SYLLABUS

Preparation of Bachelor Thesis

University year 2025-2026

1. Information regarding the programme

1.1. Higher education institution	Babes-Bolyai University
1.2. Faculty	Faculty of Mathematics and Computer Science
1.3. Department	Computer Science
1.4. Field of study	Computer Science
1.5. Study cycle	Bachelor
1.6. Study programme/Qualification	Computer Science
1.7. Form of education	Full time

2. Information regarding the discipline

2.1. Name of the discipline	*Preparation of Bachelor Thesis*				Discipline code	**MLE2001**	
2.2. Course coordinator					PhD Associate Professor Vescan Andreea		
2.3. Seminar coordinator					PhD Associate Professor Vescan Andreea		
2.4. Year of study	3	2.5. Semester	6	2.6. Type of evaluation	E	2.7. Discipline regime	Compulsory

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

3.1. Hours per week	**1**	of which: 3.2 course	**0**	3.3 seminar/laboratory/project	**1**
3.4. Total hours in the curriculum	12	of which: 3.5 course	0	3.6 seminar/laboratory/project	**12**
Time allotment for individual study (ID) and self-study activities (SA)					**hours**
Learning using manual, course support, bibliography, course notes (SA)					13
Additional documentation (in libraries, on electronic platforms, field documentation)					36
Preparation for seminars/labs, homework, papers, portfolios and essays					24
Tutorship					
Evaluations					
Other activities:					
3.7. Total individual study hours	**63**				
3.8. Total hours per semester	**75**				
3.9. Number of ECTS credits	**3**				

4. Prerequisites (if necessary)

4.1. curriculum	
4.2. competencies	

5. Conditions (if necessary)

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

6.1. Specific competencies acquired [1]

[1] One can choose either competences or learning outcomes, or both. If only one option is chosen, the row related to the other option will be deleted, and the kept one will be numbered 6.

Professional/essential competencies	• development and maintenance of software systems • advanced programming skills in high-level programming languages
Transversal competencies	• application of organized and efficient work rules, of responsible attitudes towards the didactic-scientific field, to bring creative value to own potential, with respect for professional ethics principles and norms • use of efficient methods and techniques to learn, inform, research and develop the abilities to bring value to knowledge, to adapt at the requirements of a dynamical society and to communicate efficiently in Romanian language and in an international language

6.2. Learning outcomes

Knowledge	The student knows: • The graduate has the ability to develop, design and create new applications, systems or products using best practices of the field. • The graduate has knowledge related to programming, mathematics, engineering and technology and has the skills to use them to create complex information technology systems. • The graduate has adequate knowledge related to the use of integrated development environments for creating large complex applications.
Skills	The student is able to: • The graduate has the necessary skills for computer program design and software systems analysis. • The graduate is able to apply architectural styles, design patterns and best practices in the field to design software applications of high complexity. • The graduate has the ability to choose and use existing modules and environments for application development.
Responsibility and autonomy:	The student has the ability to work independently to obtain • The graduate has the necessary knowledge for literature review. • The graduate is able to write a scientific/technical report. • The graduate has the ability to observe and obtain information from various sources.

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

7.1 General objective of the discipline	• The course represents the individual work the student performs with the purpose to prepare the Bachelor's Degree thesis on a given topic.
7.2 Specific objective of the discipline	• At the completion of this course, the student should: o have documentation abilities on an established topic o be able to design the table of contents of a thesis o know how to write a technical document (research paper) in many iterations o know how to conduct a small size research project, use research methdologies

