

# Syllabus

## 1. Programme information

1.1. Institution	THE BUCHAREST UNIVERSITY OF ECONOMIC STUDIES
1.2. Faculty	BUCHAREST BUSINESS SCHOOL
1.3. Department	ECONOMIC DEVELOPMENT OF THE COMPANY
1.4. Field of study	BUSINESS ADMINISTRATION
1.5. Cycle of studies	MASTER STUDIES
1.6. Education type	FULL-TIME / PART-TIME
1.7. Study programme	INDE Romanian-French MBA
1.8. Language of study	English
1.9. Academic year	2016-2017

## 2. Information on the discipline

2.1. Name	<b>Managing Innovation</b>								
2.2. Code									
2.3. Year of study	<b>2</b>	2.4. Semester	<b>2</b>	2.5. Type of assessment	<b>Exam</b>	2.6. Status of the discipline	<b>O</b>	2.7. Number of ECTS credits	<b>5</b>
2.8. Leaders	C(C)								
	S(S)								

## 3. Estimated Total Time

3.1. Number of weeks	14,00		
3.2. Number of hours per week	3,00	of which	
		C(C)	2,00
		S(S)	1,00
3.3. Total hours from curriculum	42,00	of which	
		C(C)	28,00
		S(S)	14,00
3.4. Total hours of study per semester (ECTS*25)	125,00		
3.5. Total hours of individual study	83,00		
<i>Distribution of time for individual study</i>			
Study by the textbook, lecture notes, bibliography and student's own notes	34,00		
Additional documentation in the library, on specialized online platforms and in the field	14,00		
Preparation of seminars, labs, assignments, portfolios and essays	28,00		
Tutorials	3,00		
Examinations	3,00		
Other activities	1,00		

## 4. Prerequisites

4.1. of curriculum	NA
4.2. of competences	NA

## 5. Conditions

for the C(C)	Classrooms disposing of multimedia equipment and internet access
for the S(S)	Classrooms disposing of multimedia equipment and internet access

## 6. Acquired specific competences

PROFESSIONAL	C3	Formulation and substantiation of the policies and business strategies through joining specialized knowledge with experience
PROFESSIONAL	C4	Designing solutions and/or capitalization of opportunities regarding the achievement of objectives and performance criteria
PROFESSIONAL	C6	Designing and redesigning businesses, implementation of activity plans (planning, organizing, resource management, processes management, performance management, risk management, change management)
TRANSVERSE	T1	The application of rules and professional ethical values in decision making and creating complex tasks and objectives, independently or as a group, at the workplace

## 7. Objectives of the discipline

7.1. General objective	Development of skills and aptitudes for planning, analysis, realize, test and integrate innovation plans within companies
7.2. Specific objectives	- Use of some structured tools in innovation management - Know international standards in innovation management - Handle modern concepts in innovation management

## 8. Contents

8.1. C(C)		Teaching/Work methods	Recommendations for students
1	Economic competitiveness and innovation: competitiveness-innovation pair, problem positioning in the global context, definitions and explanations, determinant factors, Romania in the global context, progress indicators	<ul style="list-style-type: none"> <li>• Multi-media projector</li> <li>• Tablet PC and related software tools</li> <li>• Smart board</li> <li>• MS Power Point</li> <li>• Open discussions on additional materials</li> </ul>	Prosperity without Growth? (T. Jackson, SDC) Global Competitiveness Index (WEF) The Competitive Advantage of Nations (M. Porter, HBR) Social Progress Index (SPI) Human Development Index (UNDP) <a href="http://www.ted.com/talks/michael_green_what_the_social_progress_index_can_reveal_about_your_country">www.ted.com/talks/michael_green_what_the_social_progress_index_can_reveal_about_your_country</a> <a href="http://www.youtube.com/watch?v=-2547RlpEIM&amp;hd=1">www.youtube.com/watch?v=-2547RlpEIM&amp;hd=1</a>

