SYLLABUS

1. Information regarding the programme

1.1 Higher education institution	**Babeș-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	**Cyber Security**

2. Information regarding the discipline

2.1 Name of the discipline (en) (ro)			**Innovation Management**				
2.2 Course coordinator			**Lector univ. dr. Alexandru Roja**				
2.3 Seminar coordinator			**Lector univ. dr. Alexandru Roja**				
2.4. Year of study	**1**	2.5 Semester	**2**	2.6. Type of evaluation	**E**	2.7 Type of discipline	**Mandatory**
2.8 Code of the discipline		**MME9020**					

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	1 sem +1pr
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					30
Additional documentation (in libraries, on electronic platforms, field documentation)					30
Preparation for seminars/labs, homework, papers, portfolios and essays					40
Tutorship					5
Evaluations					4
Other activities:					10

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	• Knowledge in the field of Information technology.

	• Knowledge in the field of management and entrepreneurship.

5. Conditions (if necessary)

5.1. for the course	• Classroom with video-projector and internet connection.
5.2. for the seminar /lab activities	• Room with video-projector, collaborative activities spaces for creation and co-creation. Resources and instruments for creative and innovative activities. Online resources and spaces for creation and collaboration.

6. Specific competencies acquired

Professional competencies	• Understanding the specific contexts for innovation and digital innovation. • The use in the field of information technology of techniques and tools specific to innovation management. • Competences and skills for innovation in the field of information technology. • Development of specific skills for product, service, process innovation, organizational innovation, business models and innovation of experiences based on behavioural theories.
Transversal competencies	• Application of principles, tools and new guidelines specific to innovation management. • Identifying the roles and responsibilities specific to innovative multidisciplinary teams and applying effective relationship and work techniques within the team. • Identifying opportunities for continuous training and efficient use of learning resources and techniques for their own development.

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

7.1 General objective of the discipline	• Understanding the specific concepts of innovation. • Understanding the specific concepts of innovation management. • Learning the methods, techniques and tools needed in innovation processes. • The necessary skills in innovation processes, including strategic innovation and digital innovation. • Development of managerial and entrepreneurial skills specific to innovation. • Leading innovative teams.
7.2 Specific objective of the discipline	• Understanding the main trends in the management of innovation and digital innovation, methods and techniques for innovation and digital innovation. • Development and implementation of innovation strategies. • Development of innovative products and services. • Training and application of skills, competences and skills specific to innovation management.

8. Content

8.1 Course	Teaching methods	Remarks
1. Introduction to innovation management. The importance of innovation and contexts of innovations.	Lecture, heuristic conversation, problematization.	2 hours
2. Strategic and technological trends for innovation.	Lecture, heuristic conversation, problematization.	2 hours
3. Specific technics, methods and instruments for innovation.	Lecture, heuristic conversation, problematization.	2 hours
4. Innovation strategies.	Lecture, heuristic conversation, problematization.	2 hours
5. Typology of innovation (product innovation vs. process innovation; radical innovation vs. incremental innovation; architectural innovation vs. restricted innovation; innovation and the S curve).	Lecture, heuristic conversation, problematization.	2 hours
6. Innovation management in organizations (innovation management dilemmas; dynamic capabilities, uncertainty management; organizational characteristics that facilitate innovation processes; organizational structures for innovation; the relationship between knowledge, innovation and organizational learning).	Lecture, heuristic conversation, problematization.	2 hours
7. Features and dimensions of digitalization. The disruptive effects of digital innovation.	Lecture, heuristic conversation, problematization.	2 hours
8. Innovation economics. Entrepreneurial innovation vs corporate innovation and R&D.	Lecture, heuristic conversation, problematization.	2 hours
9. Disruptive innovation.	Lecture, heuristic conversation, problematization.	2 hours
10. Service innovation. Product innovation.	Lecture, heuristic conversation, problematization.	2 hours
11. Value innovation. Business models innovation.	Lecture, heuristic conversation, problematization.	2 hours
12. Organizational innovation and open innovation (co-innovation).	Lecture, heuristic conversation, problematization.	2 hours
13. Innovation culture, abilities and competences for innovation. Critical and creative thinking. Ethics of innovation and intellectual property.	Lecture, heuristic conversation, problematization.	2 hours
14. Innovation ecosystems and systems of	Lecture, heuristic	2 hours

innovation.	conversation, problematization.	