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8. Content

8.1 Course	Teaching methods	Remarks
Bibliography		
8.2 Seminar / laboratory	Teaching methods	Remarks
Seminar 1 Assignment Received: • Assignment 1: Establishing the theme with the scientific coordinator. Assignment Delivery: • Assignment Delivery: Seminar 2 Turn in: chosen theme, name of the scientific coordinator, domain of the theme, 3 bibliographic resources (books, articles, etc.)	Conversation, debate, case studies	
Seminar 2 Assignment Received: • Assignment 2: Creating the content of the paper + Develop a chapter from the theoretical part. Assignment Delivery: • Assignment Delivery: Seminar 3 Turn in: content of the thesis (chapters for the theoretical part + chapters for the practical part) + Chapter Theoretical 1	Conversation, debate, case studies	
Seminar 3 Assignment Received: • Assignment 3: Develop another chapter from the theoretical part. Develop the chapter for the application Assignment Delivery: • Assignment Delivery: Seminar 4 Turn in: Chapter (of your choice) from the theoretical part (theoretical content + references + tables + images). Chapter from the practical part (theoretical content + references + tables + images). This chapter should contain at this time the application requirements and their specification.	Conversation, debate, case studies	
Seminar 4 Assignment Received: • Assignment 4: Develop another chapter for the application. One functionality F1 of the application must be shown/executed. Assignment Delivery: • Assignment Delivery: Seminar 5 Turn in: Another chapter from the theoretical part (theoretical content + references + tables + images). - Chapter from the practical part should contain design/implementation/testing for Functionality F1.	Conversation, debate, case studies	
Seminar 5 Assignment Received:	Conversation, debate, case studies	.

• Assignment 5: Presentation slides, Abstract+Introduction, Functionality F2 - execution Assignment Delivery: • Assignment Delivery: Seminar 6 Turn in: Presentation (only slides) + Abstract and Introduction + Functionality F2 – to be shown.		
Seminar 6 Grading by the Tutor	Conversation, debate, case studies	
Bibliography Bibliography - 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

- The course respects the IEEE and ACM Curricula Recommendations for Software Engineering studies;
- The course exists at the major universities in Romania offering similar study programs;

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of final grade
10.4 Course			
10.5 Seminar/laboratory	• Final Grade = 0.5 * Grade given by Tutor + 0.5* Grade given by Scientific Coordinator • Grade given by Tutor = arithmetic average of the grades from the 5 laboratory assignments (awarded at the end of the laboratory 6) Grade given by Scientific Coordinator = given in the session	Portofolio, research report	• 50% Grade given by Tutor (arithmetic average of the grades from the 5 laboratory assignments (awarded at the end of the laboratory 6)) • 50% Grade given by Scientific Coordinator

Remarks.

- Presence on this subject is mandatory, and minimum 4 attendances will be required.
- Students will have 5 lab assignments; each assignment will receive a grade.
- Penalties
  - The assignments delivered after the scheduled delivery are marked with 2 points/laboratory delay.
  - Example: Assignment 3 with a delivery schedule in Lab 4 but delivered in Lab 6, gets the maximum mark of 6.
- Grade given by Tutor = arithmetic average of the grades from the 5 laboratory assignments (awarded at the end of the laboratory 6)
- Grade given by Scientific Coordinator = given in the session
- Final Grade = 0.5 * Grade given by Tutor + 0.5* Grade given by Scientific Coordinator
- Pass the subject: Final grade > = 5. Grade given by Tutor or Grade given by Scientific Coordinator may be less than 5, but the Final Grade must be greater than 5.

• In the retake session, the student can also deliver assignments that were undelivered during the didactic activity only if she/he has at least 4 attendances. The grade given by tutor will be at most 6 if during the semester the student did not delivered any assignment. If the student delivered parts of the assignments during the semester, and in the retake session she/he delivered some other assignments, the grade on each assignment is computed as if it were delivered in Lab 6 (with appropriate penalties), but the final grade will be at most 6.
10.6 Minimum standard of performance
• At least grade 5 (from a scale of 1 to 10)

11. Labels ODD (Sustainable Development Goals)[2]

Not applicable.

Date:	Signature of course coordinator	Signature of seminar coordinator
...	Assoc. Prof. PhD. Andreea Vescan	Assoc. Prof. PhD. Andreea Vescan

Date of approval:	Signature of the head of department
...	Assoc.prof.phd. Adrian STERCA

[2] Keep only the labels that, according to the *Procedure for applying ODD labels in the academic process*, suit the discipline and delete the others, including the general one for *Sustainable Development* – if not applicable. If no label describes the discipline, delete them all and write „*Not applicable.*".