2	Directed system evolution: concepts, multiple future management, directed evolution algorithms, resilient economy, life-cycle orientation, the future “temple” of the business	<ul style="list-style-type: none"> <li>• Multi-media projector</li> <li>• Tablet PC and related software tools</li> <li>• Smart board</li> <li>• MS Power Point</li> <li>• Open discussions on additional materials</li> </ul>	<p>Economic Resilience (S. Hallegatte, WB)  Predictions 2020-2050 (S. Brad, syntheses)  Multiple Futures Methodology  Considering Multiple Futures: Scenario Planning to Address Uncertainty (US FWS)  <a href="https://www.youtube.com/watch?v=xkAw4jv8hUY&amp;hd=1">https://www.youtube.com/watch?v=xkAw4jv8hUY&amp;hd=1</a>  <a href="https://www.youtube.com/watch?v=CUDqN7MNsRw">https://www.youtube.com/watch?v=CUDqN7MNsRw</a>  <a href="https://www.youtube.com/watch?v=MKhUKHzE8hk">https://www.youtube.com/watch?v=MKhUKHzE8hk</a></p>
3	Innovation: definitions, concepts, innovation in relation with the evolution of the economic environment, human consciousness and its relation with innovation, innovation vectors and sectorial definitions of innovation	<ul style="list-style-type: none"> <li>• Multi-media projector</li> <li>• Tablet PC and related software tools</li> <li>• Smart board</li> <li>• MS Power Point</li> <li>• Open discussions on additional materials</li> </ul>	<p>Innovation Policy Management (HLE, Blueprint, EC)  OSLO Manual (OECD)</p>
4	Innovation classification: incremental, discontinuous, architectural, system, radical, disruptive, breakthrough, reverse, examples and explanations	<ul style="list-style-type: none"> <li>• Multi-media projector</li> <li>• Tablet PC and related software tools</li> <li>• Smart board</li> <li>• MS Power Point</li> <li>• Open discussions on additional materials</li> </ul>	<p>How GE Is Disrupting Itself (J. Immelt, V. Gavindarajan, C. Trimble, HBR)  How Can Great Firms Fail? Insights from the Hard Disk Drive Industry (C. Christensen, Chapter 1, The Innovator’s Dilemma, Harper Business)</p>
5	Innovation process: perspectives of innovation, details of the stages in traditional and lean innovation processes, innovation cycle, innovation pillars, potential sources of innovation, innovation vs. improvement	<ul style="list-style-type: none"> <li>• Multi-media projector</li> <li>• Tablet PC and related software tools</li> <li>• Smart board</li> <li>• MS Power Point</li> <li>• Open discussions on additional materials</li> </ul>	<p>The Discipline of Innovation (P. Drucker, HBR)  <a href="https://www.youtube.com/watch?v=QNUgWgcepK0&amp;hd=1">https://www.youtube.com/watch?v=QNUgWgcepK0&amp;hd=1</a>  <a href="https://www.youtube.com/watch?v=rN3FZKTgdR0&amp;hd=1">https://www.youtube.com/watch?v=rN3FZKTgdR0&amp;hd=1</a></p>
6	Advanced concepts of innovation: multi-layer innovation, integrated innovation and implications on the business system, national innovation model (OECD), innovation as a system, structured innovation, total innovation management, advanced tools for structured innovation and benefits, innovation laws with details and examples	<ul style="list-style-type: none"> <li>• Multi-media projector</li> <li>• Tablet PC and related software tools</li> <li>• Smart board</li> <li>• MS Power Point</li> <li>• Open discussions on additional materials</li> </ul>	<p>Innovation Killers (C. Christensen, S. Kaufman, W. Shih, HBR)  <a href="https://www.youtube.com/watch?v=faXWB9FXq0g">https://www.youtube.com/watch?v=faXWB9FXq0g</a>  <a href="http://www.openinnovation.eu/open-innovation/#">http://www.openinnovation.eu/open-innovation/#</a>  <a href="https://www.youtube.com/watch?v=lQdb9LmXK-I">https://www.youtube.com/watch?v=lQdb9LmXK-I</a></p>

