

SYLLABUS

1. Information regarding the programme

1.1 Higher education institution	Babeş 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	Component-Based Programming

2. Information regarding the discipline

2.1 Name of the discipline	Research project in component-based programming						
2.2 Course coordinator	Prof.PhD. Bazil Parv						
2.3 Seminar coordinator	Prof.PhD. Bazil Parv						
2.4. Year of study	2	2.5 Semester	4	2.6. Type of evaluation	C	2.7 Type of discipline	compulsory

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

3.1 Hours per week	3	Of which: 3.2 course	0	3.3 seminar/laboratory	3
3.4 Total hours in the curriculum	42	Of which: 3.5 course	0	3.6 seminar/laboratory	42
Time allotment:					Hours
Learning using manual, course support, bibliography, course notes					15
Additional documentation (in libraries, on electronic platforms, field documentation)					10
Preparation for seminars/labs, homework, papers, portfolios and essays					15
Tutorship					14
Evaluations					4
Other activities:					-
3.7 Total individual study hours			58		
3.8 Total hours per semester			100		
3.9 Number of ECTS credits			4		

4. Prerequisites (if necessary)

4.1. curriculum	<ul style="list-style-type: none"> Computer Science Research Methodology
4.2. competencies	<ul style="list-style-type: none"> Average programming skills

5. Conditions (if necessary)

5.1. for the course	<ul style="list-style-type: none">
5.2. for the seminar /lab activities	<ul style="list-style-type: none">

6. Specific competencies acquired

Professional competencies	<ul style="list-style-type: none"> • Analysis, design, and implementation of component-based software systems • Proficient use of methodologies and tools specific to programming languages and software systems
Transversal competencies	<ul style="list-style-type: none"> • Professional communication skills; concise and precise description, both oral and written, of professional results,

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

7.1 General objective of the discipline	The research project activity represents the individual work the student performs with the purpose to realize a scientific report on a given topic.
7.2 Specific objective of the discipline	At the end of the course, students should <ul style="list-style-type: none"> • have documentation abilities on an established topic • be able to design the table of contents of the dissertation • know how to write a technical document (dissertation) in many iterations.

8. Content

8.1 Course	Teaching methods	Remarks
8.2 Seminar / laboratory	Teaching methods	Remarks
1. Establishing the research title/topic - due week 2 Table of contents version 0.1 I. Conceptual part II. Technological part III. Application	Conversation, debate, case studies	Seminar is organized as a total of 12 hours – 2 hours every other week
2. Documentation on conceptual part – due week 4 Problem statement for the application	Conversation, debate, case studies	
3. Conceptual part version 1.0 - due week 6 Documentation on technological part Software application – requirements analysis	Conversation, debate, case studies	
4. Conceptual part version 2.0 - due week 8 Technological part version 1.0 Software application – design	Conversation, debate, case studies	
5. Technological part version 2.0 - due week 10 Software application – implementation and testing Software application – documentation	Conversation, debate, case studies	
6. Final version of the dissertation/report Demo with the application	Exposure, live demos	
Bibliography		
<ul style="list-style-type: none"> • to be decided by student based on his/her research topic • Internet resources on software projects and on the particular topics of the projects 		

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

- This course follows the IEEE and ACM Curricula Recommendations for Software Engineering studies;
- Courses with similar content are taught in the major universities in Romania offering similar study programs;
- Course content is considered very important by the software companies for improving average software development skills

10. Evaluation

Type of activity	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Share in the grade (%)
10.4 Course			
10.5 Seminar/lab activities	Each of the activities has a due date and a corresponding mark, on a 10-point scale. A penalty of 1pt per week are considered for delays. The weights are as follows:	Portofolio, research report	
	1. Research title/topic		10%
	2. Conceptual part Problem statement		15%
	3. Technological part Analysis		20%
	4. Intermediate report 1 Design		20%
	5. Intermediate report 2 Implementation		20%
	6. Final report Demo		15%
10.6 Minimum performance standards			
<ul style="list-style-type: none"> • At least grade 6 (from a scale of 1 to 10). 			

Date

April 30, 2014

Date of approval

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Signature of course coordinator

Prof.PhD. Bazil PARV

Signature of seminar coordinator

Prof.PhD. Bazil PARV

Signature of the head of department

Prof.PhD. Bazil PARV