

COURSE OUTLINE

1. Data about the study programme

1.1 Higher education institution	Transilvania University of Braşov
1.2 Faculty	Food and tourism
1.3 Department	Food and tourism engineering and management
1.4 Field of study	Engineering of food products
1.5 Study level	Master
1.6 Study programme	Gastronomic Engineering (in English)

2. Data about the course

2.1 Name of course	Ethics and Academic Integrity II							
2.2 Course convenor	Senior lecturer Simona ŞOICA, PhD							
2.3 Seminar/ laboratory/ project convenor								
2.4 Study year	I	2.5 Semester	I	2.6 Evaluation type	V	2.7 Course status	Content	DC
							Attendance type	DI

3. Total estimated time (hours of teaching activities per semester)

3.1 Number of hours per week	1	out of which: 3.2 lecture	1	3.3 seminar/ laboratory/ project	-
3.4 Total number of hours in the curriculum	14	out of which: 3.5 lecture	14	3.6 seminar/ laboratory/ project	-
Time allocation					hours
Study of textbooks, course support, bibliography and notes					20
Additional documentation in libraries, specialized electronic platforms, and field research					24
Preparation of seminars/ laboratories/ projects, homework, papers, portfolios, and essays					30
Tutorial					
Examinations					2
Other activities.....					-
3.7 Total number of hours of student activity		76			
3.8 Total number per semester		90			
3.9 Number of credits ¹⁾		3			

4. Prerequisites (if applicable)

4.1 curriculum-related	
4.2 competences-related	Communication and academic writing

5. Conditions (if applicable)

5.1 for course development	
5.2 for seminar/ laboratory/ project development	Room equipped with projector/TV, board and marker.

6. Specific competences and learning outcomes

Professional competences	P.C.1 Performs detailed food processing operations
	Upon completion of the master's program, the graduate will be able to:
	Competencies
	L.O. 1.3 Know specific regulations related to the manufacture of food and beverages
	Skills
	L.O. 1.8 Apply specific regulations regarding the manufacture of food and beverages
	Responsibilities and autonomy
	L.O. 1.9 Assume responsibility and accountability for his/her own professional decisions and actions or those delegated to others in the food preparation process.
	L.O. 1.10 Demonstrate willingness to immediately assume tasks resulting from professional activities.
	L.O. 1.11 Plan and implement sustainable strategies to improve production performance, integrating innovative solutions;

7. Course objectives (resulting from the specific competences to be acquired)

7.1 General course objective	Ethics in scientific research
7.2 Specific objectives	- Adapt and apply scientific writing rules in line with international standards. - Managing professional writing

8. Content

8.1 Course	Teaching methods	Number of hours	Remarks
8.2.1. Scientific discourse; Importance of ethics in scientific research.	Problematization. Applications	1	
8.2.2. Elaboration of academic and scientific work: Documentation, Research. Scientific databases	Problematization. Applications	2	
8.2.3. Elaboration of academic and scientific work: thesis, hypotheses, research methods	Problematization. Applications	2	
8.2.4. Elaboration of academic and scientific work: Research methods in engineering	Problematization. Applications	2	
8.2.5. Elaboration of academic and scientific work: Organizing texts, writing the abstract;	Problematization. Applications	2	
8.2.6. Elaboration of academic and scientific work: Adapting internationally agreed styles;	Problematization. Applications	2	
8.2.7. Writing technical/scientific texts (technical reports, instructions, procedures, user manuals);	Problematization. Applications	3	
Bibliography Alley, M. (2018) <i>The craft of scientific writing</i> . New York: Springer. Bailey, S. (2003) <i>Academic Writing: A practical guide for students</i> . London: Routledge. Barrass, R. (2002) <i>Scientists Must Write: A guide to better writing for scientists, engineers and students</i> . London: Routledge. Laplante, P.A. (2012) <i>Technical writing</i> . Boca Raton: CRC Press Taylor & Francis Group. Marder, M. P. (2011). <i>Research methods for science</i> . Cambridge: Cambridge University Press. Rawlinson, M.C. și Ward, C. (2017) <i>The Routledge handbook of food ethics</i> . London: Routledge Thiel, D. V. (2014). <i>Research methods for engineers</i> . Cambridge: Cambridge University Press. Laplante, P.A. (2012) <i>Technical writing</i> . Boca Raton: CRC Press Taylor & Francis Group.			

9. Correlation of course content with the demands of the labour market (epistemic communities, professional associations, potential employers in the field of study)

- Academic and scientific rigor and honesty;
- Adapt technical writing skills to the future workplace

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of the final grade
10.4 Course	• Continuous activity and participation in the course • Active presence and reasoned interventions • Integration of theoretical knowledge into discussions • Demonstration of reflective thinking on the theories discussed	Continuous assessment	30%
	Written test: • ability to formulate hypotheses and research questions • identification of research methods • application of scientific writing standards • clarity in project structuring.	Summative assessment	70%
10.6 Minimal performance standard			
• The student demonstrates the ability to identify hypotheses, questions, and research methods, and to apply the standards for writing academic texts and scientific reports.			
Performance assessment grid			
Performance level	General description	Characteristics	
Excellent (10–9)	Fully masters the rules of scientific research and writing	Correct structures, clarity, coherence, critical thinking	
Very good (8)	Demonstrates solid understanding and correct application of the rules of scientific research and writing	Minor errors, but conceptual and practical coherence	
Good (7)	Understands the basic concepts, but application is partial	Incomplete structures, partial writing	
Sufficient (6)	Partially understands the fundamental principles of scientific research and writing, but does not apply them correctly	Incorrect structures, poor scientific writing	
Insufficient (<5)	Does not demonstrate understanding of the fundamental principles of scientific writing	Incorrect structures and applications	

This course outline was certified in the Department Board meeting on 12.09.2025 and approved in the Faculty Board meeting on 12.09.2025

PhD Professor, Vasile PĂDUREANU, Dean	PhD Professor, Cristina Maria CANJA Head of Department
Senior lecturer Simona SOICA, PhD Course holder	

Note:

1) One credit is the equivalent of 30 study hours (teaching activities and individual study).

COURSE OUTLINE

1. Data about the study programme

1.1 Higher education institution	Transilvania University of Brasov
1.2 Faculty	Food and tourism
1.3 Department	Food and tourism engineering and management
1.4 Field of study	Engineering of food products
1.5 Study level	Master
1.6 Study programme	Gastronomic Engineering (in English)

2. Data about the course

2.1 Name of course	Psychology of human nutrition							
2.2 Course convenor	PhD Assoc.Prof. Psychologist Laura CISMARU							
2.3 Seminar/ laboratory/ project convenor	PhD Assoc.Prof. Psychologist Laura CISMARU							
2.4 Study year	I	2.5 Semester	I	2.6 Evaluation type	E	2.7 Course status	Content	DS
							Attendance type	DI

3. Total estimated time (hours of teaching activities per semester)

3.1 Number of hours per week	4	out of which: 3.2 lecture	2	3.3 seminar/ laboratory/ project	0/0/2
3.4 Total number of hours in the curriculum	56	out of which: 3.5 lecture	28	3.6 seminar/ laboratory/ project	0/0/28
Time allocation					hours
Study of textbooks, course support, bibliography and notes					
Additional documentation in libraries, specialized electronic platforms, and field research					26
Preparation of seminars/ laboratories/ projects, homework, papers, portfolios, and essays					68
Tutorial					
Examinations					
Other activities.....					
3.7 Total number of hours of student activity		94			
3.8 Total number per semester		150			
3.9 Number of credits ¹⁾		5			

4. Prerequisites (if applicable)

4.1 curriculum-related	It is not the case
4.2 competences-related	It is not the case

5. Conditions (if applicable)

5.1 for course development	Video projector
5.2 for seminar/ laboratory/ project development	Room equipped with computers connected to the Internet

6. Competences and learning outcomes

Competences and learning outcomes	P.C.3 Develop processes and techniques for food production or food preservation. Involved in the design, development, construction and operation of industrial processes and techniques for food production. Upon completion of the master's program, the graduate will be able to: Knowledge L.O. 3.1. Demonstrate a thorough understanding of psychological principles and innovative approaches related to human eating behaviour, consumer psychology and nutrition choices within the gastronomic industry. Skills L.O. 3.6. Develop and implement innovative psychological processes and techniques to analyze and influence human nutrition behaviour effectively, ensuring coherence and applicability in gastronomic product development and food service contexts. Responsibilities and autonomy L.O. 3.12: Organize and coordinate research and applied activities related to psychological factors influencing food preservation and production techniques, ensuring these processes are effectively designed, implemented and evaluated in alignment with consumer behavior and nutritional goals. L.O. 3.13: Take responsibility for developing innovative gastronomic concepts and environments that integrate psychological insights to promote quality, sustainability and exclusivity in food experiences, enhancing consumer satisfaction and engagement.
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7. Course objectives

7.1 General course objective	Learning specific concepts of psychology and their correct application in the context of human nutrition.
7.2 Specific objectives	- Explaining and understanding key concepts specific to psychology and using them to explain the human eating behaviour. - Students' psychological self-testing and the correct understanding of their own eating behaviour profile.

8. Content

8.1 Course	Teaching methods	Number of hours	Remarks
Human Temperament and Eating Behaviour This unit explores various human temperaments and their influence on eating habits. It analyzes correlations between introversion/extraversion and emotional stability/instability with food choices and patterns, helping students understand how temperament shapes nutrition behavior.	Lecture and debate	4	
Human Personality and Eating Behaviour: Big Five Model This unit examines the Big Five personality traits: Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism and their influence on eating behaviour. Openness relates to a willingness to	Lecture and debate	6	

try new foods and varied diets. Conscientiousness is linked to disciplined, healthy eating habits and nutritional awareness. Extraversion associates with social eating and sometimes preference for more intense flavors. Agreeableness influences cooperative eating patterns and preferences aligned with social harmony. Neuroticism often correlates with emotional eating and less healthy food choices. Understanding these traits helps explain individual differences in dietary habits and guides personalized nutrition approaches.			
Gender Differences Reflected in Human Nutrition This unit examines physiological and psychological gender differences affecting nutrition. It highlights how these differences influence food preferences, nutritional needs and eating behaviour patterns.	Lecture and debate	2	
Attachment Patterns Reflected Within the Human Eating Behaviour This unit investigates attachment styles (secure, anxious, avoidant, disorganized) and their influence on eating behaviours. It considers how emotional bonds and relational dynamics affect food choices and eating habits.	Lecture and debate	2	
Emotions and Eating Behaviour This unit analyzes the role of emotions in eating, focusing on emotional eating, stress-related food intake and psychological mechanisms driving these behaviours.	Lecture and debate	2	
The Somatotype and Human Nutrition This unit introduces the somatotype classification - ectomorph, mesomorph, and endomorph and discusses how body types interact with metabolism and nutritional requirements.	Lecture and debate	2	
Identifying Consumer Needs According to Generation This unit covers Strauss and Howe's Generational Theory to understand different generational cohorts and their distinct food-related needs and preferences. It includes consumer needs research through Maslow's hierarchy of needs as a framework. Students will learn qualitative and quantitative research methods, including specific techniques like projective methods, to analyze consumer behavior effectively.	Lecture and debate	8	
Eating Disorders Overview of major eating disorders (anorexia nervosa, bulimia, binge eating), focusing on psychological causes and nutritional consequences.	Lecture and debate	2	

Bibliography Ogden, J. (2011). The psychology of eating: From healthy to disordered behavior. John Wiley & Sons. Logue, A. W. (2014). The psychology of eating and drinking. Routledge. Ross, C. C. (2016). The Emotional Eating Workbook: A Proven-Effective, Step-by-Step Guide to End Your Battle with Food and Satisfy Your Soul. New Harbinger Publications. Sproesser, G. (2012). Why we eat what we eat: Psychological influences on eating behavior (Doctoral dissertation). Lieberman, H. R., Kanarek, R. B., & Prasad, C. (Eds.). (2005). Nutritional neuroscience. CRC Press. Shepherd, R., & Raats, M. (Eds.). (2006). The psychology of food choice (Vol. 3). Cabi. Lyman, B. (2012). A psychology of food: More than a matter of taste. Springer Science & Business Media. Smith, J. L. (2002). The psychology of food and eating: A fresh approach to theory and method. London: Palgrave. American Psychiatric Association, D., & American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders: DSM-5 (Vol. 5, No. 5). Washington, DC: American psychiatric association. Ghita-Pirnutu, O.-A., & Cismaru, L. (2022). Developing the Emotional Intelligence of Millennial Students: A Teaching Strategy. Sustainability, 14(21), 13890.			
8.2 Seminar/ laboratory/ project	Teaching-learning methods	Number of hours	Remarks
Introversion-extraversion and the human nutrition	Self-testing, debate and reflective writing	2	
Emotional stability-instability and the human nutrition	Self-testing, debate and reflective writing	2	
Personality and the human nutrition	Self-testing, debate and reflective writing	6	
Gender and the human nutrition	Self-testing, debate and reflective writing	2	
Attachment pattern and the human nutrition	Self-testing, debate and reflective writing	2	
Emotions and the human nutrition	Self-testing, debate and reflective writing	2	
Somatotype and the human nutrition	Self-testing, debate and reflective writing	2	
Identifying Consumer Needs According to Generation	Research	8	
Eating disorders	Self-testing, debate and reflective writing	2	
Bibliography researchcentral.ro psihoprofile.ro Ogden, J. (2011). The psychology of eating: From healthy to disordered behavior. John Wiley & Sons. Logue, A. W. (2014). The psychology of eating and drinking. Routledge. Ross, C. C. (2016). The Emotional Eating Workbook: A Proven-Effective, Step-by-Step Guide to End Your Battle with Food and Satisfy Your Soul. New Harbinger Publications. Sproesser, G. (2012). Why we eat what we eat: Psychological influences on eating behavior (Doctoral dissertation). Lieberman, H. R., Kanarek, R. B., & Prasad, C. (Eds.). (2005). Nutritional neuroscience. CRC Press. Shepherd, R., & Raats, M. (Eds.). (2006). The psychology of food choice (Vol. 3). Cabi. Lyman, B. (2012). A psychology of food: More than a matter of taste. Springer Science & Business Media. Smith, J. L. (2002). The psychology of food and eating: A fresh approach to theory and method. London: Palgrave. American Psychiatric Association, D., & American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders: DSM-5 (Vol. 5, No. 5). Washington, DC: American psychiatric association. Ghita-Pirnutu, O.-A., & Cismaru, L. (2022). Developing the Emotional Intelligence of Millennial Students: A Teaching			

9. Correlation of course content with the demands of the labour market (epistemic communities, professional associations, potential employers in the field of study)

The contents of the discipline have been established based on current trends and thorough analysis of the labour market needs in human nutrition psychology. This foundation ensures the course is highly relevant and useful for master's students, preparing them for roles in executive and decision-making positions, especially within management and marketing sectors. It aligns with expectations from epistemic communities, professional associations, and potential employers, helping graduates develop competencies that enhance their employability and readiness to address real-world challenges in nutrition psychology and related interdisciplinary fields.

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of the final grade
10.4 Course	Active Participation and Engagement: - Consistent attendance with active, informed contributions during lectures. - Integration of consumer psychology and human nutrition psychology theoretical knowledge into discussions. - Demonstration of reflective thinking on psychological concepts and their relationship to human eating behaviors.	Continuous Assessment	20%
	Clarity and rigor in explaining theoretical concepts related to psychology of human nutrition. Ability to articulate and apply models such as introversion–extraversion, emotional stability, Big Five personality traits, attachment theory, and emotional influences on eating. Fluency, logical argumentation, and independence in presentation.	Summative Assessment: Oral Examination	40%

10.5 Seminar/ laboratory/ project	Active Participation and Preparedness: Active involvement through relevant contributions, thoughtful questions, and participation in debates. Preparation of assignments, self-assessments or applied exercises. Collaboration in team tasks and confident presentation of personal viewpoints.	Continuous Assessment	20%
	Correct application of psychological tools (self-tests, result interpretation) to develop consumer or eating behavior profiles. Coherence, creativity and theoretical grounding of the written project. Ability to correlate psychological theories with practical examples from human nutrition and consumer behavior fields.	Summative Assessment: Portfolio Submission	20%

10.6 Minimal performance standard

For passing the exam in this course, the student must demonstrate:

Achieving a minimum score of 5 on the summative oral exam by clearly and coherently presenting fundamental concepts of psychology related to human nutrition and eating behaviour;

Proper understanding and correct application of psychological concepts taught in the course, applied appropriately to straightforward contexts within the human nutrition field;

Submission of the written portfolio on the E-learning platform within the stipulated deadline;

Creation of an original portfolio that reflects the integration of theoretical knowledge on applied psychology in human nutrition, presented in a structured, clear and coherent manner.

Evaluation grid by performance levels

Performance level	General description	Characteristics
Excellent (10–9)	Fully masters the concepts; analyses are innovative and precise	Perfect terminology, logical structure, autonomy, critical thinking
Very good (8)	Demonstrates solid understanding and correct application	Minor errors, but conceptual and practical coherence
Good (7)	Understands basic concepts, but application is partial	Terminology sometimes inaccurate, incomplete explanations
Satisfactory (6)	Mechanical application of notions, without real reflection	Partially correct answers, logical gaps
Insufficient (<5)	Does not demonstrate understanding of fundamental concepts	Theoretical confusion, incorrect applications, lack of argumentation

This course outline was certified in the Department Board meeting on 12.09.2025 and approved in the Faculty Board meeting on 12.09.2025.

Prof.PhD. Eng. Vasile PĂDUREANU	Prof.PhD. Eng. Cristina Maria CANJA
Dean	Head of Department
Assoc.Prof.PhD. Laura CISMARU	Assoc.Prof.PhD. Laura CISMARU
Course holder	Holder of seminar/ laboratory/ project

Note:

1) One credit is the equivalent of 30 study hours (teaching activities and individual study).