7	Innovation in strategy formulation: innovative strategies, the enhanced Porter's diamond, success indicators and strategic activators, need for structured innovation in strategy formulation, vision formulation and its deployment into strategy – link with innovation, support algorithms for defining innovative strategies, strategies in innovation management	<ul style="list-style-type: none"> <li>• Multi-media projector</li> <li>• Tablet PC and related software tools</li> <li>• Smart board</li> <li>• MS Power Point</li> <li>• Open discussions on additional materials</li> </ul>	What is Strategy? (M. Porter, HBR) <a href="https://www.youtube.com/watch?v=KvYwKM5bY0s&amp;hd=1">https://www.youtube.com/watch?v=KvYwKM5bY0s&amp;hd=1</a>
8	Organizational innovation: current and forthcoming contexts, cultural dimension and innovation, role of individuals and teams in the innovation process, organizational roles in innovation management, examples of organizational innovations, dynamic-oriented structures, characteristics of an innovation-driven organization, business model innovation, innovation promotion within organizations	<ul style="list-style-type: none"> <li>• Multi-media projector</li> <li>• Tablet PC and related software tools</li> <li>• Smart board</li> <li>• MS Power Point</li> <li>• Open discussions on additional materials</li> </ul>	Change through Persuasion (D. Gavin, M. Roberto, HBR) What to Ask the Person in the Mirror (R. Kaplan, HBR) <a href="https://www.youtube.com/watch?v=K0Eu6cL0BR8&amp;hd=1">https://www.youtube.com/watch?v=K0Eu6cL0BR8&amp;hd=1</a>
9	Partnership development – a particular case of organizational innovation: importance of business networks, innovations in partnership and business network development, open innovation, strategic aligned innovative economic clusters, communication and knowledge management platforms in clusters, co-competition and related innovations	<ul style="list-style-type: none"> <li>• Multi-media projector</li> <li>• Tablet PC and related software tools</li> <li>• Smart board</li> <li>• MS Power Point</li> <li>• Open discussions on additional materials</li> </ul>	Innovative Clusters: Key Concepts (D. Hart) <a href="https://www.youtube.com/watch?v=QzTsWs9sEeM">https://www.youtube.com/watch?v=QzTsWs9sEeM</a>
10	Business process innovation: total performance model, business excellence, standards in innovation management, business process re-design, business process reengineering, intelligent control of business process innovation, upon the performance of innovation projects	<ul style="list-style-type: none"> <li>• Multi-media projector</li> <li>• Tablet PC and related software tools</li> <li>• Smart board</li> <li>• MS Power Point</li> <li>• Open discussions on additional materials</li> </ul>	Innovation Management System (CEN/TS 16555-1 Standard) <a href="https://www.youtube.com/watch?v=YH0G4wfFSW4&amp;hd=1">https://www.youtube.com/watch?v=YH0G4wfFSW4&amp;hd=1</a> <a href="https://www.youtube.com/watch?v=tWvtOHSfkFE&amp;hd=1">https://www.youtube.com/watch?v=tWvtOHSfkFE&amp;hd=1</a> <a href="https://www.youtube.com/watch?v=EUnnKAFcpuE&amp;hd=1">https://www.youtube.com/watch?v=EUnnKAFcpuE&amp;hd=1</a> <a href="https://www.youtube.com/watch?v=HPRURtORnis&amp;hd=1">https://www.youtube.com/watch?v=HPRURtORnis&amp;hd=1</a> <a href="https://www.youtube.com/watch?v=1vZYvAcU8hY&amp;hd=1">https://www.youtube.com/watch?v=1vZYvAcU8hY&amp;hd=1</a>
11	Product innovation: factors leading to new product opportunities, product utility, product value market, value added pyramid, product life-time/life-cycle and value added potential, new product- complete new product, innovation directions of new products, WOW product, competitive product strategies – user/client orientation / lean personalized products, extended product / PSS, critical factors to ensure product competitiveness, upon the competitive advantage, differentiation and its sustenance, right price, product quality versus product value perception, optimal quality, critical factors to develop new products	<ul style="list-style-type: none"> <li>• Multi-media projector</li> <li>• Tablet PC and related software tools</li> <li>• Smart board</li> <li>• MS Power Point</li> <li>• Open discussions on additional materials</li> </ul>	Six Myths of Product Development (S. Thomke, D. Reinertsen, HBR) <a href="https://www.youtube.com/watch?v=cjCCS3DxZR0&amp;hd=1">https://www.youtube.com/watch?v=cjCCS3DxZR0&amp;hd=1</a>
12	Innovation engineering: engineering design process, challenges in engineering design, definition of innovation engineering, competitive engineering, innovation project planning, main steps in competitive product development – the standard path and related tools, resilient strategies in R&D for developing innovative technologies	<ul style="list-style-type: none"> <li>• Multi-media projector</li> <li>• Tablet PC and related software tools</li> <li>• Smart board</li> <li>• MS Power Point</li> <li>• Open discussions on additional materials</li> </ul>	The Customer-Centred Innovation Map (L. Bettencourt, A. Ulwick, HBR) <a href="https://www.youtube.com/watch?v=092JQrye9IM&amp;hd=1">https://www.youtube.com/watch?v=092JQrye9IM&amp;hd=1</a>

