

## 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	Distributed Systems in Internet

### 2. Information regarding the discipline

2.1 Name of the discipline	Agile Software Development						
2.2 Course coordinator	Lect. PhD Dan Mircea Suci						
2.3 Seminar coordinator	Lect. PhD Dan Mircea Suci						
2.4. Year of study	<b>1</b>	2.5 Semester	<b>3</b>	2.6. Type of evaluation	<b>E</b>	2.7 Type of discipline	<b>Optional</b>

### 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	1sem + 1 pr
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					20
Additional documentation (in libraries, on electronic platforms, field documentation)					10
Preparation for seminars/labs, homework, papers, portfolios and essays					15
Tutorship					2
Evaluations					3
Other activities: .....					-
3.7 Total individual study hours	119				
3.8 Total hours per semester	175				
3.9 Number of ECTS credits	7				

### 4. Prerequisites (if necessary)

4.1. curriculum	-
4.2. competencies	-

### 5. Conditions (if necessary)

5.1. for the course	Video projector
5.2. for the seminar /lab activities	Video projector

## 6. Specific competencies acquired

<b>Professional competencies</b>	<ul style="list-style-type: none"> <li>- Identification and understanding of basic concepts of the following specific Agile methodologies: Scrum, Extreme Programming, Kanban, Lean Software Development.</li> <li>- Identification and explanation of basic Agile practices</li> </ul>
<b>Transversal competencies</b>	<ul style="list-style-type: none"> <li>- Formal communication in organizations</li> <li>- Project task time and effort estimation</li> <li>- Change management</li> </ul>

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

7.1 General objective of the discipline	<ul style="list-style-type: none"> <li>• acquiring knowledge and skills necessary for a process of management of IT projects</li> </ul>
7.2 Specific objective of the discipline	<ul style="list-style-type: none"> <li>• identifying the aspects that make Agile methodologies superior to predictive methodologies for software projects</li> <li>• identifying the strengths and weaknesses of each of today Agile practices</li> <li>• identifying the life cycle of a software project in an Agile context</li> </ul>

## 8. Content

8.1 Course	Teaching methods	Remarks
1. Introduction in Agile Methodologies	<ul style="list-style-type: none"> <li>• Interactive exposure</li> <li>• Explanation</li> <li>• Conversation</li> <li>• Didactical demonstration</li> </ul>	
2, 3, 4. Scrum – Roles, Ceremonies, Artefacts	<ul style="list-style-type: none"> <li>• Interactive exposure</li> <li>• Explanation</li> <li>• Conversation</li> <li>• Didactical demonstration</li> </ul>	
5, 6. Extreme Programming	<ul style="list-style-type: none"> <li>• Interactive exposure</li> <li>• Explanation</li> <li>• Conversation</li> <li>• Didactical demonstration</li> </ul>	
7. Lean Software Development	<ul style="list-style-type: none"> <li>• Interactive exposure</li> <li>• Explanation</li> <li>• Conversation</li> <li>• Didactical demonstration</li> </ul>	

8 – 9. Kanban	<ul style="list-style-type: none"> <li>• Interactive exposure</li> <li>• Explanation</li> <li>• Conversation</li> <li>• Didactical demonstration</li> </ul>	
10. Other Agile Methodologies: DSDM, Crystal	<ul style="list-style-type: none"> <li>• Interactive exposure</li> <li>• Explanation</li> <li>• Conversation</li> <li>• Didactical demonstration</li> </ul>	
11. Other Agile Methodologies: Agile Unified Process, Feature Driven Development	<ul style="list-style-type: none"> <li>• Interactive exposure</li> <li>• Explanation</li> <li>• Conversation</li> <li>• Didactical demonstration</li> </ul>	
12. Agile Contracts	<ul style="list-style-type: none"> <li>• Interactive exposure</li> <li>• Conversation</li> </ul>	
13. Risk Management in an Agile Environment	<ul style="list-style-type: none"> <li>• Interactive exposure</li> <li>• Conversation</li> </ul>	
14. The future of Agile	<ul style="list-style-type: none"> <li>• Interactive exposure</li> <li>• Conversation</li> </ul>	

#### Bibliography

1. Jeff Langr, Tim Ottinger - Agile in a Flash: Speed-Learning Agile Software Development, Pragmatic Bookshelf, 2011
2. Esther Derby, Diana Larsen - Agile Retrospectives: Making Good Teams Great, Pragmatic Bookshelf, 2006
3. Thomas Stober, Uve Hansmann - Agile Software Development, Best Practices for Large Software Development Projects, Springer 2010
4. Mike Cohn - Succeeding with Agile Software Development using Scrum, Addison-Wesley, 2010
5. Gene Kim, Kevin Behr, George Spafford - The Phoenix Project: A Novel About IT, DevOps, and Helping Your Business Win, 2013
6. Darrell K. Rigby, Sarah Elk, Steven H. Berez - Doing Agile Right: Transformation Without Chaos, 2020
7. Geoff Watts - Product Mastery: From Good to Great Product Ownership, 2018
8. Mattias Skarin - Real-World Kanban: Do Less, Accomplish More with Lean Thinking, 2015

8.2 Seminar	Teaching methods	Remarks
1. Agile Problem Solving	Dialogue, debate, case studies, examples, proofs	The seminar is structured as 2 hours classes every second week
2. Self-Organizing Teams	Dialogue, debate, case studies, examples, proofs	
3, 4. Delegation and Management 3.0	Dialogue, debate, case studies, examples, proofs	
5. Agile estimation	Dialogue, debate, case studies, examples, proofs	
6. Agile Mindset	Dialogue, debate, case studies, examples, proofs	

7. Optimization of development flow	Dialogue, debate, case studies, examples, proofs	
<b>Bibliography</b>		
1. Timothy S. Hatten - Small Business Management: Creating a Sustainable Competitive Advantage, SAGE Publications, 2019		
2. George S Day, Paul J H Schoemaker: See Sooner, Act Faster - How Vigilant Leaders Thrive in an Era of Digital Turbulence, MIT Press, 2019		
3. Sacolick, Isaac: Driving Digital - The Leader's Guide to Business Transformation Through Technology, Amacom, 2017		
4. Kouzes James - The leadership challenge: how to make extraordinary things happen in organizations, Jossey-Bass, 2017		

**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**

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**10. Evaluation**

Type of activity	Evaluation criteria	Evaluation methods	Share in the grade (%)
Course	- know the basic principle of the domain; - apply the course concepts - problem solving	completion of individual missions that will be activated weekly	80%
Seminar/lab activities	Evaluation of a 15 minutes optional presentation about applying Agile practices in real projects	- oral examination - Continuous observations	20%
Minimum performance standards			
<ul style="list-style-type: none"> <li>The final grade should be at least grade 5 (from a scale of 1 to 10)</li> </ul>			

Signature of course coordinator

Lect. PhD. Dan Mircea Suciu

Signature of seminar coordinator

Lect. PhD. Dan Mircea Suciu

Signature of the head of department