Course Unit Descriptor

Study Programme: Information Technologies – Master	
Course Unit Title: Requirements Engineering	
Course Unit Code: IT701	
Name of Lecturer(s): Mirjana Ivanović	
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: 7	

Prerequisites: None

Course Aims:

Software requirements engineering is science and discipline dealing with determination and documentation of software requirements. It consists of extraction of software requirement and their analysis, specification, verification, and management. On the other hand, engineering of system requirements is a science and discipline connected to analysis and documentation of system requirements. It includes transformation of operational needs into description of a system, parameters of a system performance, and system configuration. It ends with the iterative process of design analysis, study of concessions, and development of a prototype.

Aim of the course is to give student complete understanding and critical assessment of requirements engineering both for the software and for the system.

Learning Outcomes:

Minimal: At the end of the course, it is expected from a successful student to demonstrate general understanding of both software and system requirements engineering and to be able to perform critical assessment of basic management models and basics of requirements engineering, as well as to assess the most important aspects of requirements engineering and architecture design.

Optimal: At the end of the course, it is expected from a successful student to be able to practically implement the questions of monitoring in system requirements engineering and critically assess the roles of tools and methods in engineering.

Syllabus:

Theory

Theoretical foundations of requirements environment, requirements characteristics, requirements approval and detection of relations between them, observation of the requirements versus the design implementation, design quality and the user-analyst relationship. This is followed by theoretical basis of systems and system engineering and the concept of operations: connecting operational requests and technical specification and topics dealing with techniques for determining the requirements and requirements engineering with views and use cases.

Practice

Analysis of case studies

Required Reading:

1. Thayer R.H. and Dorfman M. (ed.), "Software Requirement Engineering", IEEE CS (2000).
2. Kotonya G. and Sommerville I., Requirements Engineering: Processes and Techniques, John Wiley & Sons, 2000.
3. Sommerville I. and Sawyer P., Requirements Engineering: A Good Practice Guide, John Wiley & Sons, 1997.
4. Loucopoulos, P., and Karakostas, V., System Requirements Engineering, McGraw-Hill,1995
5. Derek J. Hatley et al., Process of Systems Architecture and Requirements Engineering, Dorset House (2000)

Weekly Contact Hours: 5	**Lectures:** 3	**Practical work:** 2

Teaching Methods:

At lectures, classical teaching methodology is applied, with usage of a beam-projector and slides. At exercises, again classical methodology of teaching is applied, and used to analyse typical case-studies. Students upgrade their knowledge through research of each presented topic, and check it through creation of seminar papers they present during and at the end of the course.

Knowledge Assessment (maximum of 100 points):

Pre-exam obligations	points	Final exam	points
Active class participation		written exam	
Tests and practical tasks	60	oral exam	40

Preliminary exam(s)		…….	
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.			