13	Technology transfer: definitions, traditional and integrated models of technology transfer, technology transfer activities, technology transfer and innovation process, collaboration levels university-company in technology transfer, major stages of technology transfer, critical aspects in technology transfer, intellectual property, invention patenting and challenges, valuing intellectual property, patent promotion budgeting, spin-off foundation, entrepreneurial process and complements	<ul style="list-style-type: none"> <li>• Multi-media projector</li> <li>• Tablet PC and related software tools</li> <li>• Smart board</li> <li>• MS Power Point</li> <li>• Open discussions on additional materials</li> </ul>	Innovation: The Classic Traps (R.M. Kanter, HBR) <a href="https://www.youtube.com/watch?v=5rSdu7FE2no&amp;hd=1">https://www.youtube.com/watch?v=5rSdu7FE2no&amp;hd=1</a> <a href="https://www.youtube.com/watch?v=092JQrye9IM&amp;hd=1">https://www.youtube.com/watch?v=092JQrye9IM&amp;hd=1</a> <a href="https://www.youtube.com/watch?v=VDT44_DGbGc&amp;hd=1">https://www.youtube.com/watch?v=VDT44_DGbGc&amp;hd=1</a>
14	Innovation economics: metrics for assessing innovation (general and sectorial), metrics for national innovation	<ul style="list-style-type: none"> <li>• Multi-media projector</li> <li>• Tablet PC and related software tools</li> <li>• Smart board</li> <li>• MS Power Point</li> <li>• Open discussions on additional materials</li> </ul>	Innovation Union Scoreboard (EC) 50 Success Stories on Innovation Management (EC)