COURSE OUTLINE

1. Data about the study programme

1.1 Higher education institution	Transilvania University of Braşov
1.2 Faculty	Food and tourism
1.3 Department	Food and tourism engineering and management
1.4 Field of study	Engineering of food products
1.5 Study level	Master
1.6 Study programme	Gastronomic Engineering (in English)

2. Data about the course

2.1 Name of course	GASTRONOMIC TECHNIQUES							
2.2 Course convenor	Professor Phd. Cristina Maria CANJA							
2.3 Seminar/ laboratory/ project convenor	Professor Phd. Cristina Maria CANJA							
2.4 Study year	I	2.5 Semester	I	2.6 Evaluation type	E	2.7 Course status	Content	DF
							Attendance type	DI

3. Total estimated time (hours of teaching activities per semester)

3.1 Number of hours per week	4	out of which: 3.2 lecture	2	3.3 seminar/ laboratory/ project	2
3.4 Total number of hours in the curriculum	56	out of which: 3.5 lecture	28	3.6 seminar/ laboratory/ project	28
Time allocation					hours
Study of textbooks, course support, bibliography and notes					64
Additional documentation in libraries, specialized electronic platforms, and field research					36
Preparation of seminars/ laboratories/ projects, homework, papers, portfolios, and essays					20
Tutorial					
Examinations					2
Other activities.....					2
3.7 Total number of hours of student activity		124			
3.8 Total number per semester		180			
3.9 Number of credits ¹⁾		6			

4. Prerequisites (if applicable)

4.1 curriculum-related	Basic knowledge in food technology and equipment specific to the food industry
4.2 competences-related	

5. Conditions (if applicable)

5.1 for course development	
5.2 for seminar/ laboratory/ project development	

6. Specific competences and learning outcomes

Professional competences	P.C.3 Develop processes and techniques for food production or food preservation. Involved in the design, development, construction and operation of industrial processes and techniques for food production. Upon completion of the master's program, the graduate will be able to: Knowledge food for the gastronomic industry; and advanced packaging technologies; L.O. 3.1 Know the principles and innovative technologies applicable to the production of high-quality L.O. 3.2 Identify ecological methods and technologies for food preservation, including cold chain logistics L.O. 3.3 Explain ways to integrate sustainable and local sourcing into food production systems, with the aim of reducing waste; L.O. 3.4 Know the principles of design and optimization of workflows in gastronomic units; L.O. 3.5 Know modern solutions for flexible space layout for gastronomic production Skills L.O. 3.6 Develop and implement innovative processes and techniques for obtaining gastronomic products, ensuring their efficiency and coherence; L.O. 3.7 Design and use ecological and energy-efficient preservation methods, adapted to the specifics of the gastronomic industry; L.O. 3.8 Design and manage food production systems based on sustainable sourcing and waste reduction; L.O. 3.9 Optimize workflows in the gastronomic industry, to reduce losses; L.O. 3.10 Create and adapt the design of flexible arrangements for processes in the gastronomic industry Responsibilities and autonomy L.O. 3.11 Ensure the optimal and sustainable functioning of food production processes in gastronomic units; L.O. 3.12 Organize and coordinate the design, implementation and evaluation activities of preservation and production techniques; L.O. 3.13 Assume responsibility for the creation of gastronomic concepts and innovative serving spaces that combine quality, sustainability and exclusivity. P.C. 4 Performs sensory evaluation of food products Upon completion of the master's program, the graduate will be able to: Competencies L.O. 4.1 Identify the specific elements for evaluating the sensory quality of a certain type of food or beverage. L.O. 4.2 Understand the methods and techniques of sensory analysis of gastronomic products. L.O. 4.3 Know the stages of sensory analysis using descriptive statistical analysis Skills L.O. 4.4 Evaluate the quality of a certain type of food or beverage, depending on its sensory characteristics. L.O. 4.5 Develop their own discrimination tests and apply real procedures for testing gastronomic products. L.O. 4.6 Plan the organization of a sensory analysis session, including the choice of the tasting panel. L.O. 4.7 Analyze the results of the sensory analysis in order to improve the quality of future gastronomic products. Responsibilities and autonomy L.O. 4.8 Organize and coordinate a sensory analysis session of gastronomic products. L.O. 4.9 Make decisions regarding the organization of a sensory analysis panel and the tests used. L.O. 4.10 Make decisions regarding changes to the gastronomic process based on the results of a sensory analysis.
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7. Course objectives

7.1 General course objective	Developing advanced skills in the use of modern and traditional gastronomic techniques, with an emphasis on innovation, sustainability, and creative culinary expression.
7.2 Specific objectives	- Analyze the scientific principles behind gastronomic techniques; - Apply classic and modern techniques to create innovative dishes;

	• Use state-of-the-art equipment in gastronomy. • Integrate sustainability and health concepts into the culinary process. • Develop experimental menus based on current gastronomic trends.
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8. Content

8.1 Course	Teaching methods	Number of hours	Remarks
1. Introduction to modern gastronomy The evolution of culinary techniques and the impact of technological innovations. Classification of equipment used in modern gastronomy. The role of creativity and science in the development of innovative dishes.	Interactive Lectures/ Problem-Based Learning	2	
2. Fundamental cooking principles Heat transfer (conduction, convection, radiation) Basic techniques: boiling, baking, frying, sautéing, grilling, steaming Temperature and texture control	Interactive Lectures/ Problem-Based Learning	2	
3. Classic techniques and modern reinterpretations Mother cuisines and their principles (French, Italian, Asian) Reinterpreting tradition through contemporary techniques Culinary fusionism	Interactive Lectures/ Problem-Based Learning	2	
4. Kitchen equipment Classic equipment Kitchen utensils	Interactive Lectures/ Problem-Based Learning	2	
5. The impact of techniques on food properties Modification of organoleptic properties (texture, color, taste). The effect of modern techniques on nutritional value. Adaptation of techniques for special dietary requirements (e.g., gluten-free vegan preparations).	Interactive Lectures/ Problem-Based Learning	4	
6. Fermentation, maturation, and preservation Natural transformation processes Controlled fermentation: kombucha, kimchi, miso Enhancing food through maturation and smoking	Interactive Lectures/ Problem-Based Learning	2	
7. Creative textures and plating Culinary design principles Food texturing: crunchy, creamy, foam, gel Visual aesthetics and culinary storytelling	Interactive Lectures/ Problem-Based Learning	4	
8. Innovation, sustainability, and green gastronomy Zero waste and circularity in gastronomy Alternative ingredients: plant proteins, insects, algae Responsible cooking and laboratory gastronomy	Interactive Lectures/ Problem-Based Learning	2	
9. Applied sensory analysis • Perception of taste and texture • Sensory evaluation in gastronomy		2	

Correlation of perceptions with the techniques used			
10. Regional gastronomy and modern reinterpretation - Updated traditional Romanian techniques - Case study: reinterpretation of local gastronomy - Promotion of terroir products		2	
11. Culinary process management - Organization of technological flow - Food quality and safety control - Energy efficiency and resource management		4	
Bibliography Dr. José Miguel Aguilera, Dr. Peter J. Lillford Handbook of Molecular Gastronomy: Principles and Practices", 2019 Dr. John E. Hall "Cryogenic Applications in Culinary Arts", 2015 Chef Douglas Baldwin, Sous Vide for the Professional Kitchen", 2010 Nathan Myhrvold, Chris Young, Maxime Bilet, "Modernist Cuisine: The Art and Science of Cooking" Editura: The Cooking Lab, 2011 Hervé This, "Molecular Gastronomy: Exploring the Science of Flavor", Editura: Columbia University Press, 2006 Lisa Q. Fetterman, Sous Vide at Home: The Modern Technique for Perfectly Cooked Meals", Editura: Ten Speed Press, 2016 James Briscione, The Flavor Matrix: The Art and Science of Pairing Common Ingredients to Create Extraordinary Dishes", Editura: Houghton Mifflin Harcourt, 2018. Dr. Stuart Farrimond, The Science of Cooking: Every Question Answered to Perfect Your Cooking", Editura: DK Publishing, 2018. Dan C. Vodnar, Știință cu sare și piper. Chimia pe care nu o înveți la școală", 2024			
8.2 Seminar/ laboratory/ project	Teaching-learning methods	Number of hours	Remarks
NTSM Introduction to the gastronomy laboratory	Practical Demonstrations/ Hands-On Workshops	2	
2. Comparative analysis of traditional and modern cooking techniques	Practical Demonstrations/ Hands-On Workshops	2	
3. Applying sous-vide principles to the preparation of animal proteins	Practical Demonstrations/ Hands-On Workshops	2	
4. Using molecular gastronomy equipment to create innovative textures	Practical Demonstrations/ Hands-On Workshops	2	
5. Advanced temperature-controlled cooking techniques	Practical Demonstrations/ Hands-On Workshops	2	
6. Assessment of the impact of fermentation techniques on the quality of culinary products	Practical Demonstrations/ Hands-On Workshops	2	
7. The use of controlled infusions and flavorings	Practical	2	

in gastronomy	Demonstrations/ Hands-On Workshops		
8. Applying the zero waste concept in modern cooking	Practical Demonstrations/ Hands-On Workshops	4	
9. Creating and evaluating multisensory menus	Practical Demonstrations/ Hands-On Workshops	2	
10. Advanced regeneration and plating techniques for gourmet dishes	Project-Based Learning	2	
Developing a complete dish using at least two cooking techniques. Documenting and presenting the process, including justifying choices and evaluating the impact on food quality.	Project-based learning	4	
Laboratory colloquium	Practice and oral evaluation	2	
Bibliography Nathan Myhrvold, Chris Young, Maxime Bilet, "Modernist Cuisine: The Art and Science of Cooking" Editura: The Cooking Lab, 2011 Hervé This, "Molecular Gastronomy: Exploring the Science of Flavor", Editura: Columbia University Press, 2006 Lisa Q. Fetterman, Sous Vide at Home: The Modern Technique for Perfectly Cooked Meals", Editura: Ten Speed Press, 2016 James Briscione, The Flavor Matrix: The Art and Science of Pairing Common Ingredients to Create Extraordinary Dishes", Editura: Houghton Mifflin Harcourt, 2018. Dr. Stuart Farrimond, The Science of Cooking: Every Question Answered to Perfect Your Cooking", Editura: DK Publishing, 2018. Dan C. Vodnar, Știință cu sare și piper. Chimia pe care nu o înveți la școală", 2024			

9. Correlation of course content with the demands of the labour market (epistemic communities, professional associations, potential employers in the field of study)

The course "Gastronomic Techniques" aligns with the labor market's demands by integrating cutting-edge culinary techniques, collaboration with professional associations and epistemic communities, emphasis on sustainability, and engagement with potential employers, ensuring students are equipped with future-proof skills and global industry-relevant expertise.

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of the final grade
10.4 Course	Understanding the principles of modern brewing techniques (e.g. sous-vide, spherification). Explanation of the operation of innovative equipment (e.g. Sous-Vacuum Thermocirculator, dehydrator).	continuous assessment	30%

	The ability to correlate techniques with practical applicability and market requirements.	summative assessment (oral)	20%
10.5 Seminar/ laboratory/ project	Correct and efficient use of modern gastronomic equipment. Preparation of a preparation according to specific technical requirements (e.g. texture, taste, appearance).	Practical test	30%
	Integrating sustainability elements and reducing food waste in the preparation of the dish.	Practical test/oral presentation	20%
10.6 Minimal performance standard			
Demonstrate a fundamental understanding of the theoretical principles of gastronomic techniques, the correct use of modern equipment in a practical context and create a preparation that demonstrates the coherent application of an innovative technique, while respecting food safety and professional presentation.			

Evaluation grid by performance levels		
Performance level	General description	Characteristics
Excellent (10–9)	Fully masters the concepts; analyses are innovative and precise	Perfect terminology, logical structure, autonomy, critical thinking
Very good (8)	Demonstrates solid understanding and correct application	Minor errors, but conceptual and practical coherence
Good (7)	Understands basic concepts, but application is partial	Terminology sometimes inaccurate, incomplete explanations
Satisfactory (6)	Mechanical application of notions, without real reflection	Partially correct answers, logical gaps
Insufficient (<5)	Does not demonstrate understanding of fundamental concepts	Theoretical confusion, incorrect applications, lack of argumentation

This course outline was certified in the Department Board meeting on 12/09/2025 and approved in the Faculty Board meeting on 12/09/2025.

PhD Professor, Vasile PĂDUREANU, Dean	PhD Professor, Cristina Maria CANJA, Head of Department
PhD Associate Professor, Cristina Maria CANJA, Course holder	PhD Professor, Cristina Maria CANJA, Holder of laboratory

Note:

1) One credit is the equivalent of 30 study hours (teaching activities and individual study).

COURSE OUTLINE

1. Data about the study programme

1.1 Higher education institution	Transilvania University of Brasov
1.2 Faculty	Food and tourism
1.3 Department	Food and tourism engineering and management
1.4 Field of study	Engineering of food products
1.5 Study level	Master
1.6 Study programme	Gastronomic Engineering (in English)

2. Data about the course

2.1 Name of course	Sensory Evaluation of Food and Beverages							
2.2 Course convenor	Lecturer Alina Maier							
2.3 Seminar/ laboratory/ project convenor	Lecturer Alina Maier							
2.4 Study year	I	2.5 Semester	I	2.6 Evaluation type	E	2.7 Course status	Content	DS
							Attendance type	DI

3. Total estimated time (hours of teaching activities per semester)

3.1 Number of hours per week	3	out of which: 3.2 lecture	1	3.3 seminar/ laboratory/ project	0/2/0
3.4 Total number of hours in the curriculum	42	out of which: 3.5 lecture	14	3.6 seminar/ laboratory/ project	0/28/0
Time allocation					hours
Study of textbooks, course support, bibliography and notes					30
Additional documentation in libraries, specialized electronic platforms, and field research					30
Preparation of seminars/ laboratories/ projects, homework, papers, portfolios, and essays					44
Tutorial					
Examinations					4
Other activities.....					
3.7 Total number of hours of student activity		108			
3.8 Total number per semester		150			
3.9 Number of credits ¹⁾		5			

4. Prerequisites (if applicable)

4.1 curriculum-related	•
4.2 competences-related	•

5. Conditions (if applicable)

5.1 for course development	• Modern computing technique
5.2 for seminar/ laboratory/ project development	• Analysis laboratory • Hygiene conditions; Laboratory coat

6. Competences and learning outcomes

Competences and learning outcomes	P.C. 4 Performs sensory evaluation of food products Upon completion of the master's program, the graduate will be able to: Competencies L.O. 4.1 Identify the specific elements for evaluating the sensory quality of a certain type of food or beverage. L.O. 4.2 Understand the methods and techniques of sensory analysis of gastronomic products. L.O. 4.3 Know the stages of sensory analysis using descriptive statistical analysis Skills L.O. 4.4 Evaluate the quality of a certain type of food or beverage, depending on its sensory characteristics. L.O. 4.5 Develop their own discrimination tests and apply real procedures for testing gastronomic products. L.O. 4.6 Plan the organization of a sensory analysis session, including the choice of the tasting panel. L.O. 4.7 Analyze the results of the sensory analysis in order to improve the quality of future gastronomic products. Responsibilities and autonomy L.O. 4.8 Organize and coordinate a sensory analysis session of gastronomic products. L.O. 4.9 Make decisions regarding the organization of a sensory analysis panel and the tests used. L.O. 4.10 Make decisions regarding changes to the gastronomic process based on the results of a sensory analysis.
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7. Course objectives

7.1 General course objective	The courses are designed to provide students with the knowledge and skills necessary to become sensory professionals in food production and quality control.
7.2 Specific objectives	- To develop the practical skills necessary to set up their own discrimination tests, create a test protocol, apply real test procedures and interpret the results for different food products. - To learn how to evaluate the sensory quality of food products using descriptive statistical analysis.

8. Content

8.1 Course	Teaching methods	Number of hours	Remarks
Theory of Smell and Taste Perception, Review of Fundamental Elements plus New Insights, Trigeminal Stimuli The lecture presents the physiological and psychological mechanisms of smell and taste perception, revisiting the fundamental elements and adding recent discoveries regarding receptor interactions. The role of trigeminal stimuli in perceiving the intensity and complexity of aromas is explained, highlighting their importance in modern sensory analysis.	Presentation Interactive course	2	
Cross-Modal Sensory Analysis The lecture addresses the interactions between senses – taste, smell, sight, touch, and hearing – in the context of evaluating food and beverages. Modern techniques of cross-modal sensory analysis are presented, demonstrating how the perception of one attribute is influenced by other sensory stimuli, with applications in premium product development.	Presentation Interactive course	2	
Aroma Release Depending on the Existing Matrix	Presentation	2	

The lecture analyzes how the composition of the food matrix influences the release and perception of aromas. The physicochemical and technological factors that determine the volatility of aromatic compounds are explained, along with their applications in the development of premium beverages and controlled sensory experiences.	Interactive course		
Development of Food Chemistry Sensors for "Sensory Science" The lecture explores innovations in the development of chemical sensors used for analyzing aromatic compounds and sensory profiles. Their applications in "sensory science" are discussed, ranging from quality assessment and product traceability to personalizing consumer experiences.	Presentation Interactive course	2	
Comparison Between Analytical Sensory Analysis and Hedonic Sensory Analysis The lecture compares analytical sensory analysis, focused on objectivity and detailed product characterization, with hedonic sensory analysis, which evaluates consumer preferences and satisfaction. The advantages, limitations, and applications of each method in research and marketing are highlighted.	Presentation Interactive course	2	
Hedonic Sensory Analysis: Classical Methods, Current Developments, and New Approaches The lecture examines the classical methods of hedonic evaluation, such as preference scale tests, and introduces current developments that integrate digital technologies and neurosciences. Innovative methods used to understand consumer emotions and preferences toward beverages and premium products are also analyzed.	Presentation Interactive course	2	
Analytical Sensory Analysis: Methods for Shelf-Life Determination, Simple Descriptive Testing – Creating Definitions as the Basis for Profile Testing, Qualitative Descriptive Analysis (Profile Testing), Projective Mapping The lecture presents the main analytical methods used in sensory analysis, from shelf-life determination and simple descriptive testing to qualitative descriptive analysis and projective mapping. Their applications in characterizing sensory profiles and optimizing the development of premium food and beverage products are explained.	Presentation Interactive course	2	
Bibliography 1. Gail Vance Civile, B. Thomas Carr, Katie E. Osdoba, Sensory Evaluation Techniques, CRC Press, 2024 2. Herbert Stone, Rebecca N. Bleibaum, Heather A. Thomas, Sensory Evaluation Practices, Academic Press, 2020 3. Hildegard Heymann, Harry T. Lawless, Sensory Evaluation of Food: Principles and Practices, Springer Science & Business Media, 2013 4. Sensory Analysis for Food and Beverage Quality Control. A Practical Guide. A volume in Woodhead Publishing Series in Food Science, Technology and Nutrition. Book ■ 2010 5. The Stability and Shelf Life of Food. A volume in Woodhead Publishing Series in Food Science, Technology and Nutrition. Book ■ Second Edition ■ 2016 6. F. Sinesio, SENSORY EVALUATION, Editor(s): Paul Worsfold, Alan Townshend, Colin Poole, Encyclopedia of Analytical Science (Second Edition), Elsevier, 2005, Pages 283-290, ISBN 9780123693976			

