



SYLLABUS

Sisteme lean și managementul calității/Lean systems and quality management

Anul universitar 2025-2026

1. Information regarding the programme

1.1. Higher education institution	Babeș-Bolyai University
1.2. Faculty	Business
1.3. Department	Hospitality Services
1.4. Field of study	Business Administration
1.5. Study cycle	Master
1.6. Study programme/Qualification	Procurement and Supply chain management
1.7. Form of education	Full time

2. Information regarding the discipline

2.1. Name of the discipline		Sisteme lean și managementul calității/Lean systems and quality management				Discipline code		IME0088			
2.2. Course coordinator			Prof.univ.dr. Adina NEGRUȘA								
2.3. Seminar coordinator			Prof.univ.dr. Adina NEGRUȘA								
2.4. Year of study		I	2.5. Semester		2	2.6. Type of evaluation		E	2.7. Discipline regime		Mandatory

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
3.4. Total hours in the curriculum	28	of which: 3.5 course	14	3.6 seminar/laborator	14
Time allotment for individual study (ID) and self-study activities (SA)					hours
Learning using manual, course support, bibliography, course notes (SA)					26
Additional documentation (in libraries, on electronic platforms, field documentation)					16
Preparation for seminars/labs, homework, papers, portfolios and essays					26
Tutorship					2
Evaluations					2
Other activities:					
3.7. Total individual study hours	72				
3.8. Total hours per semester	100				
3.9. Number of ECTS credits	4				

4. Prerequisites (if necessary)

4.1. curriculum	
4.2. competencies	



5. Conditions (if necessary)

5.1. for the course	Room equipped with video-projector, computer
5.2. for the seminar /lab activities	Room equipped with video-projector, computer

6. Specific competencies acquired

Professional/essential competencies	<ul style="list-style-type: none">analyse supply chain trendsapply change managementdetect bottlenecksdevelop efficiency plans for logistics operationsperform system analysisidentify process improvementsmitigate waste of resourcesprovide cost benefit analysis reportsanalyse production processes for improvement
Transversal competencies	<ul style="list-style-type: none">think analyticallythink critically

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 provides an in-depth exploration of Lean principles, Six Sigma methodologies, and quality management systems. It covers Lean applications in supply chain and manufacturing, continuous improvement strategies, and key quality management concepts.
7.2 Specific objective of the discipline	<ul style="list-style-type: none">Understand Lean Principles –Lean concepts, identify waste, and assess Lean's impact on efficiency.Understand JIT, VMI, and Lean logisticsDifferentiate Push vs. Pull systems, use Kanban, and enhance production efficiency.Apply Six Sigma – Utilize DMAIC methodology and statistical tools for process improvement.Foster a Kaizen culture, apply PDCA, and solve problems systematically.Track KPIs, integrate Lean & Quality Management for business growth.

8. Content

8.1 Course	Teaching methods	Remarks
1. Fundamentals of Lean Systems and Quality Management <ul style="list-style-type: none">Introduction to Lean Thinking and its evolutionKey principles: Value, Value Stream, Flow, Pull, and Perfection	<ul style="list-style-type: none">the use of an interactive course, based on lecture and debatesdiscussions and debates during the lecture based on examples provided by the teacher	1 lecture
2. Lean Management in Supply Chain <ul style="list-style-type: none">Waste elimination in procurement, inventory, and logisticsPull & Push Flows, JIT, VMI, Kanban	<ul style="list-style-type: none">the use of an interactive course, based on lecture and debatesdiscussions and debates during the lecture based on examples provided by the teacher	2 lectures



3. Six Sigma – Data-Driven Quality Improvement <ul style="list-style-type: none"> Introduction to Six Sigma and its importance in quality management DMAIC methodology: Define, Measure, Analyze, Improve, Control 	<ul style="list-style-type: none"> the use of an interactive course, based on lecture and debates discussions and debates during the lecture based on examples provided by the teacher 	2 lectures
4. Continuous Improvement and Kaizen <ul style="list-style-type: none"> The philosophy and culture of continuous improvement Kaizen vs. innovation: Small changes vs. major transformations 	<ul style="list-style-type: none"> the use of an interactive course, based on lecture and debates discussions and debates during the lecture based on examples provided by the teacher 	1 lecture
5. Quality assurance <ul style="list-style-type: none"> Statistical tools to control quality of conformance 	<ul style="list-style-type: none"> the use of an interactive course, based on lecture and debates discussions and debates during the lecture based on examples provided by the teacher 	1 lecture
6. The cost of quality <ul style="list-style-type: none"> Cost of prevention and appraisal Internal failure costs and external failure costs 	<ul style="list-style-type: none"> the use of an interactive course, based on lecture and debates discussions and debates during the lecture based on examples provided by the teacher 	1 lecture

Bibliography

- Antony, J., Vinodh, S., & Gijo, E.V. (2016). Lean Six Sigma for Small and Medium Sized Enterprises: A Practical Guide (1st ed.). CRC Press. <https://doi.org/10.1201/9781315372174>
- Charron, R., Harrington, H.J., Voehl, F., & Wiggin, H. (2014). The Lean Management Systems Handbook (1st ed.). Productivity Press. <https://doi.org/10.1201/b17201>
- Jones, E. (2014). Quality Management for Organizations Using Lean Six Sigma Techniques (1st ed.). CRC Press. <https://doi.org/10.1201/b16401>

8.2 Seminar / laboratory	Teaching methods	Remarks
1. The relationship between Lean, Six Sigma, and Quality Management	Case study analysis, short presentation, exercises and games	1 seminar – 2 hr
2. Just-in-Time (JIT) and Vendor-Managed Inventory (VMI) strategies. Case studies on Lean supply chain success stories		1 seminar
3. Lean Six Sigma: Integration of Lean and Six Sigma methodologies. Statistical tools for process improvement		2 seminars
4. The control charts, Pareto diagram, the cause-and-effect diagram		2 seminars
5. The cost of quality and KPIs		1 seminars

Bibliography

- Antony, J., Vinodh, S., & Gijo, E.V. (2016). Lean Six Sigma for Small and Medium Sized Enterprises: A Practical Guide (1st ed.). CRC Press. <https://doi.org/10.1201/9781315372174>
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9. Corroborating the content of the course with the expectations of the epistemic community, professional associations and representative employers within the field of the program


<ul style="list-style-type: none"> The discipline content is consistent with what is being taught in other universities at home and abroad. In order to adapt it to the labour market requirements, there were held meetings with business representatives.
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10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of final grade
10.4 Course	<ul style="list-style-type: none">• Correctness and amplitude of theoretic knowledge• Logic coherence• Specialized terminology• Understanding of basic concepts	Final test	50%
10.5 Seminar/laboratory	Ability to apply learned concepts	Seminar attendance and activity 3 case studies/essays/applications	50%
10.6 Minimum standard of performance			
<ul style="list-style-type: none">• comprehension of basic notions and their usage• interpretations of the obtained results• The evaluation mode is also maintained for the re-exam's session; <p>In order to calculate the final mark summing up the points obtained during the semester, it is necessary to obtain at least 50% of the score related to the written exam</p>			

11. Labels ODD (Sustainable Development Goals)

	
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Date:
25.02.2025

Signature of course coordinator

Prof. Adina Negrușă, PhD

Signature of seminar coordinator

Prof. Adina Negrușă, PhD

Date of approval:
27.02.2025

Signature of the head of department

Assco. prof. Marius Bota, PhD