SYLLABUS

ELABORATION OF THE DISSERTATION THESIS

University year 2025/2026

1. Information regarding the programme

1.1. Higher education institution	Babeş-Bolyai University
1.2. Faculty	Mathematics and Computer Science
1.3. Department	Computer Science
1.4. Field of study	Computer Science
1.5. Study cycle	Master
1.6. Study programme/Qualification	Applied Computational Intelligence
1.7. Form of education	Full time studies

2. Information regarding the discipline

2.1. Name of the dis	ciplir	e Elaborati	Elaboration of the Dissertation Thesis				Discipline code	MME3042
2.2. Course coordinator				Prof. dr. Horia F. Pop				
2.3. Seminar coordinator				Prof. d	r. Horia I	Е Рор		
2.4. Year of study	2	2.5. Semester	2.5. Semester 4 2.6. Type of evaluati			2.7. I	Discipline regime	Compulsory

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

3.1. Hours per week	5	of which: 3.2 course	0	3.3 seminar/laboratory/project	5	
3.4. Total hours in the curriculum	60	of which: 3.5 course	0	3.6 seminar/laboratory/project	60	
Time allotment for individual study (ID) and self-study activities (SA) ho						
Learning using manual, course support, l	oibliogra	phy, course notes (SA)			8	
Additional documentation (in libraries, o	n electro	nic platforms, field docu	ment	ation)	8	
Preparation for seminars/labs, homewor	Preparation for seminars/labs, homework, papers, portfolios and essays 12					
Tutorship 8						
Evaluations 4						
Other activities -						
3.7. Total individual study hours 40						
3.8. Total hours per semester	3.8. Total hours per semester 100					
3.9. Number of ECTS credits 4						

4. Prerequisites (if necessary)

4.1. curriculum	Computer Science Research Methodology
4.2. competencies	-

5. Conditions (if necessary)

5.1. for the course	-
5.2. for the seminar /lab activities	None

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	 understanding and working with basic concepts in computational intelligence; ability to approach and solve complex problems using various techniques of computational intelligence;
Transversal competencies	 capability of information analysis and synthesis; etic and fair behaviour, commitment to professional deontology;

6.2. Learning outcomes

Knowledge	 The graduate has the necessary knowledge to devise, model and design of complex software applications in the field of computational intelligence The graduate possesses the fundamental knowledge for modelling, being able to analyse real life problems and to translate them in concrete requirements and to design a corresponding software model
Skills	 The graduate can use specific language and terminology for the field of computational intelligence being able to communicate and interact with members of a team The graduate proves the capacity to reflect over own learning resources
Responsibility and autonomy:	 The graduate proves knowledge related to specifying the requirements of research activities in the domain of computer science in general and computational intelligence in particular and he/she understands the role of research in promoting progress The graduate knows and respects the ethical and legal principles and rules in scientific research

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

7.1 General objective of the discipline	This research activity represents the individual work the student performs with the purpose to finalize his/her dissertation thesis.
7.2 Specific objective of the discipline	This research activity represents the individual work the student performs with the purpose to finalize his/her dissertation thesis.

8. Content

8.1 Course		Teaching methods	Remarks
8.2 Seminar / laboratory		Teaching methods	Remarks
1.	Establishing the thesis title/topic	Conversation, debate, case studies	
2.	Bibliographical documentation	Conversation, debate, case studies	
3.	Table of contents: version 1.0	Conversation, debate, case studies	

4.	Relevance of the bibliographical sources and their assignment to the designed structure	Conversation, debate, case studies			
5.	Detecting possible original contribution; discussion and decision on experimental modelling	Conversation, debate, case studies			
6.	Processing of selected documents and writing the paper – first draft of the thesis	Conversation, debate, case studies			
7.	Final form of the thesis	Evaluation			
Bib	Bibliography				
- to be decided by student based on his/her research topic					
- In	- 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;

Graduating a master program assumes experience in developing a research project

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of final grade			
10.4 Course						
	The ability to write a research report and present the obtained results.	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.				
10.5 Seminar/laboratory		 title and table of contents bibliographical documentation contents v1.0 relevance of references, assignment to structure original and experimental contribution full text of the report 	10% 10% 10% 20% 10% 20%			
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.

² Keep only the labels that, according to the <u>Procedure for applying ODD labels in the academic process</u>, 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.".

Date: 10/4/2025 Signature of course coordinator

Prof. dr. Horia F. Pop

Signature of seminar coordinator Prof. dr. Horia F. Pop

Date of approval:

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Signature of the head of department

Assoc.prof.phd. Adrian STERCA