7. Food & Beverage Tomorrow: Why are luxe brands embracing food and drink concepts, Insights, 2023, https://www.cbre.com/insights/articles/food-and-beverage-tomorrow-why-are-luxe-brands-embracing-food-and-drink-concepts 8. Rodriguez-Sanchez, Carla & Sellers-Rubio, Ricardo. (2020). Sustainability in the Beverage Industry: A Research Agenda from the Demand Side. Sustainability. 13. 186. 10.3390/su13010186. 9. Falcó, J. M., Sánchez-García, E., Marco-Lajara, B., Millán-Tudela, L. A., & Popescu, C. R. (2024). Exploring Eco-Friendly Approaches: Case Studies of Environmental Management in Wineries. In C. Popescu, J. Martínez-Falcó, B. Marco-Lajara, E. Sánchez-García, & L. Millán-Tudela (Eds.), Building Sustainable Human Resources Management Practices for Businesses (pp. 74-91). IGI Global Scientific Publishing. https://doi.org/10.4018/979-8-3693-1994-9.ch005			
8.2 Seminar/ laboratory/ project	Teaching-learning methods	Number of hours	Remarks
Basic Tasting Techniques and Focus on Aroma Recognition The seminar familiarizes students with the fundamental tasting techniques, developing their ability to identify and recognize aromas in eco-luxury premium beverages and foods. The activity includes practical exercises on specific aromatic profiles and discussions on the factors that influence sensory perception.	Case studies. Applications	2	
Basic Tasting Techniques and Focus on Ranking Evaluation Students learn to classify products based on sensory quality using ranking evaluation methods. Criteria such as aroma intensity, taste balance, and perceived complexity are analyzed, with direct applications to premium beverages and food products.	Case studies. Applications	2	
Advanced Training with Emphasis on Descriptive Tasting The seminar provides students with an advanced approach to tasting, focusing on the detailed description of the sensory profile. Modern techniques are used to identify subtle aromatic nuances and to build a descriptive vocabulary specific to the eco-luxury segment.	Case studies. Applications	2	
Basic Training for Professional Evaluation Students are introduced to the principles of professional evaluation of foods and beverages, learning how to apply standardized scoring systems and interpret sensory data. The seminar includes practical examples from the premium and eco-friendly industry.	Case studies. Applications	2	
Sensory Training Specific to Foods The seminar develops students' sensory skills for evaluating aromas and textures in various food categories. Eco-luxury samples are used, and the role of sustainable ingredients in creating unique profiles is discussed.	Case studies. Applications	2	
Focused Training on Primary Aromas Students explore the main aroma categories found in premium beverages and foods, learning how to identify, classify, and accurately describe them. The activity includes practical sensory tests and comparisons between sustainable and conventional products.	Case studies. Applications	2	

Training on Unpleasant Aromas Appearing After Production The seminar addresses aroma defects that may occur in premium foods and beverages after production. Students analyze their causes, learn about prevention methods, and assess their impact on consumer perception.	Case studies. Applications	2	
Training on Aromas that Make a Product Special Students learn to identify signature aromas that distinguish eco-luxury products on the market. Examples of complex aromatic profiles are presented, along with methods for highlighting them in professional tastings.	Case studies. Applications	2	
Basic Information on Aroma Defect Issues The seminar introduces the causes of sensory defects, addressing both technological and storage-related factors. Students explore the impact of these defects on perceived quality and study strategies for remediation.	Case studies. Applications	2	
Common Aroma Defects in Different Foods and Food Products The seminar delves into frequent aromatic defects in various food categories and beverages, with an emphasis on premium products. Case studies are analyzed, and comparative tastings are conducted to identify these defects.	Case studies. Applications	2	
Flavour Descriptive Terminology and Time Intensity Measurement: Learn the different flavour profiles, methods, different descriptive terminology, and how flavour is enhanced by the environment.	Case studies. Applications	2	
Practical Application of Common Sensory Analysis Techniques Students practice standard sensory techniques for evaluating the quality of foods and beverages. The seminar includes comparative exercises between eco-luxury and conventional products, developing objective analysis skills.	Case studies. Applications	2	
Application of Sensory Analysis Techniques to Determine Product Shelf Life The seminar demonstrates how sensory analysis can be used to estimate the shelf life of premium foods and beverages. Students participate in practical simulations and learn to correlate sensory data with product stability.	Case studies. Applications	2	
Designing Sensory Analysis Experiments to Achieve Specific Goals Students learn how to design efficient sensory experiments tailored to specific objectives, such as testing new products or evaluating consumer preferences. The activity combines theory, case studies, and practical applications relevant to the eco-luxury segment.	Case studies. Applications	2	
Bibliography 1. Gail Vance Civile, B. Thomas Carr, Katie E. Osdoba, Sensory Evaluation Techniques, CRC Press, 2024 2. Herbert Stone, Rebecca N. Bleibaum, Heather A. Thomas, Sensory Evaluation Practices, Academic Press, 2020 3. Hildegard Heymann, Harry T. Lawless, Sensory Evaluation of Food: Principles and Practices, Springer Science & Business Media, 2013			

4. Sensory Analysis for Food and Beverage Quality Control. A Practical Guide. A volume in Woodhead Publishing Series in Food Science, Technology and Nutrition. Book ■ 2010
5. The Stability and Shelf Life of Food. A volume in Woodhead Publishing Series in Food Science, Technology and Nutrition. Book ■ Second Edition ■ 2016
6. F. Sinesio, SENSORY EVALUATION, Editor(s): Paul Worsfold, Alan Townshend, Colin Poole, Encyclopedia of Analytical Science (Second Edition), Elsevier, 2005, Pages 283-290, ISBN 9780123693976
7. Food & Beverage Tomorrow: Why are luxe brands embracing food and drink concepts, Insights, 2023, <https://www.cbre.com/insights/articles/food-and-beverage-tomorrow-why-are-luxe-brands-embracing-food-and-drink-concepts>
8. Rodriguez-Sanchez, Carla & Sellers-Rubio, Ricardo. (2020). Sustainability in the Beverage Industry: A Research Agenda from the Demand Side. Sustainability. 13. 186. 10.3390/su13010186.
9. Falcó, J. M., Sánchez-García, E., Marco-Lajara, B., Millán-Tudela, L. A., & Popescu, C. R. (2024). Exploring Eco-Friendly Approaches: Case Studies of Environmental Management in Wineries. In C. Popescu, J. Martínez-Falcó, B. Marco-Lajara, E. Sánchez-García, & L. Millán-Tudela (Eds.), Building Sustainable Human Resources Management Practices for Businesses (pp. 74-91). IGI Global Scientific Publishing. <https://doi.org/10.4018/979-8-3693-1994-9.ch005>

9. Correlation of course content with the demands of the labour market (epistemic communities, professional associations, potential employers in the field of study)

The content of the discipline follows current academic trends and ensures a high relevance of the skills transmitted to students. The content reflects the methods and theories accepted by the scientific community and is in line with the actual approaches, allowing students to form a solid and up-to-date scientific foundation. Also, the topics and themes addressed in the course and the applied activities provide students with a framework for further research in the field.

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of the final grade
10.4 Course	■ Students demonstrate a correct understanding of concepts and theories. ■ Ability to explain and make connections between concepts. ■ Construct logical answers and support them with evidence. ■ Ability to propose effective solutions to complex situations. ■ Covering requirements and providing correct answers.	Oral exam	45%
	Continuous activity and participation in the course ■ active presence and reasoned interventions; ■ integration of theoretical knowledge into discussions; ■ demonstration of reflective thinking on the theories discussed.	Ongoing evaluation	15%
10.5 Seminar/ laboratory/ project	■ Ability to use theoretical concepts in solving practical problems. ■ Effective use of domain-specific tools and technologies. ■ Active participation in interactive activities, questions, comments. ■ Completion of work tasks	Laboratory activity	40%

10.6 Minimal performance standard

- ☒ Knowledge of the fundamental knowledge related to the field;
- ☒ The exam is passed with a minimum grade of 5 for both the course and the laboratory work; completion of the assignments is mandatory.

Evaluation grid by performance levels

Performance level	General description	Characteristics
Excellent (10–9)	Fully masters the concepts; analyses are innovative and precise	Perfect terminology, logical structure, autonomy, critical thinking
Very good (8)	Demonstrates solid understanding and correct application	Minor errors, but conceptual and practical coherence
Good (7)	Understands basic concepts, but application is partial	Terminology sometimes inaccurate, incomplete explanations
Satisfactory (6)	Mechanical application of notions, without real reflection	Partially correct answers, logical gaps
Insufficient (<5)	Does not demonstrate understanding of fundamental concepts	Theoretical confusion, incorrect applications, lack of argumentation

This course outline was certified in the Department Board meeting on 12.09.2025 and approved in the Faculty Board meeting on 12.09.2025

Prof.PhD. Eng. Vasile PĂDUREANU	Prof.PhD. Eng. Cristina Maria CANJA
Dean	Head of Department
Lecturer, Alina MAIER	Lecturer, Alina MAIER
Course holder	Holder of seminar/ laboratory/ project

Note:

1) One credit is the equivalent of 30 study hours (teaching activities and individual study).

COURSE OUTLINE

1. Data about the study programme

1.1 Higher education institution	Transilvania University of Braşov
1.2 Faculty	Food and tourism
1.3 Department	Food and tourism engineering and management
1.4 Field of study	Engineering of food products
1.5 Study level	Master
1.6 Study programme	Gastronomic Engineering (in English)

2. Data about the course

2.1 Name of course	EUROPEAN UNION FOOD POLICIES AND STRATEGIES							
2.2 Course convenor	Lecturer PhD Geronimo Răducu BRĂNESCU							
2.3 Seminar/ laboratory/ project convenor	Lecturer PhD Geronimo Răducu BRĂNESCU							
2.4 Study year	I	2.5 Semester	I	2.6 Evaluation type	V	2.7 Course status	Content	DS
							Attendance type	DI

3. Total estimated time (hours of teaching activities per semester)

3.1 Number of hours per week	3	out of which: 3.2 lecture	2	3.3 seminar	1
3.4 Total number of hours in the curriculum	42	out of which: 3.5 lecture	28	3.6 seminar	14
Time allocation					hours
Study of textbooks, course support, bibliography and notes					48
Additional documentation in libraries, specialized electronic platforms, and field research					36
Preparation of seminars/ laboratories/ projects, homework, papers, portfolios, and essays					20
Tutorial					
Examinations					2
Other activities.....					2
3.7 Total number of hours of student activity		108			
3.8 Total number per semester		150			
3.9 Number of credits ¹⁾		5			

4. Prerequisites (if applicable)

4.1 curriculum-related	Basic knowledge in food technology and equipment specific to the food industry
4.2 competences-related	

5. Conditions (if applicable)

5.1 for course development	
5.2 for seminar/ laboratory/ project development	

6. Specific competences and learning outcomes

Professional competences	P.C.3 Develop processes and techniques for food production or food preservation. Involved in the design, development, construction and operation of industrial processes and techniques for food production. Upon completion of the master's program, the graduate will be able to: Knowledge food for the gastronomic industry; and advanced packaging technologies; L.O. 3.1 Know the principles and innovative technologies applicable to the production of high-quality L.O. 3.2 Identify ecological methods and technologies for food preservation, including cold chain logistics L.O. 3.3 Explain ways to integrate sustainable and local sourcing into food production systems, with the aim of reducing waste; L.O. 3.4 Know the principles of design and optimization of workflows in gastronomic units; L.O. 3.5 Know modern solutions for flexible space layout for gastronomic production Skills L.O. 3.6 Develop and implement innovative processes and techniques for obtaining gastronomic products, ensuring their efficiency and coherence; L.O. 3.7 Design and use ecological and energy-efficient preservation methods, adapted to the specifics of the gastronomic industry; L.O. 3.8 Design and manage food production systems based on sustainable sourcing and waste reduction; L.O. 3.9 Optimize workflows in the gastronomic industry, to reduce losses; L.O. 3.10 Create and adapt the design of flexible arrangements for processes in the gastronomic industry Responsibilities and autonomy L.O. 3.11 Ensure the optimal and sustainable functioning of food production processes in gastronomic units; L.O. 3.12 Organize and coordinate the design, implementation and evaluation activities of preservation and production techniques; L.O. 3.13 Assume responsibility for the creation of gastronomic concepts and innovative serving spaces that combine quality, sustainability and exclusivity. P.C. 4 Performs sensory evaluation of food products Upon completion of the master's program, the graduate will be able to: Competencies L.O. 4.1 Identify the specific elements for evaluating the sensory quality of a certain type of food or beverage. L.O. 4.2 Understand the methods and techniques of sensory analysis of gastronomic products. L.O. 4.3 Know the stages of sensory analysis using descriptive statistical analysis Skills L.O. 4.4 Evaluate the quality of a certain type of food or beverage, depending on its sensory characteristics. L.O. 4.5 Develop their own discrimination tests and apply real procedures for testing gastronomic products. L.O. 4.6 Plan the organization of a sensory analysis session, including the choice of the tasting panel. L.O. 4.7 Analyze the results of the sensory analysis in order to improve the quality of future gastronomic products. Responsibilities and autonomy L.O. 4.8 Organize and coordinate a sensory analysis session of gastronomic products. L.O. 4.9 Make decisions regarding the organization of a sensory analysis panel and the tests used. L.O. 4.10 Make decisions regarding changes to the gastronomic process based on the results of a sensory analysis.
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7. Course objectives

7.1 General course objective	The course aims to develop an integrated perspective on European food policies, providing master's students with theoretical knowledge and practical skills for analyzing, formulating, and implementing sustainable food strategies in the context of the European Union.
7.2 Specific objectives	To identify the main European food policies and their

	corresponding instruments. • To analyze the impact of agricultural and food policies on the market and the consumer. • To correlate European food strategies with the Sustainable Development Goals. • To propose innovative solutions for adapting to the requirements of European policies. To evaluate the effectiveness of food strategies implemented in the member states.
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8. Content

8.1 Course	Teaching methods	Number of hours	Remarks
The concept of food policy in the European Union Definitions, objectives, and principles of food policies Interdependence between food, agricultural, and public health policies	Interactive Lectures/ Problem-Based Learning	2	
The institutional and legislative framework of the European Union in the food sector The role of European institutions (the European Commission, the Council, the European Parliament) The main EU food regulations and directives	Interactive Lectures/ Problem-Based Learning	2	
The Common Agricultural Policy (CAP): evolution and components The pillars of the CAP and support mechanisms for the agri-food sector Post-2020 CAP reforms and sustainability objectives	Interactive Lectures/ Problem-Based Learning	2	
The "Farm to Fork" Strategy Strategic objectives and action plans of the F2F Strategy Measures to reduce the impact on the environment and public health	Interactive Lectures/ Problem-Based Learning	2	
The European Green Deal and its relationship with the food sector Policies for reducing carbon emissions in the food chain The green transition and its implications for producers and consumers	Interactive Lectures/ Problem-Based Learning	2	
Food safety and public health in the European Union The European food safety system (EFSA and RASFF) Risk assessment and prevention of food crises	Interactive Lectures/ Problem-Based Learning	2	
Policies for the sustainability of food production and consumption Circular economy models applied in the food industry Responsible consumption and food education at	Interactive Lectures/ Problem-Based Learning	2	

the European level			
Policies for reducing food waste European strategies and objectives for reducing food losses Local initiatives and best practices in food waste management	Interactive Lectures/ Problem-Based Learning	2	
Labeling and traceability of food products European regulations on consumer information Traceability and digitalization of the supply chain	Interactive Lectures/ Problem-Based Learning	2	
Innovation and digitalization in the European food sector Emerging technologies: blockchain, artificial intelligence, Internet of Things European support programs for the digitalization of the food system	Interactive Lectures/ Problem-Based Learning	2	
Implementation of food policies in the member states National models for adapting European strategies Comparative analysis: Romania vs. other member states	Interactive Lectures/ Problem-Based Learning	2	
Financing mechanisms and support instruments European funds dedicated to rural and food sector development Horizon Europe, LIFE, EAFRD, and other funding programs	Interactive Lectures/ Problem-Based Learning	2	
Evaluation of food policy performance Efficiency and sustainability indicators in food policies Methods for analyzing and reporting the impact of public policies	Interactive Lectures/ Problem-Based Learning	2	
Development of a national or regional food strategy Content elements of a food strategy Applied case study: designing a strategy for Romania	Interactive Lectures/ Problem-Based Learning	2	
Bibliography European Commission. (2020). <i>A Farm to Fork Strategy for a fair, healthy and environmentally-friendly food system</i> . Brussels. European Commission. (2019). <i>The European Green Deal</i> . Brussels. European Food Safety Authority (EFSA). (2023). <i>Annual Report on Food Safety in the European Union</i> . Parma. Lang, T., & Heasman, M. (2015). <i>Food Wars: The Global Battle for Mouths, Minds and Markets</i> (2nd ed.). Routledge. Sonnino, R., Moragues-Faus, A., & Maggio, A. (2019). <i>Sustainable Food Systems in Europe: Governance, Policy, and Transformation</i> . <i>Sustainability</i> , 11(13), 3798. Brănescu, G. R. (2024). <i>Strategii alimentare și siguranță alimentară – Note de curs</i> .			
8.2 Seminar/ laboratory/ project	Teaching-learning methods	Number of hours	Remarks
Comparative Analysis of European Food Policies Case study: France, Germany, Romania	Practical Demonstrations/ Hands-On Workshops	4	

Implementation of the Farm to Fork Strategy Analyze the official EU document and draft a local plan	Practical Demonstrations/ Hands-On Workshops	2	
The Common Agricultural Policy and Sustainability Discussion on CAP pillars and implementation in Romania	Practical Demonstrations/ Hands-On Workshops	2	
Reducing Food Waste and Circular Economy Proposals for sustainable solutions to reduce food loss	Practical Demonstrations/ Hands-On Workshops	2	
Food Safety and the RASFF System Analysis of a real food safety alert case	Practical Demonstrations/ Hands-On Workshops	2	
Laboratory colloquium	Practice and oral evaluation	2	
Bibliography European Commission. (2020). <i>A Farm to Fork Strategy for a fair, healthy and environmentally-friendly food system</i> . Brussels. European Commission. (2019). <i>The European Green Deal</i> . Brussels. European Food Safety Authority (EFSA). (2023). <i>Annual Report on Food Safety in the European Union</i> . Parma. Lang, T., & Heasman, M. (2015). <i>Food Wars: The Global Battle for Mouths, Minds and Markets</i> (2nd ed.). Routledge. Sonnino, R., Moragues-Faus, A., & Maggio, A. (2019). <i>Sustainable Food Systems in Europe: Governance, Policy, and Transformation</i> . <i>Sustainability</i> , 11(13), 3798. Brănescu, G. R. (2024). <i>Strategii alimentare și siguranță alimentară – Note de curs</i>			

9. Correlation of course content with the demands of the labour market (epistemic communities, professional associations, potential employers in the field of study)

The course "Food Policies and Strategies in the European Union" aligns with labor market requirements by integrating cutting-edge culinary techniques, collaborating with professional associations and epistemic communities, emphasizing sustainability, and engaging with potential employers. It ensures that students are equipped with future-oriented skills and global expertise relevant to the industry.

