned readings, group projects, and participate in exercises and discussions. Knowledge of students is tested through colloquiums and project tasks. In the oral exam, the student demonstrates a comprehensive understanding of the principles of business intelligence.

Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	Final exam	points
Active class participation		written exam	
Practical work	40	oral exam	40
Preliminary exam(s)	20		
Seminar(s)			

The methods of knowledge assessment may differ; the table presents only some of the options: written exam, oral exam, project presentation, seminars, etc.