Bibliografie

1. Andersen, M., Pedersen, T. (2022), D*ata-Driven Innovation. Why the Data-Driven Model Will Be Key to Future Success*, Routledge
2. Carayannis, E. (2013), *Encyclopedia of Creativity, Invention, Innovation, and Entrepreneurship*, Springer Reference
3. Coron, C., Gilbert, P. (2020), *Technological Change*, Wiley
4. Daim, T., Meissner, D. (2020) *Innovation Management in the Intelligent World*, Springer
5. Deschamps, J.P. (2014). *Innovation Governance*: John Wiley & Sons
6. Ende, J. (2021), *Innovation Management*, Macmillan International
7. Espindola, D., Wright, M. (2021), *The Exponential Era. Strategies to Stay Ahead of he Curve an an Era of Chaotic Changes and Disruptive Forces*, Wiley
8. Galvan, R., Murray, J., Markides, C. (2008), *Strategy, Innvation and Change. Challenges for Management*: Oxford University Press
9. Genenning. S. (2020), *Realizing Digitization – Enabled Innovation*, Springer Gabler
10. Harrington, J., Voehl, F. (2020), *Total Innovative Management Excellence. The Future of Innovation*, CRC Press
11. Harrington, J., Benraouane, S. (), *Managing Innovative Projects and Programs*, Routledge
12. Joao, L. (2019), *Open Innovation Business Modeling. Gamification and Design Thinking Applications*, Springer
13. Kennard, M. (2021), *Innovation and Entrepreneurship*, Routledge
14. Kesavan, P. (2021), *Enablers of Organisational Learning, Knowledge Management, and Innovation*, Springer
15. Machado, C., Davim, P. (2022), *Organizational Innovation in the Digital Age*, Springer
16. McKelvy, B., Kaminska, R., Salmador, M., Escoffier, N. (2021), *Management in the Age of Digital Business Complexity*, Routledge
17. Meunier, F. (2020), D*ual Innovation Systems.Concepts, Tools and Methods*, Wiley
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19. Rangone, A. (2020), *Managing Corporate Innovation. Determinants, Critical Issues and Success Factors*, Springer
20. Schilling, M.A. (2020), *Strategic Management of Technological Innovation, Sixth edition*: McGraw-Hill
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22. Sniukas, M. (2020), *Business Model Innovation as a Dynamic Capability*, Springer
23. Taplin, R., (2014), *Intellectual Property Valuation and Innovation. Towards global harmonisation*, Routledge
24. Trott, P. (2021), *Innovation Management and New Product Development*, Pearson Education Limited
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26. Vries, M. (2021), *Innovation Research in Technology and Engineering Management*, Routledge
27. Wheelen, T.J., Hunger, J.D., Hoffman, A.N., Bamford, C.E. (2018), *Strategic Management and Business Policy. Globalization, Innovation and Sustainability, fifteents edition*: Pearson Education Limited
28. White, M.A., Bruton, G.D. (2011), *The Management of Technology and Innovation. A strategic Approach, second edition*: South-Western Cengage Learning
29. Woszczyna K. (2021), *Management Theory, Innovation and Organisation*, Routledge
30. Zhou, J., Rouse, E. (2021), *Handbook of Research on Creativity and Innovation*, Edward Elgar Publishing

8.2 Seminar / laboratory	Teaching methods	Remarks
1. Design thinking (phase 1 – Map)	Case study, exercises, creative methods,	2 hours

	simulation	
2. Design thinking (phase 2 – Sketch)	Case study, exercises, creative methods, simulation	2 hours
3. Design thinking (phase 3 – Decide)	Case study, exercises, creative methods, simulation	2 hours
4. Design thinking (phase 4 – Prototype)	Case study, exercises, creative methods, simulation	2 hours
5. Design thinking (phase 5 – Prototype)	Case study, exercises, creative methods, simulation	2 hours
6. Design thinking (phase 6 – Test)	Case study, exercises, creative methods, simulation	2 hours
7. Design thinking (phase 7 – Validate)	Case study, exercises, creative methods, simulation	2 hours

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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	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Share in the grade (%)
10.4 Course	Acquiring the information received during the course. Own reasoning, critical and creative thinking on the topics of the course.	Exam.	40%
	Own reasoning, critical and creative thinking on the topics of the course.	Interventions and debates at the courses.	10%
	Innovation strategy development.	Project.	10%
10.5 Seminar/lab activities	Going through the stages of ideation, innovation and prototyping.	Practical activities based on design thinking.	40%
10.6 Minimum performance standards			
• Minimum grade of 5 for promotion.			

Date Signature of course coordinator Signature of seminar coordinator

22.04.2024 Lector univ. dr. Alexandru Roja Lector univ. dr. Alexandru Roja

Date of approval Signature of the head of department

..... Conf univ. dr. Adrian Sterca