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of the final grade
10.4 Course	Understanding the principles of modern beer-making techniques (for example, sous-vide, spherification). Explaining the operation of innovative equipment (for example, vacuum thermocirculator, dehydrator).	continuous assessment	30%
	The ability to correlate techniques with practical applicability and market requirements.	summative assessment (oral)	20%

10.5 Seminar/ laboratory/ project	Correct and efficient use of modern gastronomic equipment. Preparation of a preparation according to specific technical requirements (e.g. texture, taste, appearance).	Practical test	30%
	Integrating sustainability elements and reducing food waste in the preparation of the dish.	Practical test/oral presentation	20%

10.6 Minimal performance standard

Demonstrate a fundamental understanding of the theoretical principles of innovative gastronomic techniques, the correct use of modern equipment in a practical context and create a preparation that demonstrates the coherent application of an innovative technique, while respecting food safety and professional presentation.

Evaluation grid by performance levels		
Performance level	General description	Characteristics
Excellent (10–9)	Fully masters the concepts; analyses are innovative and precise	Perfect terminology, logical structure, autonomy, critical thinking
Very good (8)	Demonstrates solid understanding and correct application	Minor errors, but conceptual and practical coherence
Good (7)	Understands basic concepts, but application is partial	Terminology sometimes inaccurate, incomplete explanations
Satisfactory (6)	Mechanical application of notions, without real reflection	Partially correct answers, logical gaps
Insufficient (<5)	Does not demonstrate understanding of fundamental concepts	Theoretical confusion, incorrect applications, lack of argumentation

This course outline was certified in the Department Board meeting on 12/09/2025 and approved in the Faculty Board meeting on 12/09/2025.

PhD Professor, Vasile PĂDUREANU, Dean	PhD Professor, Cristina Maria CANJA, Head of Department
Lecturer PhD Geronimo Răducu BRĂNESCU, Course holder	Lecturer PhD Geronimo Răducu BRĂNESCU, Holder of laboratory

Note:

1) One credit is the equivalent of 30 study hours (teaching activities and individual study).

COURSE OUTLINE

1. Data about the study programme

1.1 Higher education institution	TransilvaniaUniversity of Braşov
1.2 Faculty	Food and tourism
1.3 Department	Food and tourism engineering and management
1.4Field of study	Engineering of food products
1.5Study level	Master
1.6 Study programme	Gastronomic Engineering (in English)

2. Data about the course

2.1 Name of course	Professional Practice I							
2.2 Course convenor	Prof. PhD. Florentina MATEI							
2.3 Seminar/ laboratory/ project convenor	Prof. PhD. Florentina MATEI							
2.4 Study year	I	2.5 Semester	I	2.6 Evaluation type	V	2.7 Course status	Content	PS
							Attendance type	DI

3. Total estimated time (hours of teaching activities per semester)

3.1 Number of hours per week	12	out of which: 3.2 lecture	-	3.3 laboratory	12
3.4 Total number of hours in the curriculum	168	out of which: 3.5 lecture	-	3.6 laboratory	168
Time allocation					hours
Study of textbooks, course support, bibliography and notes					
Additional documentation in libraries, specialized electronic platforms, and field research					10
Preparation of seminars/ laboratories/ projects, homework, papers, portfolios, and essays					
Tutorial					
Examinations					2
Other activities.....					-
3.7 Total number of hours of student activity		12			
3.8 Total number per semester		180			
3.9 Number of credits¹⁾		6			

4. Prerequisites (if applicable)

4.1 curriculum-related	• Not applicable
4.2 competences-related	• Not applicable

5. Conditions (if applicable)

5.1 for laboratory	• Not applicable
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6. Specific competences and learning outcomes

Competences and learning outcomes	P.C.1 Performs detailed food processing operations Upon completion of the master's program, the graduate will be able to: Competencies L.O. 1.1 Know precise food processing operations, paying special attention to all stages of creating a quality product. L.O. 1.2 Understand the process of monitoring parameters related to food processing operations L.O. 1.3 Know specific regulations related to the manufacture of food and beverages Skills L.O. 1.4 Perform precise food processing operations, paying special attention to all stages of creating a quality product. L.O. 1.5 Filter liquid foods to eliminate any solid residue. L.O. 1.6 Insert filtered liquid foods into different containers. L.O. 1.7 Monitor parameters during the food and beverage manufacturing process L.O. 1.8 Apply specific regulations regarding the manufacture of food and beverages Responsibilities and autonomy L.O. 1.9 Assume responsibility and accountability for his/her own professional decisions and actions or those delegated to others in the food preparation process. L.O. 1.10 Demonstrate willingness to immediately assume tasks resulting from professional activities. L.O. 1.11 Plan and implement sustainable strategies to improve production performance, integrating innovative solutions;
	P.C.3 Develop processes and techniques for food production or food preservation. Involved in the design, development, construction and operation of industrial processes and techniques for food production. Upon completion of the master's program, the graduate will be able to: Knowledge L.O. 3.1 Know the principles and innovative technologies applicable to the production of high-quality food for the gastronomic industry; L.O. 3.2 Identify ecological methods and technologies for food preservation, including cold chain logistics and advanced packaging technologies; L.O. 3.3 Explain ways to integrate sustainable and local sourcing into food production systems, with the aim of reducing waste; L.O. 3.4 Know the principles of design and optimization of workflows in gastronomic units; L.O. 3.5 Know modern solutions for flexible space layout for gastronomic production Skills L.O. 3.6 Develop and implement innovative processes and techniques for obtaining gastronomic products, ensuring their efficiency and coherence; L.O. 3.7 Design and use ecological and energy-efficient preservation methods, adapted to the

	specifics of the gastronomic industry; L.O. 3.8 Design and manage food production systems based on sustainable sourcing and waste reduction; L.O. 3.9 Optimize workflows in the gastronomic industry, to reduce losses; L.O. 3.10 Create and adapt the design of flexible arrangements for processes in the gastronomic industry Responsibilities and autonomy L.O. 3.11 Ensure the optimal and sustainable functioning of food production processes in gastronomic units; L.O. 3.12 Organize and coordinate the design, implementation and evaluation activities of preservation and production techniques; L.O. 3.13 Assume responsibility for the creation of gastronomic concepts and innovative serving spaces that combine quality, sustainability and exclusivity.
	P.C.5 Performs quality control on food processing Upon completion of the master's program, the graduate will be able to: Competencies L.O. 5.1 Understand the specific concepts of quality management and food safety in gastronomy L.O. 5.2 Know the methods and procedures of systematic testing and analysis for the evaluation of gastronomic products L.O. 5.3 Understand the quality criteria specific to food processing and the feedback mechanisms associated with them; L.O. 5.4 Know the assortments of culinary preparations and understand the transformations undergone by foods during primary and thermal processing. Skills L.O. 5.5 Perform standard tests and analyzes to evaluate the quality of gastronomic products L.O. 5.6 Inspect and monitor production processes and gastronomic flows to identify non-conformities and opportunities for improvement; L.O. 5.7 Verify the conformity of gastronomy processes and products Responsibilities and autonomy L.O. 5.8 Ensure the necessary framework for conducting quality inspections and tests in gastronomic units L.O. 5.9 Organize and coordinate the monitoring and control activities of gastronomic processes and products L.O. 5.10 Plan and supervise the implementation of culinary, safety and sustainability standards in gastronomic units L.O. 5.11 Assume responsibility for the final validation of the quality of gastronomic products.

7. Course objectives (resulting from the specific competences to be acquired)

7.1 General course objective	Understanding the concepts of food processing operations, understanding the principles and technologies applicable to high-quality food, but also the concepts of quality management and food safety and their applicability in gastronomy
7.2 Specific objectives	- The acquirement of the specific concepts related to all the stages of a quality product creation - The integration of the principle of innovation in high-quality food technology - The application of quality management and food safety concepts in gastronomy

8. Content

8.1 Laboratory	Teaching methods	Number of hours	Remarks
	Training practice	168	
Bibliography Rothbaum N., Wondrich D. (2021). The Oxford Companion to Spirits and Cocktails. Oxford University Press. ISBN 9780199311132 Galanakis, C.M. (eds.) (2020) Gastronomy and Food Science. Academic Press, ISBN 978-0-12-820057-5 Shimmura, T., Nonaka, T., Kunieda, S. (eds.) (2020) Service Engineering for Gastronomic Sciences. An Interdisciplinary Approach for Food Study, Springer Singapore, ISBN 978-981-15-5320-2			

9. Correlation of course content with the demands of the labour market (epistemic communities, professional associations, potential employers in the field of study)

The course content responds to current trends in the gastronomy industry and provides students with a directly applicable framework, in line with academic standards and employer requirements. With an emphasis on training and developing the master's students' knowledge capacity, but also of critical and innovative thinking, this professional practice in the field of gastronomy represents a border area between food, hospitality and tourism. The practical activities allow students to develop real working skills, ensuring their contribution in food production innovation in gastronomy, in line with current trends in food and hospitality.

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of the final grade
10.4 Laboratory	The level of knowledge acquisition for writing a practice workbook/reports	Presentation of the professional practice workbook/reports	100%
10.6 Minimal performance standard			
- Writing a professional practice workbook/reports is mandatory - Obtaining a minimum grade of 5 on the workbook/reports.			
Evaluation grid by performance levels			
Performance level	General description	Characteristics	
Excellent (10–9)	Fully masters the concepts; analyses are innovative and precise	Perfect terminology, logical structure, autonomy, critical thinking	
Very good (8)	Demonstrates solid understanding and correct application	Minor errors, but conceptual and practical coherence	
Good (7)	Understands basic concepts, but application is partial	Terminology sometimes inaccurate, incomplete explanations	
Satisfactory (6)	Mechanical application of notions, without real reflection	Partially correct answers, logical gaps	
Insufficient (<5)	Does not demonstrate understanding of fundamental concepts	Theoretical confusion, incorrect applications, lack of argumentation	

This course outline was certified in the Department Board meeting on 12/09/2025 and approved in the Faculty Board meeting on 12/09/2025.

Prof. PhD. Eng. Vasile PĂDUREANU Dean	Prof. PhD. Eng. Cristina-Maria CANJA Head of Department
	Prof. PhD. Florentina MATEI Holder of laboratory

Note: One credit is the equivalent of 30 study hours (teaching activities and individual study).

COURSE OUTLINE

1. Data about the study programme

1.1 Higher education institution	Transilvania University of Braşov
1.2 Faculty	Food and tourism
1.3 Department	Food and tourism engineering and management
1.4 Field of study	Engineering of food products
1.5 Study level	Master
1.6 Study programme	Gastronomic Engineering (in English)

2. Data about the course

2.1 Name of course	Innovation in food additives and ingredients							
2.2 Course convenor	Prof. dr. eng. Mirabela Ioana LUPU							
2.3 Seminar/ laboratory/ project convenor	Prof. dr. eng. Mirabela Ioana LUPU							
2.4 Study year	I	2.5 Semester	II	2.6 Evaluation type	E	2.7 Course status	Content	DS
							Attendance type	DI

3. Total estimated time (hours of teaching activities per semester)

3.1 Number of hours per week	4	out of which: 3.2 lecture	2	3.3 seminar/ laboratory/ project	0/2/0
3.4 Total number of hours in the curriculum	56	out of which: 3.5 lecture	28	3.6 seminar/ laboratory/ project	0/28/0
Time allocation					hours
Study of textbooks, course support, bibliography and notes					36
Additional documentation in libraries, specialized electronic platforms, and field research					15
Preparation of seminars/ laboratories/ projects, homework, papers, portfolios, and essays					31
Tutorial					10
Examinations					2
Other activities.....					0
3.7 Total number of hours of student activity		94			
3.8 Total number per semester		150			
3.9 Number of credits ¹⁾		5			

4. Prerequisites (if applicable)

4.1 curriculum-related	Technologies in the Food Industry, Biotechnology, Food Chemistry
4.2 competences-related	Identification, description and appropriate use of food science specific notions.

5. Conditions (if applicable)

5.1 for course development	Lecture room equipped with projection system; internet connection.
5.2 for seminar/ laboratory/ project development	Raw and auxiliary materials, technological schemes, gowns, specific equipment.

6. Specific competences

Professional competences and learning outcomes	P.C.1 Performs detailed food processing operations Upon completion of the master's program, the graduate will be able to: Competencies L.O. 1.1 Know precise food processing operations, paying special attention to all stages of creating a quality product. L.O. 1.2 Understand the process of monitoring parameters related to food processing operations L.O. 1.3 Know specific regulations related to the manufacture of food and beverages Skills L.O. 1.4 Perform precise food processing operations, paying special attention to all stages of creating a quality product. L.O. 1.5 Filter liquid foods to eliminate any solid residue. L.O. 1.6 Insert filtered liquid foods into different containers. L.O. 1.7 Monitor parameters during the food and beverage manufacturing process L.O. 1.8 Apply specific regulations regarding the manufacture of food and beverages Responsibilities and autonomy L.O. 1.9 Assume responsibility and accountability for his/her own professional decisions and actions or those delegated to others in the food preparation process. L.O. 1.10 Demonstrate willingness to immediately assume tasks resulting from professional activities. L.O. 1.11 Plan and implement sustainable strategies to improve production performance, integrating innovative solutions; P.C.3 Develop processes and techniques for food production or food preservation. Involved in the design, development, construction and operation of industrial processes and techniques for food production. Upon completion of the master's program, the graduate will be able to: Knowledge food for the gastronomic industry; and advanced packaging technologies; L.O. 3.1 Know the principles and innovative technologies applicable to the production of high-quality L.O. 3.2 Identify ecological methods and technologies for food preservation, including cold chain logistics L.O. 3.3 Explain ways to integrate sustainable and local sourcing into food production systems, with the aim of reducing waste; L.O. 3.4 Know the principles of design and optimization of workflows in gastronomic units; L.O. 3.5 Know modern solutions for flexible space layout for gastronomic production Skills L.O. 3.6 Develop and implement innovative processes and techniques for obtaining gastronomic products, ensuring their efficiency and coherence; L.O. 3.7 Design and use ecological and energy-efficient preservation methods, adapted to the specifics of the gastronomic industry; L.O. 3.8 Design and manage food production systems based on sustainable sourcing and waste reduction; L.O. 3.9 Optimize workflows in the gastronomic industry, to reduce losses; L.O. 3.10 Create and adapt the design of flexible arrangements for processes in the gastronomic industry Responsibilities and autonomy L.O. 3.11 Ensure the optimal and sustainable functioning of food production processes in gastronomic units; L.O. 3.12 Organize and coordinate the design, implementation and evaluation activities of preservation and production techniques; L.O. 3.13 Assume responsibility for the creation of gastronomic concepts and innovative serving spaces that combine quality, sustainability and exclusivity.
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7. Course objectives (resulting from the specific competences to be acquired)

7.1 General course objective	• Understanding the fundamental principles of using additives and innovative ingredients in the food industry. • Acquiring knowledge about the classification, characteristics, and uses of food additives. • Developing skills to evaluate the impact of additives on food quality and safety. • Stimulating innovative thinking for creating sustainable and healthy food recipes using modern ingredients.
7.2 Specific objectives	• . Critical analysis of the functions of food additives in modern recipes. • Selection of appropriate additives for various food products, considering market demands and legislative regulations. • Development of innovative solutions to improve the quality of food products. • Analysis of the functional and nutritional impact of ingredients on consumers. • Utilization of advanced technologies to validate the efficiency of new food ingredients.

8. Content

8.1 Course	Teaching methods	Number of hours	Remarks
1. Introduction to Innovations in Food Additives and Innovative Ingredients The course provides a comprehensive analysis of fundamental concepts, recent advances, and emerging directions in the field of food additives and innovative ingredients, highlighting their impact on food quality, safety, and functionality.	Lecture, presentation, dialogue, debate	2	
2. Legislation and Regulations on the Use of Additives and Innovative Ingredients The course examines national, European, and international legislative frameworks regarding the authorization, use, and labeling of additives and innovative ingredients, emphasizing regulatory compliance and consumer protection.	Lecture, presentation, dialogue, debate	2	
3. Food Preservatives and Natural Alternatives The course explores the biochemical mechanisms of preservatives, microbial growth inhibition strategies, and natural alternatives that extend the shelf life of food products.	Lecture, presentation, dialogue, debate	2	
4. Food Colorants: Natural vs. Synthetic The course analyzes the physicochemical properties, stability, bioavailability, and toxicological implications of natural and synthetic colorants, in relation to regulatory requirements and consumer preferences.	Lecture, presentation, dialogue, debate	2	
5. Flavors and Taste Enhancers: Innovation and Current Trends The course presents the principles of formulation and application of flavors and taste enhancers, as	Lecture, presentation, dialogue, debate	2	

well as current trends in developing volatile compounds and natural alternatives to optimize food sensory profiles.			
6. Natural and Artificial Sweeteners: Applications and Health Impact The course investigates the functional properties, stability, and physiological effects of natural and artificial sweeteners, assessing their technological applicability and public health implications.	Lecture, presentation, dialogue, debate	2	
7. Texturizers and Thickening Agents: Applications in the Food Industry The course addresses the structure, mechanisms of action, and functional role of texturizing agents and thickeners in achieving desired rheological, sensory, and stability properties in various food matrices.	Lecture, presentation, dialogue, debate	2	
8. Additives in Gluten-Free and Sugar-Free Products The course studies the role of additives in the formulation of foods for special diets, focusing on optimizing texture, stability, and sensory acceptability in the absence of traditional components such as gluten and sugar.	Lecture, presentation, dialogue, debate	2	
9. Functional Ingredients for Health The course examines the sources, mechanisms of action, and physiological effects of bioactive ingredients, highlighting their use in the development of functional foods with added health value.	Lecture, presentation, dialogue, debate	4	
10. Ingredients for Gluten-Free and Special Diet Products The course analyzes the physicochemical and nutritional properties of alternative ingredients used in foods designed for individuals with food intolerances, specific nutritional requirements, or particular dietary preferences.	Lecture, presentation, dialogue, debate	2	
11. Advanced Technologies for the Development of Additives and Innovative Ingredients The course investigates the application of biotechnologies, nanotechnologies, and green technologies in the design and production of innovative additives and ingredients, aligned with principles of sustainability and technological efficiency.	Lecture, presentation, dialogue, debate	2	
12. Natural Antioxidants: Preventing Oxidation and Improving Food Stability The course deepens understanding of the mechanisms of natural antioxidants in inhibiting	Lecture, presentation, dialogue, debate	2	

oxidative processes, emphasizing their role in maintaining the quality, stability, and nutritional value of food products.			
13. Future Trends in the Use of Food Additives and Ingredients The course provides a forward-looking perspective on research and development directions in the field of additives and innovative ingredients, considering sustainability, consumer health, and the evolution of global food market demands.	Lecture, presentation, dialogue, debate	2	
Bibliografie 1. Anandharamakrishnan, C., & Moses, J. A. (Eds.). (2024). Emerging Technologies for the Food Industry, Volume 3: ICT Applications and Future Trends in Food Processing. Apple Academic Press. ISBN: 978-1774639345. 2. Anandharamakrishnan, C., & Subramanian, P. (Eds.). (2023). Industrial Application of Functional Foods, Ingredients and Nutraceuticals: Extraction, Processing and Formulation of Bioactive Compounds. Academic Press. ISBN: 978-0128243121. 3. Banu, C. (2016). Aplicații ale aditivilor și ingredientelor în industria alimentară. Editura ASAB. ISBN: 978-973-7725-70-7. 4. D Baines, R Seal, Natural Food Additives, Ingredients and Flavorings, Woodhead Publishing; 1st edition (2022), ISBN-10: 1845698118 5. Fellows, P. (2020). Food Processing Technology: Principles and Practice. Woodhead Publishing. ISBN: 978-0081019078. 6. Zhang, H., & Ahn, J. (2021). Functional Foods and Beverages: In Vitro and In Vivo Evaluation of Safety and Efficacy. Springer. ISBN: 978-9811588404.			
8.2 Seminar/ laboratory/ project	Teaching-learning methods	Number of hours	Remarks
1. Identification and determination of preservatives in a food product This laboratory work aims to identify the main types of preservatives used in the food industry and to determine their concentration using spectrophotometric and titrimetric methods, assessing compliance with the legal limits in force.	Lecture, Practical Applications, Teamwork	2	
2. Analysis of food colorants The aim of this activity is to identify natural and synthetic colorants in various food products using chromatographic techniques (HPLC, thin-layer chromatography) and to evaluate their stability depending on pH, light, and temperature.	Lecture, Practical Applications, Teamwork	2	
3. Evaluation of the rheological properties of texturizing agents This work focuses on determining the rheological behavior (viscosity, and elasto- plasticity) of texturizing agents such as gums, modified starches, and proteins, assessing their influence on the consistency and stability of food products.	Lecture, Practical Applications, Teamwork	2	
4. Analysis of the functional properties of bioactive ingredients	Lecture, Practical Applications, Teamwork	4	