### **Bibliography**

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- Brad, S., et. al. Ingineria și Managementul Inovației (Engineering and Management of Innovation), Ed. Economică, București, 2006.
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- Brad, S., Chapter 6: Sigma-TRIZ: Algorithm for Systematic Integration of Innovation within Six Sigma Process Improvement Methodologies, 89-108, in: Quality Management and Six Sigma, Ed. InTech, ISBN 978-953-307-130-5, 2010.
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- Brad, S., Multilayer Innovation – A Key Driver towards a Rapid Growth of Economic Competitiveness: Challenges for Romania, Special Issue Calitatea AS (SCOPUS), year 9, no. 93, vol. I, ISSN 1582-2559, 73-90, 2008.
- Brad, S., Mocan, B., Brad, E., Fulea, M., Leading Innovation to Improve Complex Process Performances by Systematic Problem Analysis with TRIZ, TFC2014, Global Innovation Convention, EPFL, Lausanne, Procedia CIRP, Elsevier, 2014.
- Brad, S., Brad, E., Enhancing SWOT Analysis with TRIZ-based Tools to Integrate Systematic Innovation in Early Task Design, pg. 91-100, 13th ETRIA World TRIZ Future Conference 2013, Paris, 2013.
- Brad, S., Pitic, L., Quality Cost-Based Adaptive Control Approach for Conducting Process Innovation, Proceedings of the 1st International Conference Quality and Innovation in Engineering and Management (Ed. S. Popescu, S. Brad, D. Popescu), Cluj-Napoca, March 17-19, Ed. UT Press, ISBN 978-973-662-614-2, ISI Web of Knowledge, 237-242, 2011.
- Brad, S., Perspectives on High-Tech Product Design for Better Supporting Product-Service Systems, Proceedings of the 2009 Winter Simulation Conference, Austin, USA, ISBN: 978-1-4244-5771-7/09/IEEE Catalogue no.: CFP09WSC-CDR, Library of Congress: 87-654182, 3036-3046, ISI Web of Knowledge, IEEEXplore: DOI: 10.1109/WSC.2009.5429270, 2009.
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- Trott, P., Innovation Management and New Product Development, Prentice Hall, London, 2012.
- Tidd, J., Bessant, J., Managing Innovation: Integrating Technological, Market and Organizational Change, 4th edition, John Wiley & Sons Ltd, 2009.

8.2. S(S)		Teaching/Work methods	Recommendations for students
1	Innovation audit (RESIN model + IMP3prove model)	Examples, Supervision individual work	

2	The European standard for innovation management CEN/TS 16555-1:2013 (technical requirements to design and implement an innovation management system)	Examples, Supervision individual work	
3	New product/service conceptualization (LOTUS+ASIT+9W)	Examples, Supervision individual work	
4	The entrepreneurial plan for innovative product start-up company (RESIN model) and foundation of innovative strategies (Enhanced SWOT+ Enhanced Porter Diamond)	Examples, Supervision individual work	
5	Market value estimation of a novel business idea (MaPE method), market value assessment of a patent (5% / 25%), multi-dimensional assessment of market value of new technologies with IPScore	Examples, Supervision individual work	
6	Business model innovation for a start-up (Strategizer model + correlation matrices + RESIN model on value chain)	Examples, Supervision individual work	
7	Innovative solving of day-by-day managerial problems (M-TRIZ)	Examples, Supervision individual work	

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- Porter, E.M., Kramer, M., Creating Shared Value, HBR, 2011.

### **9. Corroboration of the contents of the discipline with the expectations of the representatives of the epistemic community, of the professional associations and representative employers in the field associated with the programme**

The content is correlated with the curricula of the MBA program delivered by the partner university (CNAM) and consistent with the curricula of major MBA programs from all over the world. In order to better adapt the content to labour market requirements, were deployed meetings with business representatives, business analysts and practitioners from the field, former students from both Romania and France. Also, the contents are harmonized with the international standards on innovation management, with the EC and OECD positions on innovation.

## 10. Assessment

Type of activity	Assessment criteria	Assessment methods	Percentage in the final grade
10.1. C(C)	Completeness Correctness of answers	Written test on the key innovation concepts	20,00
10.2. C(C)	Ingenuity and simplicity of answers	Discussions in the class on the supplementary materials	20,00
10.3. S(S)	Completeness Number of mini-projects solved Correctness of solutions Difficulty of the problem solved	Average of the marks on each mini-project	60,00
10.6. Modality of grading	Whole marks 1-10		
10.7. Minimum standard of performance	Minimum 4 mini-projects Written test solved min. 50%		

