

SYLLABUS

1. Information regarding the programme

1.1 Higher education institution	Babe Bolyai University
1.2 Faculty	Faculty of Mathematics and Computer Science
1.3 Department	Department of Computer Science
1.4 Field of study	Computer Science
1.5 Study cycle	Master
1.6 Study programme / Qualification	Software engineering

2. Information regarding the discipline

2.1 Name of the discipline	Requirements Engineering						
2.2 Course coordinator	Lect. PhD. Grigoreta Cojocar						
2.3 Seminar coordinator	Lect. PhD. Grigoreta Cojocar						
2.4. Year of study	2	2.5 Semester	3	2.6. Type of evaluation	E	2.7 Type of discipline	Compulsory

3. Total estimated time (hours/semester of didactic activities)

3.1 Hours per week	4	Of which: 3.2 course	2	3.3 seminar/laboratory	1 sem + 1 project
3.4 Total hours in the curriculum	56	Of which: 3.5 course	28	3.6 seminar/laboratory	28
Time allotment:					hours
Learning using manual, course support, bibliography, course notes					22
Additional documentation (in libraries, on electronic platforms, field documentation)					30
Preparation for seminars/labs, homework, papers, portfolios and essays					60
Tutorship					7
Evaluations					25
Other activities:					-
3.7 Total individual study hours	144				
3.8 Total hours per semester	200				
3.9 Number of ECTS credits	8				

4. Prerequisites (if necessary)

4.1. curriculum	•
4.2. competencies	• Average design and programming skills in a programming language

5. Conditions (if necessary)

5.1. for the course	•
5.2. for the seminar /lab activities	• Laboratory with computers;

6. Specific competencies acquired

Professional competencies	<ul style="list-style-type: none"> • Knowledge, understanding and use of basic concepts of Requirements Engineering • Ability to work in a team in order to obtain the requirements for medium to large problems . • Average requirements engineering skills.
Transversal competencies	<ul style="list-style-type: none"> • Ability to apply requirements engineering techniques to different real life problems • Ability to model software requirements • Ability to develop a software system starting from requirements

7. Objectives of the discipline (outcome of the acquired competencies)

7.1 General objective of the discipline	<ul style="list-style-type: none"> • Be able to understand requirements engineering concepts and techniques • Average requirements engineering skills
7.2 Specific objective of the discipline	<ul style="list-style-type: none"> • To understand the role of requirements engineering for software engineering • To understand the basic concepts of software engineering. • To apply the methods for requirements gathering and analysis.

8. Content

8.1 Course	Teaching methods	Remarks
1. Introduction. Basic concepts. Role of requirements engineering.	Exposure: description, explanation, examples, discussion of case studies	
2. Requirements Elicitation	Exposure: description, explanation, examples, discussion of case studies	
3. Types of Requirements. Structure of System Specification Document. SysML	Exposure: description, explanation, examples, debate, dialogue	
4. Requirements Prioritization	Exposure: description, explanation, examples, discussion of case studies	
5. Requirements traceability and interdependencies. Impact Analysis	Exposure: description, explanation, examples, proofs	
6. Quality Assurance for Requirements. Requirements Negotiation	Exposure: description, explanation, examples, proofs, debate, dialogue	
7. Requirements Modeling. Requirements Management	Exposure: description, explanation, examples, discussion of case studies	

8. Business Motivation Model	Exposure: description, explanation, examples	
9. BMM to SOA	Exposure: description, explanation, examples, discussion of case studies	
10. Engineered Use Cases	Exposure: description, explanation, examples, debate	
11. Behavior Driven Development	Exposure: description, explanation, examples, discussion of case studies	
12. Agile Methods and RE	Exposure: description, explanation, examples, discussion of case studies	
13. Projects presentation		
14. Projects presentation		
Bibliography		
1. A. Aurum, C. Wohlin –Engineering and Managing Software Requirements, Springer, 2005		
2. B. Berenbach, D. Paulish a.o. – Software & Systems requirements Engineering: In practice, McGraww Hill, 2009		
3. E.Hull, K. Jackson, J. Dick – Requirements Engineering, Springer, 2005		
4. R. Young – The requirement engineering handbook, Artech House, 2004		
5. C. Williams, M. Kaplan, T. Klinger, A. Paradkar, “Toward Engineered, Useful Use Cases”, in Journal of Object Technology, Vol. 4, No. 6, Special Issue: Use Case Modeling at UML-2004, 2005 , pp. 45-57		
6. Dan North, Introducing BDD, http://dannorth.net/introducing-bdd/		
8.2 Seminar	Teaching methods	Remarks
1. Discussion of project case study	Explanation, dialogue	The seminar is structured as 2 hours classes every second week
2. Requirements gathering	Explanation, dialogue, case studies	
3. Requirements gathering	Explanation, dialogue, case studies	
4. Requirements prioritization	Explanation, dialogue, case studies	
5. Business Motivation Model	Explanation, dialogue, case studies	
6. Behavior Driven Development	Explanation, dialogue, case studies	
7. Project evaluation	Expose, evaluation	
Bibliography		
7. A. Aurum, C. Wohlin –Engineering and Managing Software Requirements, Springer, 2005		
8. B. Berenbach, D. Paulish a.o. – Software & Systems requirements Engineering: In practice, McGraww Hill, 2009		
9. E.Hull, K. Jackson, J. Dick – Requirements Engineering, Springer, 2005		
1. R. Young – The requirement engineering handbook, Artech House, 2004		

9. Corroborating the content of the discipline with the expectations of the epistemic community, professional associations and representative employers within the field of the program

- The course respects the IEEE and ACM Curricula Recommendations for Computer Science studies;
- The course exists in the studying program of all major universities in Romania and abroad;
- The content of the course is considered the software companies as important for advanced

10. Evaluation

Type of activity	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Share in the grade (%)
10.4 Course	Know the basic concepts of requirements engineering	Written exam	60%
10.5 Seminar/lab activities	Be able to gather and analyze requirements for a new software	Running software	40%
10.6 Minimum performance standards			
At least grade 5 (from a scale of 1 to 10) at both written exam and project.			

Date Signature of course coordinator

01.09.2013 Lect. PhD. Grigoreta Cojocar

Signature of seminar coordinator

Lect. PhD. Grigoreta Cojocar

Date of approval

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Signature of the head of department

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