The objective is to evaluate the solubility, antioxidant capacity, and water or oil binding activity of various bioactive ingredients (polyphenols, fibers, plant proteins), to assess their nutritional and functional potential.			
5. Stability of additives during thermal processing This experiment analyzes the structural and functional changes of additives (colorants, flavors, antioxidants) subjected to thermal treatments, determining their loss of activity and potential degradation reactions.	Lecture, Practical Applications, Teamwork	2	
6. Development of a food recipe with innovative additives Students will design an experimental formulation of a food product by selecting and dosing innovative additives (natural stabilizers, emulsifiers, or functional plant extracts) aimed at optimizing texture, flavor, and product stability.	Elaboration, Presentation, Discussions	2	
7. Sensory testing of products with and without additives This exercise involves comparing sensory perception (color, aroma, taste, texture) between food products formulated with and without additives, using hedonic tests and quantitative descriptive analysis.	Lecture, Practical Applications, Teamwork	2	
8. Comparison of sweetener efficiency in beverages and pastry products The purpose of this work is to analyze the sweetness intensity and technological performance of various sweeteners (natural and artificial), evaluating their effects on aroma, texture, and the energetic value of food products.	Lecture, Practical Applications, Teamwork	2	
9. Identification of the physicochemical properties of innovative ingredients The work focuses on characterizing innovative ingredients by determining their moisture content, density, hydration capacity, and thermal behavior, to establish their compatibility with other food components.	Lecture, Practical Applications, Teamwork	4	
10. Development of a probiotic-based product This laboratory activity involves the formulation and evaluation of a probiotic food product, focusing on the selection of viable strains, their compatibility with the food matrix, and maintaining biological activity during storage.	Lecture, Practical Applications, Teamwork	2	
11. Formulation and evaluation of gluten-free foods The objective of this work is to create a food	Elaboration, Presentation, Discussions	2	

product intended for individuals with gluten intolerance by using alternative sources of starch and protein, and to evaluate its rheological, sensory, and nutritional properties.			
12. Final project: formulation of an innovative product using additives and functional ingredients. In the final project, students will apply their accumulated knowledge to design an innovative food product by integrating natural additives, functional ingredients, and modern processing technologies, emphasizing safety, quality, and added value.	Elaboration, Presentation, Discussions	2	
Bibliography 1. Anandharamakrishnan, C., & Moses, J. A. (Eds.). (2024). Emerging Technologies for the Food Industry, Volume 3: ICT Applications and Future Trends in Food Processing. Apple Academic Press. ISBN: 978-1774639345. 2. Banu, C. (2018). Tratat de industrie alimentară: Inovare și tehnologii. Editura ASAB. ISBN: 978-973-7725-88-2. 3. Anandharamakrishnan, C. (2023). Industrial Application of Functional Foods. Academic Press. ISBN: 978-0128243121. Codex Alimentarius. Standards for Food Ingredients. FAO/WHO 4. Banu, C. (2016). Aplicații ale aditivilor și ingredientelor în industria alimentară. Editura ASAB. ISBN: 978-973-7725-70-7. 5. D Baines, R Seal, Natural Food Additives, Ingredients and Flavorings, Woodhead Publishing; 1st edition (2022), ISBN-10: 1845698118 6. Lillian Barros, Isabel C.F.R. Ferreira, Natural Additives in Food, MDPI Publisher, (2022), ISBN978-3-0365-4105-1.			

9. Correlation of course content with the demands of the labor market (epistemic communities, professional associations, potential employers in the field of study)

The content of the discipline follows current academic trends and ensures a high relevance of the skills transmitted to students. The content reflects the methods and theories accepted by the scientific community and is in line with the actual approaches, allowing students to form a solid and up-to-date scientific foundation. Also, the topics and themes addressed in the course and the applied activities provide students with a framework for further research in the field.

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of the final grade
10.4 Course	- Assessment of the student's ability to understand and explain the fundamental concepts, theories, and principles of innovation applied in the field of food additives and ingredients. - The student formulates logical, well-structured answers and supports them with relevant scientific arguments. - The student fully meets the assessment requirements and provides accurate, coherent, and well-founded explanations.	Oral evaluation	50%

	• The student participates consistently in course activities, contributing actively through relevant questions, observations, and comments. • Demonstrates the ability to connect the theoretical concepts studied with practical situations or case studies discussed during the course. • Analyzes the concepts discussed from a personal, critical, and well-argued perspective.	Continuous Assessment	20%
10.5 Seminar/ laboratory/ project	• The student actively contributes to the laboratory work, engaging in discussions, clarifications, and team activities. • Product development: formulation of an innovative product using additives and functional ingredients during the laboratory sessions.	Laboratory Activities	30%

10.6 Minimal performance standard

- Completion of a product: formulation of an innovative product using additives and functional ingredients.
- Understanding of the fundamental concepts covered in the course.
- Ability to express ideas coherently and logically.

Addressing each subtopic in the exam and passing with a minimum grade.

Evaluation grid by performance levels		
Performance level	General description	Characteristics
Excellent (10–9)	Fully masters the concepts; analyses are innovative and precise	Perfect terminology, logical structure, autonomy, critical thinking
Very good (8)	Demonstrates solid understanding and correct application	Minor errors, but conceptual and practical coherence
Good (7)	Understands basic concepts, but application is partial	Terminology sometimes inaccurate, incomplete explanations
Satisfactory (6)	Mechanical application of notions, without real reflection	Partially correct answers, logical gaps
Insufficient (<5)	Does not demonstrate understanding of fundamental concepts	Theoretical confusion, incorrect applications, lack of argumentation

This course outline was certified in the Department Board meeting on 12.09.2025 and approved in the Faculty Board meeting on 12.09.2025.

Prof. dr. eng. Vasile PĂDUREANU Dean	Prof. dr. eng. Cristina Maria CANJA Head of Department
Prof. dr. eng. Mirabela Ioana LUPU Course holder	Prof. dr. eng. Mirabela Ioana LUPU Holder of seminar/ laboratory/ project

Note:

1) One credit is the equivalent of 30 study hours (teaching activities and individual study).

COURSE OUTLINE

1. Data about the study programme

1.1 Higher education institution	Transilvania University of Braşov
1.2 Faculty	Food and tourism
1.3 Department	Food and tourism engineering and management
1.4 Field of study	Engineering of food products
1.5 Study level	Master
1.6 Study programme	Gastronomic Engineering (in English)

2. Data about the course

2.1 Name of course	PLANNING AND DESIGN OF CULINARY SPACES							
2.2 Course convenor	Prof. dr. arh. Teofil MIHĂILESCU							
2.3 Seminar/ laboratory/ project convenor	Prof. dr. arh. Teofil MIHĂILESCU							
2.4 Study year	I	2.5 Semester	II	2.6 Evaluation type	E	2.7 Course status	Content	DS
							Attendance type	DI

3. Total estimated time (hours of teaching activities per semester)

3.1 Number of hours per week	4	out of which: 3.2 lecture	2	3.3 seminar / laboratory / project	2
3.4 Total number of hours in the curriculum	56	out of which: 3.5 lecture	28	3.6 seminar / laboratory / project	28
Time allocation					hours
Study of textbooks, course support, bibliography and notes					26
Additional documentation in libraries, specialized electronic platforms, and field research					26
Preparation of seminars/ laboratories/ projects, homework, papers, portfolios, and essays					26
Tutorial					-
Examinations					2
Other activities Explorarea practică de soluții principale de design/arhitectură de interior pentru unități de alimentație publică (restaurante, cafenele, baruri, cofetării, braserii etc) și unități hoteliere.					14
3.7 Total number of hours of student activity	94				
3.8 Total number per semester	150				
3.9 Number of credits ¹⁾	5				

4. Prerequisites (if applicable)

4.1 curriculum-related	Familiarization with the architectural-urban phenomenon, interest in the history, theory and practice of architecture, as well as in visual arts, photography.
4.2 competences-related	The use in professional communication of the knowledge acquired in the graduated specialty in order to crystallize the connections with the field of architecture.

5. Conditions (if applicable)

5.1 for course development	Room with appropriate furniture, whiteboard and watermarker, possibly blackboard and chalk, video projector and internet access.
5.2 for seminar/ laboratory/ project development	Room with appropriate furniture, whiteboard and watermarker, possibly blackboard and chalk, video projector and internet access.

6. Professional competences and learning outcomes

Professional competences and learning outcomes	P.C.3 Develop processes and techniques for food production or food preservation. Involved in the design, development, construction and operation of industrial processes and techniques for food production. Upon completion of the master's program, the graduate will be able to: Knowledge L.O. 3.1 Know the principles and innovative technologies applicable to the production of high-quality food for the gastronomic industry; L.O. 3.4 Know the principles of design and optimization of workflows in gastronomic units; L.O. 3.5 Know modern solutions for flexible space layout for gastronomic production Skills L.O. 3.8 Design and manage food production systems based on sustainable sourcing and waste reduction; L.O. 3.9 Optimize workflows in the gastronomic industry, to reduce losses; L.O. 3.10 Create and adapt the design of flexible arrangements for processes in the gastronomic industry Responsibilities and autonomy L.O. 3.11 Ensure the optimal and sustainable functioning of food production processes in gastronomic units; L.O. 3.12 Organize and coordinate the design, implementation and evaluation activities of preservation and production techniques; L.O. 3.13 Assume responsibility for the creation of gastronomic concepts and innovative serving spaces that combine quality, sustainability and exclusivity.
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7. Course objectives (resulting from the specific competences to be acquired)

7.1 General course objective	Basic knowledge of structural, functional, aesthetic design in architecture, in order to get familiar with the architectural phenomenon and design issues. Developing the skills to observe/analyze/interpret architectural spaces for understanding and using the expressive potential of the architectural form from the point of view of primary (structural, sensory-spatial), functional (utilitarian) and cultural-symbolic (aesthetic) meanings. Challenging interactivity by designing various teaching-learning situations using active-participative strategies aiming at familiarization with the context of design. Developing the capacity for a systemic approach to the discipline by highlighting the links between fields (architecture, design, ergonomics, aesthetics, color theory, arts and engineering and management in food and tourism) and exploring the main directions, concepts, theories of the field of architecture, insisting on situations/pretexts that argue the idea of active learning. The development of communication skills, dialogue, teamwork, exploration and inter-, trans-, multi- and pluridisciplinary communication and the use of professional criteria/evaluation methods in the interpretation of the architectural space, in order to crystallize some solutions for its adaptation to different types of planning and design needs of spaces in the culinary field. Set of general knowledge in order to crystallize an ability to analyze an architectural context and the ability to formulate specific realistic conclusions and options regarding the human habitat, in order to fulfill its cultural, functional, aesthetic, comfort and safety requirements in correlation with the parameters of reference in the field. The development of visual and professional culture and the skills to analyze, interpret and create artistic entities in relation to the universe of spaces in the culinary field, in order to identify the qualities and characteristics that give them potential and bring them added value from an architectural point of view, ergonomic, aesthetic, artistic.
7.2 Specific objectives	The ability to observe, understand and interpret in a creative-innovative way the architectural space in the reality-image-imaginary matrix. The ability to express/understand concepts/projects in the field of architecture and design, in order to report on them. The realistic and responsible approach to concrete

	situations of observation, analysis and conception in practice in order to effectively solve the problems specific to planning and design. The crystallization of cognitive, applied-professional and affective-value skills as a reference matrix for approaching practical situations in the field of architecture, as well as the development/cultivation of a specific interest in the field of design and architecture. The crystallization of a minimal visual culture and a specialized language. The development of communication and teamwork skills in a professional context, to understand specific topics and to respond to them in a creative-innovative way, to create the premises for an optimal dialogue between specialists in specialized practice. Challenging interactivity by designing various situations of teaching/learning/application in practice, using active-participative strategies aiming at familiarization with the issues of planning and design in relation to the specific field of the relevant industry. The crystallization of a creative spirit in solving specialized problems regarding color, texture, shape, surface, volume, in relation to the planning and design of spaces in the culinary field in an inter-/pluri-/trans-/multi-disciplinary context. Effective use of information sources and communication resources and assisted professional training (portals, internet, specialized software applications, databases, online courses, etc.).
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8. Content

8.1 Course	Teaching methods	Number of hours	Remarks
General specifications. The professor has intellectual property rights over the materials, creations and professional and artistic contents of which he is the author, presented in courses, seminars and/or exams in the form of slides, audio-video materials and specific didactic materials (models, artistic works, exam subjects, grids, etc.), as well as the right to manage one's own image in any media, guaranteed by the specific legislation in Romania and EU. Therefore, without the prior written consent of the teacher and in light of the legislation in force, it is forbidden to photograph, film and/or audio-video record by any means, partially and/or in full: i) of the activities carried out at courses, seminars, submissions of papers, exams, etc., ii) of the contents, slides, didactic materials, etc. presented in courses, seminars, etc., as well as the contents drawn directly on the blackboard or on other supports by the teacher and/or iii) of the teacher (image and/or voice, fully or partially) at courses, seminars, thesis defenses, exams, etc. Regarding the teacher-student relationship, carried out strictly within the provisions of the regulations in force in UniTBv as well as mutual respect, good faith and common sense, the teacher: i) accepts exclusively written communication and only with students who are legal holders of a institutional e-mail addresses of UniTBv, ii) answers any questions within the limits of the powers and obligations provided for in the regulations that apply to it, iii) reserves the right not to answer e-mails outside of working hours / weekends / legal days off / rest or medical leave or in situations that can be interpreted as intimidation, insults, attempted fraud, lies presented as truth, manipulation, etc., iv) does not in any way mediate the relationship of students with the secretary or other entities within UniTBv and v) for the efficient use of the time dedicated to the educational process, reserves the right not to answer questions that already have their answers in the .pdf documents uploaded on the E-learning platform of UniTBv for the related discipline.			
Introduction to architecture – concepts, terminology, specialized language,	Lecture based	4h	-

issues, definition of terms, mission. About the initiation-search-becoming/pragma triad and the structure-style-symbol relationship in architecture and design: about the proximate genre and the specific difference - structure, morphology, form, volumetrics, surface, textures, laws of composition, color.	on image projection, case studies, interactive debate and multimedia.		
Vitruvian Attributes: Stabilitas/Firmitas (strength, safety, meanings) - Utilitas (function, meanings) - Venustas (expressiveness, beauty, harmony, kitsch; meanings). Elements of diagrammatic compositional analysis: line-plane-volume-module-landmark-rhythm-hierarchy. Low-tech / high-tech dichotomy; associated meanings.		6h	
Exploring the relationship of building materials/structural systems – purpose/function/ergonomics – form/expression in design/architecture. Perception of architectural objects/space: repetition, rhythm, hierarchy, contrast, symmetry, asymmetry, perspective, proportions, harmony, aesthetics, spatial effects, lighting, materials and textures, color, optical effects, golden section. Applications in the planning and design of culinary spaces.		4h	
Fundamental elements of function/ergonomics in the planning and design of spaces in the culinary field: kitchen, circulations, sanitary spaces, annexes, flows and circulations, technical/sanitary/legal conditions/of specific equipment. Applications in the planning and design of culinary spaces.		4h	
Fundamental elements regarding the furnishing and equipment for the ergonomics of spaces in the culinary field. Furnishing principles in relation to the destination and characteristics of specific spaces.		2h	
Fundamentals of lighting in the planning and design of culinary spaces. Light: nature, laws of propagation, classification, phenomena explained based on the laws of geometric optics (reflection, refraction, diffusion, diffraction, dispersion) in relation to types of spaces, specific furniture, context characteristics. Technical/ambient lighting. The lighting fixture: typology, destinations, design elements, selection criteria. Natural/artificial light as a creative parameter in design.		2h	
Basic elements of color theory. The relationships between the properties of light and the characteristics of color, color as a sensation. Relationships: wavelength - color, energy charge - brightness and spectral composition - saturation. The complexity of color and the complexity of communication in the chromatic universe. The lighting. Sensations and perceptions in relation to the chromatic universe. The fundamental laws of perception. Color representation systems (color space/color plane, color models). Subjective phenomena of human vision: optical illusions and optical corrections - specific applications in the design of culinary spaces. About the chromatic phenomenon: light colors/pigmentation, chromatic synthesis (additive/subtractive), color characteristics (subjective/objective parameters), contrasts. Dichotomies: sensations-perceptions, sight-gaze.		6h	
Total course hours = 28h			
Bibliography: 1. ARNHEIM, R., <i>Artă și percepția vizuală</i> , Ed. Meridiane, București, 1979; 2. CALEFATO, P., <i>Moda, corpo, mito. Storia, mitologia e ossessione del corpo vestito</i> , Ed. Castelveccchi, 1999; 3. CERVER F. A., <i>Habitat et Decoration</i> , Ed. Konemann, 2000;			

4. CONSTANTIN, P., <i>Culoare, artă, ambient</i>, Ed. Meridiane, 1979; 5. CUNLIFE, S., LOUSSIER, J., <i>Architecture Styles. From classical temples to soaring skyscrapers</i>, Thunder Bay, 2006; 6. CURL, J. S., <i>Dictionary of Architecture</i>, Oxford University Press, Oxford, 1999; 7. DITTMAN, L., <i>Stil, simbol, structură</i>, Ed. Meridiane, București, 1988; 8. ECO, U., <i>Istoria frumuseții</i>, 2005; <i>Istoria urâtului</i>, 2007, Ed. Enciclopedia RAO, București; 9. GLANCEY, J., <i>The Story of Architecture</i>, DK Londra, 2000; 10. HACKING, J. (coord), <i>Fotografia. La storia completa</i>, Atlante, Bologna, 2013; 11. HALLER, K., <i>Psihologia culorilor. Fascinația culorilor de la Cro-Magnon la Michelangelo</i>, Baroque Books&Arts, 2019; 12. IONESCU, I., <i>Lumină și culoare (pentru arhitecți și designeri)</i>, Ed. Univ. "Ion Mincu", București, 2013; 13. JANSON, H. W., JANSON, A. F., <i>History of Art</i>, Harry N. Abrams, Inc., Publishers, New York, 2001; 14. KASTAN, D. S., FARTHING, S., <i>Culorile. Pasiune și mister</i>, Ed. Baroque Books&Arts, 2020; 15. LIVIO, M., <i>Secțiunea de aur. Povestea lui phi, cel mai uimitor număr</i>, Ed. Humanitas, București, 2012; 16. MIHĂILESCU, T., <i>Standard economic bioclimatic solar individual houses</i>, (IOP Publishing), 2017; 17. MIHAILESCU, T., <i>Elemente de geometrie descriptivă</i>, Ed. Univ. Ion Mincu, București, 2025; 18. MIHĂILESCU, T. (coord); IOAN, A., GHEORGHE, M., MORUZI, D., MIHAIL, H., BEBEȘELEA, G., MUNTEAN, C., PESCARU, O., CISAR, M., <i>România paralelă. Alienare și kitsch în arhitectură și spațiul public</i>, Ed. UniTBv, 2016; 18. NEUFERT, E., <i>Manualul arhitectului. Elemente de proiectare și construcție</i>, Ed. Alutus, 2004; 19. PACURARU, D., <i>Arce stilistice sau despre stiluri și dinamica lor</i>, Ed. Albatros, București, 1987; RHURBERG, K., SCHNECKENBURGER, M., FRICKE, Ch., HONNEF, K., <i>Art of the 20th Century</i>, Taschen, 2000; 20. TRACHTENBERG, M.; HYMAN, I., <i>Architecture from Prehistory to Postmodernity</i>, H. N. Abrams Inc., NY, 2002; 21. *, <i>Funcțiune și formă</i>, Ed. Meridiane, București, 1989; 22. Reviste de specialitate: <i>Zeppelin, Arhitekt Design, Igloo, Domus, Arhitectura</i> etc; Internet.			
8.2 Seminar/ laboratory / project General specifications. The professor has intellectual property rights over the materials, creations and professional and artistic contents of which he is the author, presented in courses, seminars and/or exams in the form of slides, audio-video materials and specific didactic materials (models, artistic works, exam subjects, grids, etc.), as well as the right to manage one's own image in any media, guaranteed by the specific legislation in Romania and EU. Therefore, without the prior written consent of the teacher and in light of the legislation in force, it is forbidden to photograph, film and/or audio-video record by any means, partially and/or in full: i) of the activities carried out at courses, seminars, submissions of papers, exams, etc., ii) of the contents, slides, didactic materials, etc. presented in courses, seminars, etc., as well as the contents drawn directly on the blackboard or on other supports by the teacher and/or iii) of the teacher (image and/or voice, fully or partially) at courses, seminars, thesis defenses, exams, etc. Regarding the teacher-student relationship, carried out strictly within the provisions of the regulations in force in UniTBv as well as mutual respect, good faith and common sense, the teacher: i) accepts exclusively written communication and only with students who are legal holders of a institutional e-mail addresses of UniTBv, ii) answers any questions within the limits of the powers and obligations provided for in the regulations that apply to it, iii) reserves the right not to answer e-mails outside of working hours / weekends / legal days off / rest or medical leave or in situations that can be interpreted as intimidation, insults, attempted fraud, lies presented as truth, manipulation, etc., iv) does not in any way mediate the relationship of students with the secretary or other entities within UniTBv and v) for	Teaching-learning methods	Number of hours	Remarks

the efficient use of the time dedicated to the educational process, reserves the right not to answer questions that already have their answers in the .pdf documents uploaded on the E-learning platform of UniTBv for the related discipline.			
Project 1. Students will identify, objectify and describe a significant personal experience in relation to a relevant space in the culinary field (mainly a restaurant or a dedicated gastronomic space; not a bar, cafe, terrace etc.), anytime since graduating from university until present, from Romania or from anywhere abroad. The theme proposes a conscious, assumed exploration of the architectural space and is intended to crystallization of the students' relationship with the built universe dedicated to gastronomy, primarily in their role as "customers". The experience will be embodied in a personal project-essay-exercise, of ~1000 words. The project will contain: i) the reason for choosing the location (coincidental, advertising, recommendation, gastronomic specifics, architectural qualities, etc.), ii) description of the exterior of the location (volumetrics, characteristics, aesthetics, the relationship with the context, external features, colors, finishes, atmosphere, particularities, personal impression, etc.), iii) description of the interior of the location (ambience, atmosphere, colors, sounds, services, ergonomics of the space and furniture, cleanliness, quality of service and interaction with the staff, materials, finishes, textures, particularities, elements of originality from the point of view of the student, the connection of the interior design concept with the gastronomic specifics, etc.), and iv) the measure of the connection between the architectural features, the interior design concept, the name, the context and the specifics of the location. In the project, students must also include as many images as they consider necessary to support their personal opinions (photos, sketches, etc.).	Practical activity, corrections, interactive discussions, team work, guidance, documentation and research, image analysis and reporting on specific topics, analysis and debate of ideas and visions, brainstorming, technical explorations	8h	-
Project 2. Students will identify, objectify and document an existing space considered at a personal level as ideal for a certain specific in the culinary field (mainly a restaurant or a dedicated gastronomic space; not a bar, cafe, terrace, etc.), built after the year 2000, from Romania or abroad, regardless of whether they had a gastronomic experience in that space or not, but they discovered it on the Internet, books, magazines, etc.). The theme proposes to find, following the documentation, a realized gastronomic location considered by each student as ideal according to his taste and in the light of his experiences in similar spaces and his knowledge up to now, and is intended to crystallize the students' relationship with the built universe dedicated to gastronomy in posing as potential investors in a gastronomic space, in which documentation and personal experience are extremely important. The work will contain: i) relevant images, ii) information about the location (as applicable: architect, country/region/area/locality, construction period, constructive composition, etc., iii) plans, sections, facades, volumes, sketches and iv) the impression personal and the motivation of the choice in a personal text of ~1000 words).		10h	
Project 3. The theme invites the students to an exercise of imagination by		10h	

answering the question "what does my ideal gastronomic space would look like"? The theme continues and uses the experiences of projects 1 and 2 and will be materialized in a project containing a collage of ideas, images, personal sketches, etc., with which, hypothetically, the student poses as an investor in the ideal business in the gastronomic field (restaurant, etc.) would present themselves to an architect to make him turn into reality a dream in relation to a concept and a specific space, making him understand what exactly they want. The project will include any type of information and choices regarding as many details as possible that, together, would make up the space with the ideal gastronomic destination from the perspective of each student and will contain images of: i) the desired context (the ideal rural / urban location, in nature or not, in the mountains / between the hills / in the plains / at the sea, in the country or abroad, etc.), ii) the preferred style of architecture, iii) the desired interior design concept (style, atmosphere, particularities, textures, materials, restaurant furniture, furniture dedicated to the kitchen, type of relationship with the kitchen, lighting fixtures, floors, carpentry, hardware, curtains, etc.) and iv) a personal essay of ~1000 words describing the concept and the desired dream.			
Total project hours = 28h			
Bibliography: 1. ARNHEIM, R., <i>Arta și percepția vizuală</i>, Ed. Meridiane, București, 1979; 2. CALEFATO, P., <i>Moda, corpo, mito. Storia, mitologia e ossessione del corpo vestito</i>, Ed. Castelveccchi, 1999; 3. CERVER F. A., <i>Habitat et Decoration</i>, Ed. Konemann, 2000; 4. CONSTANTIN, P., <i>Culoare, artă, ambient</i>, Ed. Meridiane, 1979; 5. CUNLIFE,S.,LOUSSIER,J.,<i>Architecture Styles.From classical temples to soaring skyscrapers</i>,Thunder Bay, 2006; 6. CURL, J. S., <i>Dictionary of Architecture</i>, Oxford University Press, Oxford, 1999; 7. DITTMAN, L., <i>Stil, simbol, structură</i>, Ed. Meridiane, București, 1988; 8. ECO, U., <i>Istoria frumuseții</i>, 2005; <i>Istoria urâtului</i>, 2007, Ed. Enciclopedia RAO, București; 9. GLANCEY, J., <i>The Story of Architecture</i>, DK Londra, 2000; 10. HACKING, J. (coord), <i>Fotografia. La storia completa</i>, Atlante, Bologna, 2013; 11. HALLER, K., <i>Psihologia culorilor. Fascinația culorilor de la Cro-Magnon la Michelangelo</i>, Baroque Books&Arts, 2019; 12. IONESCU, I., <i>Lumină și culoare (pentru arhitecți și designeri)</i>, Ed. Univ. "Ion Mincu", București, 2013; 13. JANSON, H. W., JANSON, A. F., <i>History of Art</i>, Harry N. Abrams, Inc., Publishers, New York, 2001; 14. KASTAN, D. S., FARTHING, S., <i>Culorile. Pasiune și mister</i>, Ed. Baroque Books&Arts, 2020; 15. LIVIO, M., <i>Secțiunea de aur. Povestea lui phy, cel mai uimitor număr</i>, Ed. Humanitas, București, 2012; 16. MIHĂILESCU, T., <i>Standard economic bioclimatic solar individual houses</i>, (IOP Publishing), 2017; 17. MIHĂILESCU, T., <i>Elemente de geometrie descriptivă</i>, Ed. Univ. Ion Mincu, București, 2025; 18. MIHĂILESCU, T.(coord); IOAN, A., GHEORGHE, M., MORUZI, D., MIHAIL, H., BEBEȘULEA, G., MUNTEAN, C., PESCARU, O., CISAR, M., <i>România paralelă. Alienare și kitsch în arhitectură și spațiul public</i>, Ed. UniTBv, 2016; 18. NEUFERT, E., <i>Manualul arhitectului. Elemente de proiectare și construcție</i>. Ed. Alutus, 2004; 19. PACURARU, D., <i>Arce stilistice sau despre stiluri și dinamica lor</i>, Ed. Albatros, București, 1987; - RHURBERG, K., SCHNECKENBURGER, M., FRICKE, Ch., HONNEF, K., <i>Art of the 20th Century</i>, Taschen, 2000; 20. TRACHTENBERG, M.; HYMAN, I., <i>Architecture from Prehistory to Postmodernity</i>, H. N. Abrams Inc., NY, 2002; 21. *, <i>Funcțiune și formă</i>, Ed. Meridiane, București, 1989; 22. Reviste de specialitate: <i>Zeppelin, Arhitext Design, Igloo, Domus, Arhitectura</i> etc; Internet.			

9. Correlation of course content with the demands of the labour market (epistemic communities, professional associations, potential employers in the field of study)

The contents of the discipline are formulated in accordance with the specifics of the field of general architectural design, applied in the engineering and management of food and tourism in general and in the design, planning and design of spaces in the culinary field in particular.

The aim is the development of creativity, of freedom of choice and architectural-artistic expression, of creative independence, of out-of-the-box thinking, of innovative spirit, in the context of complex design, artistic creation and inter-/trans-/multi-/pluridisciplinary activities.

The theoretical and practical topics meet the requirements of professional associations (OAR, UCMR, etc.), as well as the expectations of representatives of epistemic communities and of representative employers in the field related to the "Gastronomic Engineering" study program.

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of the final grade
10.4 Course	Assimilation and understanding of theoretical knowledge regarding: a) general elements of the theory, history and criticism of architecture, b) methods of observing and understanding the architectural space from the perspective of Vitruvian attributes, c) the ability to "read" and interpret the architectural universe, d) awareness of meanings of architecture and interior fittings associated with their functional realities, and e) the design of spaces in the culinary field, explored in the courses. The conditions for taking exams in the re-examinations / medically postponed / etc sessions are: 1) the elaboration and upload of the projects corresponding to: i) the assignments not uploaded during the semester on the E-learning platform and remained without grades, and/or ii) assignments uploaded on the E-learning platform during the semester, but without having a minimum grade of 5 (five), and/or iii) assignments uploaded on the E-learning during the semester, but with an unsatisfactory grade and submitting (ONLY as .pdf document, not links!) it according to the institutional e-mail address: t.mihailescu@unitbv.ro in the interval between the first day of the session and 24 hours before the date/time scheduled for the desired exam; 2) appearing to the exam under the conditions mentioned at point 1.	Oral Presenting the projects developed according to the requirements of the themes in the seminars). The exam consists of the public presentation of the last project uploaded on the E-learning platform in week 14 of the semester, at the dedicated resource. For all submissions, including for the exam, the projects will be downloaded by the professor from the e-learning platform and projected at the faculty, so it is not necessary to print them, out of respect for the environment.	100% Arithmetic average of the grades of the projects developed according to the requirements of the assignments and publicly presented.

10.5 Seminar / laboratory / project	The projects aim to acquire the theoretical and practical skills of: a) intuitive representation and expression of ideas and concepts used in architecture and design in relation to a specific theme, b) crystallization of a "common place" in the dialogue with specialists in the field of architecture, c) observation, awareness and interpretation of space in the architecture – design - structure relation in order to consciously and creatively relate to space for dedicated design solutions in the design of spaces in the culinary field. The projects have to be realized according to the specific norms of writing and academic integrity, ONLY as a .pdf document (A4, portrait orientation, normal margins, Times New Roman 12 font, single line) and have to be uploaded exclusively on the E-learning platform of UniTBV, at the dedicated resources. The projects uploaded for each subject are publicly presented in the seminars that follow each of the deadline. Students who have uploaded the projects but do not present themselves for the presentation at the dedicated seminars will be penalized with 3 (three) points from the grade obtained for the project in absolute value (ex: if the project is evaluated in absolute value with a grade of 8, the grade in the catalog on the platform will be $8-3=5$). Only students who have previously uploaded the projects on the E-learning platform can present the projects in the dedicated seminars. For all submissions, including for the exam, the projects will be downloaded by the teacher from the E-learning platform and projected at the faculty, so it is not necessary to print them, out of respect for the environment. The projects that were not uploaded at the specified deadlines, according to the rules, can NOT be recovered except during the re-exam sessions. Each project will be evaluated and graded separately from 0 to 10. A project not uploaded receives a grade of 0. The final grade is based on the arithmetic mean of the grades of each of the four projects, increased or decreased depending on the quality of the presentations and of the interview on the day of the exam, based on the experience accumulated through the lens of the course.	Evaluation of the projects developed according to the requirements of the themes in the seminars.	
10.6 Minimal performance standard			
General, fundamental knowledge of theory and practice of architecture, architectural models and currents, styles and directions in design, as fundamental elements of visual and architectural culture, conveyed in the course. Applied knowledge to identify and define various general concepts in the field of architecture and their application in the field of planning and design of spaces in the culinary field. The acquisition of a specialized language and the crystallization of a visual culture in order to acquire a minimum of autonomy in the field of architecture the correct identification/use of some criteria and methods of analysis in accordance with the safety/functional/aesthetic requirements involved in relations with the built universe. General knowledge of ergonomics, function, lighting, furniture, color theory and their applications in architecture, design and space planning, conveyed in the course, as fundamental elements of specialized culture.			

Evaluation grid by performance levels		
Performance level	General description	Characteristics
Excellent (10–9)	Fully masters the concepts; analyses are innovative and precise	Perfect terminology, logical structure, autonomy, critical thinking
Very good (8)	Demonstrates solid understanding and correct application	Minor errors, but conceptual and practical coherence
Good (7)	Understands basic concepts, but application is partial	Terminology sometimes inaccurate, incomplete explanations
Satisfactory (6)	Mechanical application of notions, without real reflection	Partially correct answers, logical gaps
Insufficient (<5)	Does not demonstrate understanding of fundamental concepts	Theoretical confusion, incorrect applications, lack of argumentation

This course outline was certified in the Department Board meeting on 12/09/2025 and approved in the Faculty Board meeting on 12/09/2025.

Prof. dr. ing. Vasile PĂDUREANU Dean	Prof.dr.ing. Cristina Maria CANJA Head of Department
Prof. dr. arh. Teofil MIHĂILESCU Course holder	Prof. dr. arh. Teofil MIHĂILESCU Holder of seminar / laboratory / project

Note:

1) One credit is the equivalent of 30 study hours (teaching activities and individual study).

COURSE OUTLINE

1. Data about the study programme

1.1 Higher education institution	TransilvaniaUniversity of Braşov
1.2 Faculty	Food and tourism
1.3 Department	Food and tourism engineering and management
1.4Field of study	Engineering of food products
1.5Study level	Master
1.6 Study programme	Gastronomic Engineering (in English)

2.Data about the course

2.1 Name of the course	Gastronomy and the Art of Beverages							
2.2 Course convenor	PhD Prof. Florentina MATEI							
2.3 Seminar/ laboratory convenor	PhD Prof. Florentina MATEI							
2.4 Study year	I	2.5 Semester	II	2.6 Evaluation type	E	2.7 Course status	Content	DS
							Attendance type	DI

3.Total estimated time(hours of teaching activities per semester)

3.1 Number of hours per week	4	Out of which: 3.2 course	2	3.3laboratory	2
3.4 Total number of hours in the curriculum	56	Out of which: 3.5 course	28	3.6laboratory	28
Time allocation					hours
Study of textbooks, course support, bibliography and notes					25
Additional documentation in libraries, specialized electronic platforms, and field research					25
Preparation of seminars/ laboratories/ projects, homework, papers, portfolios, and essays					30
Tutorial					8
Examinations					6
Other activities					-
3.7 Total number of hours of student activity	94				
3.8 Total number persemester	150				
3.9 Number of credits ¹⁾	5				

4. Prerequisites(if applicable)

4.1 curriculum-related	Not applicable
4.2 competences-related	Not applicable

5. Conditions(if applicable)

5.1 for course development	A classroom with a PC or a notebook + video projector and/or online educational platform
5.2 for seminar/ laboratory/ project development	A room with natural light and the existence of professional tasting glasses

6. Competences and learning outcomes

Competences and learning outcomes	P.C.1 Performs detailed food processing operations Upon completion of the master's program, the graduate will be able to: Competencies L.O. 1.1 Know precise food processing operations, paying special attention to all stages of creating a quality product. L.O. 1.2 Understand the process of monitoring parameters related to food processing operations L.O. 1.3 Know specific regulations related to the manufacture of food and beverages Skills L.O. 1.4 Perform precise food processing operations, paying special attention to all stages of creating a quality product. L.O. 1.5 Filter liquid foods to eliminate any solid residue. L.O. 1.6 Insert filtered liquid foods into different containers. L.O. 1.7 Monitor parameters during the food and beverage manufacturing process L.O. 1.8 Apply specific regulations regarding the manufacture of food and beverages Responsibilities and autonomy L.O. 1.9 Assume responsibility and accountability for his/her own professional decisions and actions or those delegated to others in the food preparation process. L.O. 1.10 Demonstrate willingness to immediately assume tasks resulting from professional activities. L.O. 1.11 Plan and implement sustainable strategies to improve production performance, integrating innovative solutions; P.C.3 Develop processes and techniques for food production or food preservation. Involved in the design, development, construction and operation of industrial processes and techniques for food production. Upon completion of the master's program, the graduate will be able to: Knowledge L.O. 3.1 Know the principles and innovative technologies applicable to the production of high-quality food for the gastronomic industry; L.O. 3.2 Identify ecological methods and technologies for food preservation, including cold chain logistics and advanced packaging technologies; L.O. 3.3 Explain ways to integrate sustainable and local sourcing into food production systems, with the aim of reducing waste; L.O. 3.4 Know the principles of design and optimization of workflows in gastronomic units; L.O. 3.5 Know modern solutions for flexible space layout for gastronomic production Skills L.O. 3.6 Develop and implement innovative processes and techniques for obtaining gastronomic products, ensuring their efficiency and coherence; L.O. 3.7 Design and use ecological and energy-efficient preservation methods, adapted to the specifics of the gastronomic industry; L.O. 3.8 Design and manage food production systems based on sustainable sourcing and waste reduction; L.O. 3.9 Optimize workflows in the gastronomic industry, to reduce losses; L.O. 3.10 Create and adapt the design of flexible arrangements for processes in the gastronomic industry Responsibilities and autonomy L.O. 3.11 Ensure the optimal and sustainable functioning of food production processes in gastronomic units; L.O. 3.12 Organize and coordinate the design, implementation and evaluation activities of preservation and production techniques; L.O. 3.13 Assume responsibility for the creation of gastronomic concepts and innovative serving spaces that combine quality, sustainability and exclusivity. P.C. 4 Performs sensory evaluation of food products Upon completion of the master's program, the graduate will be able to: Competencies L.O. 4.1 Identify the specific elements for evaluating the sensory quality of a certain type of food or beverage. L.O. 4.2 Understand the methods and techniques of sensory analysis of gastronomic products. L.O. 4.3 Know the stages of sensory analysis using descriptive statistical analysis Skills L.O. 4.4 Evaluate the quality of a certain type of food or beverage, depending on its sensory characteristics. L.O. 4.5 Develop their own discrimination tests and apply real procedures for testing gastronomic products. L.O. 4.6 Plan the organization of a sensory analysis session, including the choice of the tasting panel. L.O. 4.7 Analyze the results of the sensory analysis in order to improve the quality of future gastronomic products. Responsibilities and autonomy L.O. 4.8 Organize and coordinate a sensory analysis session of gastronomic products. L.O. 4.9 Make decisions regarding the organization of a sensory analysis panel and the tests used. L.O. 4.10 Make decisions regarding changes to the gastronomic process based on the results of a sensory analysis.
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7. Course objectives

7.1 General course objective	Knowing different types of fermented alcoholic beverages, their tasting and serving methods
7.2 Specific objectives	- Knowing the specifics of obtaining different fermented alcoholic beverages from around the world - Knowing the process and the criteria for tasting fermented alcoholic beverages - Knowing the appropriate practices for serving fermented alcoholic beverages

8. Content

8.1 Course	Teaching methods	Number of hours	Remarks
Fermented alcoholic beverages worldwide	Powerpoint lecture with tutorials and additional audio-video materials, debates	2	
The basics of wine making: the process of white, red, rosé, sparkling wines	Powerpoint lecture with tutorials and additional audio-video materials, debates	4	
The basics of wine tasting and serving	Powerpoint lecture with tutorials and additional audio-video materials, debates	2	
The use of wines in gastronomic preparations: rules of use, pairing with dishes, recipes	Powerpoint lecture with tutorials and additional audio-video materials, debates	2	
The basics of beer making: primary fermentation, secondary fermentation, craft beer making	Powerpoint lecture with tutorials and additional audio-video materials, debates	2	
The basics of beer tasting and serving	Powerpoint lecture with tutorials and additional audio-video materials, debates	2	
The use of beer in gastronomic preparations: rules of use, pairing with dishes, recipes	Powerpoint lecture with tutorials and additional audio-video materials, debates	2	
The basics of making spirits: vinars, vodka, whiskey, gin, rum, tequila, brandy	Powerpoint lecture with tutorials and additional audio-video materials, debates	4	
The basics of tasting and serving spirits	Powerpoint lecture with tutorials and additional audio-video materials, debates	2	

The use of spirits in gastronomic dishes: rules of use, pairing with dishes, recipes	Powerpoint lecture with tutorials and additional audio-video materials, debates	2	
Preparing and serving liqueurs	Powerpoint lecture with tutorials and additional audio-video materials, debates	2	
Preparing and serving alcoholic cocktails	Powerpoint lecture with tutorials and additional audio-video materials, debates	2	
Bibliography Masaru Kuno (2022). Introductory Science of Alcoholic Beverages: Beer, Wine, and Spirits, CRC Press, ISBN 978-1032102283 Heimann H., Ebel S. (2016). Sensory and Instrumental Evaluation of Alcoholic Beverages Elsevier, Academic Press, ISBN 978-0-12-802727-1 Kosseva, M.R., Joshi, V., Panesar, P. (2017). Science and Technology of Fruit Wine Production. Elsevier, Academic Press, ISBN: 978-0-12-800850-8 Hill A., Jack F. (2023). Distilled Spirits. Elsevier, Academic Press, ISBN: 9780128224434 Godwin R (2021). The spirits. Vintage Publishing, ISBN 9781529110494			
8.2 Laboratory	Teaching methods	Number of hours	Remarks
Obtaining fermented fruit drinks	Presentation, case studies, practical application	2	
Sensory analysis of white, rosé and sparkling wines	Presentation, case studies, practical application	2	
Sensory analysis of red wines and fermented fruit drinks	Presentation, case studies, practical application	2	
Serving and pairing of wines and sparkling wines with culinary dishes	Presentation, case studies, practical application	2	
Sensory analysis of beer	Presentation, case studies, practical application	2	
Serving and pairing of beer with culinary dishes	Presentation, case studies, practical application	2	
Serving and pairing of cider and sake with culinary dishes	Presentation, case studies, practical application	2	
Tasting, serving and pairing of wine distillates with culinary dishes	Presentation, case studies, practical application	2	
Tasting, serving and pairing of vodka and	Presentation, case	2	

whisky	studies, practical application		
Tasting, serving and food peering	Presentation, case studies, practical application	2	
Tasting, serving and pairing of gin and rum	Presentation, case studies, practical application	2	
Tasting, serving and pairing of liqueurs	Presentation, case studies, practical application	2	
Tasting, serving and pairing of fruit distillates with culinary dishes	Presentation, case studies, practical application	2	
Bibliography Richards G (2022). Provide Responsible Service of Alcohol: Serving Alcoholic Beverages. ISBN 979-8443901336 Grainger Keith Wine Faults and Flaws: A Practical Guide (2022). Blackwell Publ ISBN 9781118979068 Old Marnie (2021). Wine- a tasting course. Ed. <u>Dorling Kindersley</u>, ISBN 9780241491522 <u>Rothbaum N., Wondrich D.</u> (2021).The Oxford Companion to Spirits and Cocktails. <u>Oxford University Press</u>. ISBN 9780199311132			

9. Correlation of course content with the demands of the labour market (epistemic communities, professional associations, potential employers in the field of study)

The acquired skills will allow integration into the food and hotel industry and/or the Associations of Fermented Alcoholic Beverage Producers.

10.Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of the final grade
10.4 Course	The level of acquisition of theoretical knowledge of preparation, organoleptic analysis and serving of beverages in the field of gastronomic engineering	Multiple choice written exam	70%
10.5 Laboratory	The level of acquisition of practical knowledge of preparation, organoleptic analysis and serving of drinks in a gastronomic context	Worksheets/Presentation of a portfolio with the practical applications and a thematic report paper	30%
10.6 Minimal performance standard			
The exam is passed with a minimum grade of 5; the preparation of the thematic report paper is mandatory			
Evaluation grid by performance levels			
Nivel de performanță	Descriere generală	Caracteristici	
Excellent (10–9)	Fully masters the concepts; analyses are innovative and precise	Perfect terminology, logical structure, autonomy, critical thinking	
Very good (8)	Demonstrates solid understanding and correct application	Minor errors, but conceptual and practical coherence	

Good (7)	Understands basic concepts, but application is partial	Terminology sometimes inaccurate, incomplete explanations
Satisfactory (6)	Mechanical application of notions, without real reflection	Partially correct answers, logical gaps
Insufficient (<5)	Does not demonstrate understanding of fundamental concepts	Theoretical confusion, incorrect applications, lack of argumentation

This course outline was certified in the Department Board meeting on 12.09.2025 and approved in the Faculty Board meeting on 12.09.2025.

Prof. PhD. Eng. Vasile PĂDUREANU Dean	Prof. PhD. Eng. Cristina Maria CANJA Head of Department
Prof. PhD. Florentina MATEI Course holder	Prof. PhD. Florentina MATEI Laboratory holder

Note:

1) One credit is the equivalent of 30 study hours (teaching activities and individual study).

COURSE OUTLINE

1. Data about the study programme

1.1 Higher education institution	Transilvania University of Braşov
1.2 Faculty	Food and tourism
1.3 Department	Food and tourism engineering and management
1.4 Field of study	Engineering of food products
1.5 Study level	Master
1.6 Study programme	Gastronomic Engineering (in English)

2. Data about the course

2.1 Name of course	DIETARY FOOD CHAINS							
2.2 Course convenor	Lecturer Dr.ENACHE Dorin Valter							
2.3 Seminar/ laboratory/ project convenor	Lecturer Dr.ENACHE Dorin Valter							
2.4 Study year	I	2.5 Semester	II	2.6 Evaluation type	E	2.7 Course status	Content	DS
							Attendance type	DI

3. Total estimated time (hours of teaching activities per semester)

3.1 Number of hours per week	2	out of which: 3.2 lecture	1	3.3 laboratory	1
3.4 Total number of hours in the curriculum	28	out of which: 3.5 lecture	14	3.6 laboratory	14
Time allocation					hours
Study of textbooks, course support, bibliography and notes					34
Additional documentation in libraries, specialized electronic platforms, and field research					31
Preparation of seminars/ laboratories/ projects, homework, papers, portfolios, and essays					17
Tutorial					5
Examinations					5
Other activities.....					
3.7 Total number of hours of student activity	92				
3.8 Total number per semester	120				
3.9 Number of credits ⁵⁾	4				

4. Prerequisites (if applicable)

4.1 curriculum-related	History of human nutrition, Anthropology of nutrition
4.2 competences-related	Knowledge of the main nutrients in food, the factors that influence the denaturation and reduction of the nutritional effect, the ways of processing and preserving food in order to preserve quality.

5. Conditions (if applicable)

5.1 for course development	Classroom equipped with modern teaching methods (smart TV,video projector, computer)
5.2 for seminar/ laboratory/ project development	Classroom equipped with modern teaching methods (smart TV,video projector, computer)

6. Competences and learning outcomes

Competences and learning outcomes	P.C. 2 Check the quality of raw materials Upon completion of the master's program, the graduate will be able to: Competencies L.O. 2.1 Know the quality elements of raw materials used in gastronomic processes. L.O. 2.2 Identify the factors that influence the quality of raw materials used in gastronomic processes. L.O. 2.3 Understand concepts related to quality assurance during food processing operations L.O. 2.4 Know national, international and domestic regulations mentioned in standards, regulations and other specifications related to raw materials used in gastronomic processes. Skills L.O. 2.5 Evaluate the quality of raw materials used in gastronomic processes. L.O. 2.6 Recommend possible improvements and comparisons with other products. L.O. 2.7 Ensure the quality of all factors that influence the quality of raw materials used in gastronomic processes. L.O. 2.8 Apply national, international and domestic regulations mentioned in standards, regulations and other specifications relating to raw materials used in gastronomic processes. P.C.5 Performs quality control on food processing Upon completion of the master's program, the graduate will be able to: Competencies L.O. 5.1 Understand the specific concepts of quality management and food safety in gastronomy L.O. 5.2 Know the methods and procedures of systematic testing and analysis for the evaluation of gastronomic products L.O. 5.3 Understand the quality criteria specific to food processing and the feedback mechanisms associated with them; L.O. 5.4 Know the assortments of culinary preparations and understand the transformations undergone by foods during primary and thermal processing. Skills L.O. 5.5 Perform standard tests and analyzes to evaluate the quality of gastronomic products L.O. 5.6 Inspect and monitor production processes and gastronomic flows to identify non-conformities and opportunities for improvement; L.O. 5.7 Verify the conformity of gastronomy processes and products
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7. Course objectives

7.1 General course objective	• Within this discipline, it is intended to impart to master's students knowledge and basic notions about the raw and auxiliary materials used in production process, as well as knowledge of the assortment of culinary preparations, paying special attention to the technology of obtaining them, the transformations undergone by food during primary and thermal processing, the quality conditions that must be met, the defects, causes and remedies that can be made in the case of obtaining specific HALAL and KOSHER culinary preparations.
7.2 Specific objectives	• Familiarization of master's students with the terminology specific to HALAL and KOSHER activities and the use of modern techniques and technologies specific to the concept, in culinary production.

8. Content

8.1 Course	Teaching methods	Number of hours	Remarks
Dietary food chains	Lecture and interactive debate	1	
The differences and challenges of Kosher and Halal foods in accessing international markets	Lecture and interactive debate	1	
Introduction to the concept and practice of Kosher and Halal	Lecture and interactive debate	1	
The dilemma and concepts of safe food for Halal	Lecture and interactive debate	1	
Halal and Kosher slaughter procedures	Lecture and interactive debate	1	
Standards and their application to the production, manufacturing and storage of Halal food	Lecture and interactive debate	1	
The concept and meaning of the Halal traceability system	Lecture and interactive debate	1	
Sensory principles and techniques for evaluating the quality of Halal foods	Lecture and interactive debate	1	
Good Practices: Design and Implementation of Halal Food Supply Chain	Lecture and interactive debate	1	
Intrinsic and extrinsic factors related to the shelf life of halal food	Lecture and interactive debate	1	
Halal meat production using the HACCP system	Lecture and interactive debate	1	
Comparison of Kosher and Halal food - part one	Lecture and interactive debate	1	
Comparison of Kosher and Halal food - part two	Lecture and interactive debate	1	
Basic Halachic Concepts in Kashrus	Lecture and interactive debate	1	
Bibliography Food value chain transformations in developing countries: Miguel I. Gómez and Katie D. Ricketts ;FAO 2013. The Halal Food Handbook, First Edition. Edited by Yunes Ramadan Al-Teinaz, Stuart Spear, and Ibrahim H. A. ABD El-Rahim.© 2020 John Wiley & Sons Ltd. Published 2020 by John Wiley & Sons Ltd. Halal and Kosher Food:Integration of Quality and Safety for Global Market Trends-Osman Ahmed Osman,Abdel Moneim Elhadi Sulieman© The Editor(s) (if applicable) and The Author(s), under exclusive license to Springer Nature Switzerland AG 2023 Kosher Food Production,Second Edition: Zushe Yosef Blech © 2008 John Wiley & Sons, Inc. ISBN: 978-0-813-82093-4, A John Wiley & Sons, Ltd., Publication			
8.2 Seminar/ laboratory/ project	Teaching-learning methods	Number of hours	Remarks
Food anthropology	Exposure, Case studies, Role play	1	
Food chains	Exposure, Case	1	

	studies, Role play		
Rules for the correct application of halal slaughter.	Exposure, Case studies, Role play	1	
HACCP with applicability in the Halal concept	Exposure, Case studies, Role play	1	
Cuisine and Culture; A History of Food and People	Exposure, Case studies, Role play	1	
Food: A Culinary Cultural History	Exposure, Case studies, Role play	1	
The Origin and History of Kosher	Exposure, Case studies, Role play	1	
Kosher cuisine	Exposure, Case studies, Role play	1	
How to turn regular cuisine into Kosher	Exposure, Case studies, Role play	1	
Mediterranean diet	Exposure, Case studies, Role play	1	
Fast Food Concept	Exposure, Case studies, Role play	1	
Cuisine and culture	Exposure, Case studies, Role play	1	
The omnivore's dilemma	Exposure, Case studies, Role play	1	
In defense of food	Exposure, Case studies, Role play	1	
Bibliography Michael Pollan :In Defense of Food 2008 Michael Pollan :The Omnivore"s Dilemma 2006 Dr. Ahmad Robin Wahab AmalMerge (M) Sdn. Bhd. GUIDELINES FOR THE PREPARATION OF HALAL FOOD AND GOODS FOR THE MUSLIM CONSUMERS. L I N D A C I V I T E L L O- CUISINE&CULTURE; A History of Food and People; Copyright © 2008 by Linda Civitello.Published by John Wiley & Sons, Inc., Hoboken, New Jersey. Islam and Veterinary Science: Rethinking Animal Suffering Through Islamic Animal Ethics and the Evolving Definition En-Chieh Chao:Halal Slaughter,Gila, Levine, T, Simply Israel- a collection of recipes from the people of Israel, 2016,			

Israel

How to Make Your Kitchen Kosher: A Practical Guide

Ulrica Söderlind: Gastronomy as a tool for peace and resistance in the Holy Land UPPSALA UNIVERSITY;

Protocol for Kosher/Halal Menu Preparation and Serving;

9. Correlation of course content with the demands of the labour market (epistemic communities, professional associations, potential employers in the field of study)

The content of the discipline follows current academic trends and ensures a high relevance of the skills transmitted to students. The content reflects the methods and theories accepted by the scientific community and is in line with the actual approaches, allowing students to form a solid and up-to-date scientific foundation. Also, the topics and themes addressed in the course and the applied activities provide students with a framework for further research in the field.

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of the final grade
10.4 Course	Involvement in discussions, bringing arguments, exemplifying, checking along the way	Discussions, written evaluation	50%
10.5 Seminar/ laboratory/ project	Compliance with instructions and the assigned topic; Attendance at all meetings	Project presentation, correct answer to questions about the project	50%

10.6 Minimal performance standard

The following will be defined and applied, as appropriate:

- The notion of food chain, quality management system;
- Standards and their application to food production, manufacturing and storage;
- Elaboration of the project within the established time limit.

Evaluation grid by performance levels

Performance level	General description	Characteristics
Excellent (10–9)	Fully masters the concepts; analyses are innovative and precise	Perfect terminology, logical structure, autonomy, critical thinking
Very good (8)	Demonstrates solid understanding and correct application	Minor errors, but conceptual and practical coherence
Good (7)	Understands basic concepts, but application is partial	Terminology sometimes inaccurate, incomplete explanations
Satisfactory (6)	Mechanical application of notions, without real reflection	Partially correct answers, logical gaps
Insufficient (<5)	Does not demonstrate understanding of fundamental concepts	Theoretical confusion, incorrect applications, lack of argumentation

This course outline was certified in the Department Board meeting on 12.09.2025 and approved in the Faculty Board meeting on 12.09.2025.

Prof.PhD. Eng. Vasile PĂDUREANU Dean	Prof.PhD. Eng. Cristina Maria CANJA Head of Department
Lecturer Dr.ENACHE Dorin VALTER Course holder	Lecturer Dr.ENACHE Dorin VALTER Holder of seminar/ laboratory/ project

Note:

1) One credit is the equivalent of 30 study hours (teaching activities and individual study).

COURSE OUTLINE

1. Data about the study programme

1.1 Higher education institution	TransilvaniaUniversity of Braşov
1.2 Faculty	Food and tourism
1.3 Department	Food and tourism engineering and management
1.4Field of study	Engineering of food products
1.5Study level	Master
1.6 Study programme	Gastronomic Engineering (in English)

2. Data about the course

2.1 Name of course	Professional practice II							
2.2 Course convenor	Prof. PhD Florentina MATEI							
2.3 Seminar/ laboratory/ project convenor	Prof. PhD. Florentina MATEI							
2.4 Study year	I	2.5 Semester	II	2.6 Evaluation type	V	2.7 Course status	Content	PS
							Attendance type	DI

3. Total estimated time(hours of teaching activities per semester)

3.1 Number of hours per week	12	out of which: 3.2 lecture	-	3.3 laboratory	12
3.4 Total number of hours in the curriculum	168	out of which: 3.5 lecture	-	3.6 laboratory	168
Time allocation					hours
Study of textbooks, course support, bibliography and notes					
Additional documentation in libraries, specialized electronic platforms, and field research					10
Preparation of seminars/ laboratories/ projects, homework, papers, portfolios, and essays					
Tutorial					
Examinations					2
Other activities.....					-
3.7 Total number of hours of student activity		12			
3.8 Total number per semester		180			
3.9 Number of credits ¹⁾		6			

4. Prerequisites(if applicable)

4.1 curriculum-related	• Not applicable
4.2 competences-related	• Not applicable

5. Conditions(if applicable)

5.1 for laboratory	• Not applicable
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6. Specific competences and learning outcomes

Competences and learning outcomes	P.C.1 Performs detailed food processing operations Upon completion of the master's program, the graduate will be able to: Competencies L.O. 1.1 Know precise food processing operations, paying special attention to all stages of creating a quality product. L.O. 1.2 Understand the process of monitoring parameters related to food processing operations L.O. 1.3 Know specific regulations related to the manufacture of food and beverages Skills L.O. 1.4 Perform precise food processing operations, paying special attention to all stages of creating a quality product. L.O. 1.5 Filter liquid foods to eliminate any solid residue. L.O. 1.6 Insert filtered liquid foods into different containers. L.O. 1.7 Monitor parameters during the food and beverage manufacturing process L.O. 1.8 Apply specific regulations regarding the manufacture of food and beverages Responsibilities and autonomy L.O. 1.9 Assume responsibility and accountability for his/her own professional decisions and actions or those delegated to others in the food preparation process. L.O. 1.10 Demonstrate willingness to immediately assume tasks resulting from professional activities. L.O. 1.11 Plan and implement sustainable strategies to improve production performance, integrating innovative solutions; P.C.3 Develop processes and techniques for food production or food preservation. Involved in the design, development, construction and operation of industrial processes and techniques for food production. Upon completion of the master's program, the graduate will be able to: Knowledge L.O. 3.1 Know the principles and innovative technologies applicable to the production of high-quality food for the gastronomic industry; L.O. 3.2 Identify ecological methods and technologies for food preservation, including cold chain logistics and advanced packaging technologies; L.O. 3.3 Explain ways to integrate sustainable and local sourcing into food production systems, with the aim of reducing waste; L.O. 3.4 Know the principles of design and optimization of workflows in gastronomic units; L.O. 3.5 Know modern solutions for flexible space layout for gastronomic production Skills L.O. 3.6 Develop and implement innovative processes and techniques for obtaining gastronomic products, ensuring their efficiency and coherence; L.O. 3.7 Design and use ecological and energy-efficient preservation methods, adapted to the specifics of the gastronomic industry; L.O. 3.8 Design and manage food production systems based on sustainable sourcing and waste reduction; L.O. 3.9 Optimize workflows in the gastronomic industry, to reduce losses; L.O. 3.10 Create and adapt the design of flexible arrangements for processes in the gastronomic industry Responsibilities and autonomy L.O. 3.11 Ensure the optimal and sustainable functioning of food production processes in gastronomic units; L.O. 3.12 Organize and coordinate the design, implementation and evaluation activities of preservation and production techniques; L.O. 3.13 Assume responsibility for the creation of gastronomic concepts and innovative serving spaces that combine quality, sustainability and exclusivity. P.C.5 Performs quality control on food processing Upon completion of the master's program, the graduate will be able to: Competencies L.O. 5.1 Understand the specific concepts of quality management and food safety in gastronomy L.O. 5.2 Know the methods and procedures of systematic testing and analysis for the evaluation of gastronomic products L.O. 5.3 Understand the quality criteria specific to food processing and the feedback mechanisms associated with them; L.O. 5.4 Know the assortments of culinary preparations and understand the transformations undergone by foods during primary and thermal processing. Skills L.O. 5.5 Perform standard tests and analyzes to evaluate the quality of gastronomic products L.O. 5.6 Inspect and monitor production processes and gastronomic flows to identify non-conformities and opportunities for improvement; L.O. 5.7 Verify the conformity of gastronomy processes and products Responsibilities and autonomy L.O. 5.8 Ensure the necessary framework for conducting quality inspections and tests in gastronomic units L.O. 5.9 Organize and coordinate the monitoring and control activities of gastronomic processes and products L.O. 5.10 Plan and supervise the implementation of culinary, safety and sustainability standards in gastronomic units L.O. 5.11 Assume responsibility for the final validation of the quality of gastronomic products.
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7. Course objectives(resulting from the specific competences to be acquired)

7.1 General course objective	Fully understanding the concepts of food processing operations, understanding the principles and technologies applicable to high-quality food, but also the concepts of quality management, food safety and food processing criteria with their applicability in gastronomy
7.2 Specific objectives	- The acquirement of the specific concepts related to all the stages of a quality product creation - The integration of the principle of innovation in high-quality food technology - The application of quality management and food safety concepts in gastronomy, with specific criteria included

8. Content

8.1 Laboratory	Teaching methods	Number of hours	Remarks
	Training practice	168	
Bibliography Rothbaum N., Wondrich D. (2021).The Oxford Companion toSpiritsandCocktails. Oxford University Press. ISBN 9780199311132 Galanakis, C.M. (eds.) (2020) GastronomyandFoodScience. Academic Press, ISBN 978-0-12-820057-5 Shimmura, T., Nonaka, T., Kunieda, S. (eds.) (2020) Service Engineering for Gastronomic Sciences. An InterdisciplinaryApproach for FoodStudy, Springer Singapore, ISBN 978-981-15-5320-2			

9. Correlation of course content with the demands of the labour market (epistemic communities, professional associations, potential employers in the field of study)

The course content responds to current trends in the gastronomy industry and provides students with a directly applicable framework, in line with academic standards and employer requirements. With an emphasis on training and developing the master's students' knowledge capacity, but also of critical and innovative thinking, this professional practice in the field of gastronomy represents a border area between food, hospitality and tourism. The practical activities allow students to develop real working skills, ensuring their contribution in food production innovation in gastronomy, in line with current trends in food and hospitality.

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of the final grade
10.4 Laboratory	The level of knowledge acquisition for writing a practice workbook/reports	Presentation of the professional practice workbook/reports	100%
10.6 Minimal performance standard			
- Writing a professional practice workbook/reports is mandatory - Obtaining a minimum grade of 5 on the workbook/reports.			
Evaluationgridby performance levels			
Performance level	General description	Characteristics	
Excellent (10–9)	Fully masters theconcepts; analyses are innovativeand precise	Perfect terminology, logicalstructure, autonomy, criticalthinking	
Verygood (8)	Demonstrates solid understandingandcorrectapplication	Minor errors, but conceptual andpracticalcoherence	
Good (7)	Understands basic concepts, but applicationispartial	Terminologysometimesinaccurate, incomplete explanations	
Satisfactory (6)	Mechanicalapplication of notions, without real	Partiallycorrectanswers, logicalgaps	

	reflection	
Insufficient (<5)	Doesnot demonstrate understanding of fundamental concepts	Theoreticalconfusion, incorrectapplications, lack of argumentation

This course outline was certified in the Department Board meeting on 12/09/2025 and approved in the Faculty Board meeting on 12/09/2025.

Prof. PhD. Eng. Vasile PĂDUREANU Dean	Prof. PhD. Eng. Cristina-Maria CANJA Head of Department
	Prof. PhD. Florentina MATEI Holder of laboratory

Note:

- ¹⁾ One credit is the equivalent of 30 study hours (teaching activities and individual study).

COURSE OUTLINE

1. Data about the study programme

1.1 Higher education institution	Transilvania University of Braşov
1.2 Faculty	Food and tourism
1.3 Department	Food and tourism engineering and management
1.4 Field of study	Engineering of food products
1.5 Study level	Master
1.6 Study programme	Gastronomic Engineering (in English)

2. Data about the course

2.1 Name of course	Food waste management							
2.2 Course convenor	Professor dr. eng. Mirabela Ioana LUPU							
2.3 Seminar/ laboratory/ project convenor	Professor dr. eng. Mirabela Ioana LUPU							
2.4 Study year	I	2.5 Semester	II	2.6 Evaluation type	E	2.7 Course status	Content	DS
							Attendance type	DO

3. Total estimated time (hours of teaching activities per semester)

3.1 Number of hours per week	4	out of which: 3.2 lecture	2	3.3 seminar/ laboratory/ project	2/0/0
3.4 Total number of hours in the curriculum	56	out of which: 3.5 lecture	28	3.6 seminar/ laboratory/ project	28/0/0
Time allocation					hours
Study of textbooks, course support, bibliography and notes					26
Additional documentation in libraries, specialized electronic platforms, and field research					25
Preparation of seminars/ laboratories/ projects, homework, papers, portfolios, and essays					31
Tutorial					10
Examinations					2
Other activities.....					0
3.7 Total number of hours of student activity		94			
3.8 Total number per semester		150			
3.9 Number of credits ¹⁾		5			

4. Prerequisites (if applicable)

4.1 curriculum-related	General technologies of animal products; General technologies of plant products.
4.2 competences-related	- Identification, description and appropriate use of food science specific notions. - Understanding the basic notions regarding the by-products resulting from the main food technologies and the directions of their valorization.

5. Conditions (if applicable)

5.1 for course development	Lecture room equipped with projection system; internet connection.
5.2 for seminar/ laboratory/ project development	Raw and auxiliary materials, technological schemes, gowns, specific equipment.

6. Specific competences

Professional competences and learning outcomes	P.C.1 Performs detailed food processing operations Upon completion of the master's program, the graduate will be able to: Competencies L.O. 1.1 Know precise food processing operations, paying special attention to all stages of creating a quality product. L.O. 1.2 Understand the process of monitoring parameters related to food processing operations L.O. 1.3 Know specific regulations related to the manufacture of food and beverages Skills L.O. 1.4 Perform precise food processing operations, paying special attention to all stages of creating a quality product. L.O. 1.5 Filter liquid foods to eliminate any solid residue. L.O. 1.6 Insert filtered liquid foods into different containers. L.O. 1.7 Monitor parameters during the food and beverage manufacturing process L.O. 1.8 Apply specific regulations regarding the manufacture of food and beverages Responsibilities and autonomy L.O. 1.9 Assume responsibility and accountability for his/her own professional decisions and actions or those delegated to others in the food preparation process. L.O. 1.10 Demonstrate willingness to immediately assume tasks resulting from professional activities. L.O. 1.11 Plan and implement sustainable strategies to improve production performance, integrating innovative solutions; P.C.3 Develop processes and techniques for food production or food preservation. Involved in the design, development, construction and operation of industrial processes and techniques for food production. Upon completion of the master's program, the graduate will be able to: Knowledge food for the gastronomic industry; and advanced packaging technologies; L.O. 3.1 Know the principles and innovative technologies applicable to the production of high-quality L.O. 3.2 Identify ecological methods and technologies for food preservation, including cold chain logistics L.O. 3.3 Explain ways to integrate sustainable and local sourcing into food production systems, with the aim of reducing waste; L.O. 3.4 Know the principles of design and optimization of workflows in gastronomic units; L.O. 3.5 Know modern solutions for flexible space layout for gastronomic production Skills L.O. 3.6 Develop and implement innovative processes and techniques for obtaining gastronomic products, ensuring their efficiency and coherence; L.O. 3.7 Design and use ecological and energy-efficient preservation methods, adapted to the specifics of the gastronomic industry; L.O. 3.8 Design and manage food production systems based on sustainable sourcing and waste reduction; L.O. 3.9 Optimize workflows in the gastronomic industry, to reduce losses; L.O. 3.10 Create and adapt the design of flexible arrangements for processes in the gastronomic industry Responsibilities and autonomy L.O. 3.11 Ensure the optimal and sustainable functioning of food production processes in gastronomic units; L.O. 3.12 Organize and coordinate the design, implementation and evaluation activities of preservation and production techniques; L.O. 3.13 Assume responsibility for the creation of gastronomic concepts and innovative serving spaces that combine quality, sustainability and exclusivity.
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7. Course objectives (resulting from the specific competences to be acquired)

7.1 General course objective	• Understanding the social, economic, and environmental impact of food waste. • Developing skills for assessing, planning, and implementing solutions to reduce food waste. • Applying national and international legislation in the field of waste management.
7.2 Specific objectives	• Identifying sources and types of food waste. • Implementing solutions to reduce food waste. • Utilizing technologies and methods for recycling and composting. • Developing strategies for awareness and education to prevent food waste.

8. Content

8.1 Course	Teaching methods	Number of hours	Remarks
1. Introduction to Food Waste Management: Global and Local Context The course provides an overview of the food waste issue, analyzing its causes, scale, and consequences at both global and local levels.	Lecture, presentation, dialogue, debate	2	
2. The Role of Education and Awareness Campaigns in Reducing Food Waste This topic explores the importance of education, training, and public communication in changing consumption behaviors and promoting a sustainable lifestyle.	Lecture, presentation, dialogue, debate	2	
3. The Impact of Food Waste on the Environment and Economy The course highlights the negative effects of food waste on natural resources, greenhouse gas emissions, and the associated economic costs.	Lecture, presentation, dialogue, debate	2	
4. International and National Policies and Regulations on Food Waste It examines the legislative framework and public policies that govern food waste management and promote prevention measures.	Lecture, presentation, dialogue, debate	2	
5. Methods for Preventing Food Waste at Consumer and Producer Levels The course presents strategies and best practices to reduce food losses throughout the supply chain, from production to consumption.	Lecture, presentation, dialogue, debate	2	
6. Implementation of a Food Waste Management Plan This module focuses on developing and applying an effective food waste management plan within organizations, emphasizing prevention and monitoring.	Lecture, presentation, dialogue, debate	4	
7. Food Reuse: Examples of Best Practices The course provides practical examples of	Lecture, presentation, dialogue, debate	2	

initiatives and creative solutions through which food can be redistributed, transformed, or sustainably valorized.			
8. Energy Recovery from Food Waste: Biogas and Other Solutions It explores technological processes that transform food waste into renewable energy, contributing to the reduction of environmental impact.	Lecture, presentation, dialogue, debate	2	
9. Circular Economy in Food Waste Management The course integrates circular economy principles into waste management processes, promoting food resource reuse and recycling.	Lecture, presentation, dialogue, debate	2	
10. Technologies and Innovations for Reducing Food Waste Modern technological solutions are analyzed, such as the digitalization of the food supply chain, smart packaging, stock monitoring applications, automated inventory management systems, digital platforms for food surplus redistribution, sensors for monitoring temperature and product freshness, mobile apps for menu optimization and waste reduction.	Lecture, presentation, dialogue, debate	4	
11. Case Study: Successful Strategies in Food Waste Management The course analyzes real-world examples of companies and organizations that have successfully implemented sustainable food waste reduction programs.	Lecture, presentation, dialogue, debate	2	
12. Trends and Future Challenges in Food Waste Management Current and future perspectives are discussed regarding innovations, policies, and behaviors that will shape sustainable food waste management.	Lecture, presentation, dialogue, debate	2	
Bibliography 1. Närvänen, E., Mesiranta, N., & Mattila, M. (2019). Food Waste Management: Solving the Wicked Problem. Springer. ISBN: 978-3-030-20560-7. 2. Blakeney, M. (2019). Food Loss and Food Waste: Causes and Solutions. Edward Elgar Publishing. ISBN: 978-1-78990-350-0. 3. Smetana, S., Pleissner, D., & