

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	Artificial Intelligence for Connected Industries

2. Information regarding the discipline

2.1 Name of the discipline (en) (ro)	AI4CI Activities: from research to business Activități AI4CI: de la cercetare la business						
2.2 Course coordinator	Lect. dr. Grebla Horea						
2.3 Seminar coordinator	Lect. dr. Grebla Horea						
2.4. Year of study	2	2.5 Semester	3	2.6. Type of evaluation	C	2.7 Type of discipline	Optional
2.8 Code of the discipline	MME8242						

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

3.1 Hours per week	2	Of which: 3.2 course	1	3.3 seminar/laboratory	1 pr
3.4 Total hours in the curriculum	28	Of which: 3.5 course	14	3.6 seminar/laboratory	14
Time allotment:					hours
Learning using manual, course support, bibliography, course notes					12
Additional documentation (in libraries, on electronic platforms, field documentation)					12
Preparation for seminars/labs, homework, papers, portfolios and essays					16
Tutorship					5
Evaluations					2
Other activities:					-
3.7 Total individual study hours	47				
3.8 Total hours per semester	75				
3.9 Number of ECTS credits	3				

4. Prerequisites (if necessary)

4.1. curriculum	<ul style="list-style-type: none"> • Master programme AI4CI first semester courses
4.2. competencies	

5. Conditions (if necessary)

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

6. Specific competencies acquired

Professional competencies	<p>C2.3 Use of methodologies, specification mechanism and development frameworks for developing software applications</p> <p>C2.5 Development of dedicate computer science projects</p> <p>C3.3 Use of mathematical and computer science models and instruments to solve specific problems of application domain</p>
Transversal competencies	<p>CT1. Application of efficient work rules and responsible attitudes towards the scientific domain, for the creative exploitation of one's own potential according to the principles and rules of professional ethics</p> <p>CT2. Efficient conduct of activities organized in an interdisciplinary group and development of empathic capacity of interpersonal communication, networking and collaboration with diverse groups</p> <p>CT3. Use of efficient methods and techniques for learning, information, research and development of abilities for knowledge exploitation, for adapting to the needs of a dynamic society and for communication in a widely used foreign language.</p>

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

7.1 General objective of the discipline	<ul style="list-style-type: none"> • This course aims to equip students with the knowledge and skills necessary to identify opportunities for innovation and entrepreneurship/intrapreneurship within their technical expertise.
7.2 Specific objective of the discipline	<ul style="list-style-type: none"> • To provide students with an understanding of the process of transforming research findings into viable business ideas. • To develop students' competencies in market analysis, product development, and business model creation. • To cultivate entrepreneurial mindset and strategic thinking among students. • To enable students to work effectively in interdisciplinary teams and communicate their ideas to various stakeholders.

8. Content

8.1 Course	Teaching methods	Remarks
<ul style="list-style-type: none"> ▪ Module 1: Introduction to Innovation and Entrepreneurship <ul style="list-style-type: none"> ▪ Overview of the innovation process. ▪ Understanding the entrepreneurial mindset. ▪ Case studies of successful tech innovations turned into businesses. ▪ Module 2: Opportunity Identification and Market Analysis <ul style="list-style-type: none"> ▪ Techniques for identifying market opportunities. ▪ Market research methods and tools. ▪ Analyzing market trends and customer needs. ▪ Module 3: Product Development and Prototyping <ul style="list-style-type: none"> ▪ Conceptualizing and defining product ideas. ▪ Lean startup methodology. ▪ Prototyping techniques and tools. ▪ The strategic role of the distribution models ▪ Module 4: Business Model Innovation <ul style="list-style-type: none"> ▪ Understanding different business models. ▪ Value proposition design. ▪ Business model canvas and validation techniques. ▪ The importance of the regulatory bodies and compliance aspects ▪ Module 5: Intellectual Property Rights and Technology Transfer <ul style="list-style-type: none"> ▪ Introduction to patents, copyrights, and trademarks. ▪ Technology transfer process and licensing agreements. ▪ Protecting intellectual property in a business context. 	<ul style="list-style-type: none"> • Interactive exposure • Presentation • Explanation • Practical examples 	
Bibliography Slides will be distributed.		
8.2 Seminar / laboratory	Teaching methods	Remarks
<ul style="list-style-type: none"> ▪ Project Group Work: Students will work in diverse teams to develop a business plan for a tech-based innovation. The project will involve identifying a market opportunity, developing a product concept and designing a business model. Each group will present their business plan to the class and receive feedback from peers and instructors. 	<ul style="list-style-type: none"> • Interactive exposure • Explanation • Conversation • Didactical demonstration 	

Bibliography
Slides will be distributed.

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 exists in the studying program of all major universities abroad;

10. Evaluation

Type of activity	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Share in the grade (%)
10.4 Course	- Understand the main elements of AI4CI Activities: from research to business - Develop a project	Continuous monitoring; a project assignment.	100%
10.5 Seminar/lab activities			
10.6 Minimum performance standards			
Each student should obtain minimum 5 for the final grade.			

Date

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Signature of course coordinator

Lect. dr. Horea Greblă

Signature of seminar coordinator

Lect. dr. Horea Greblă

Date of approval

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Signature of the head of department

Assoc. Prof. dr. Adrian Sterca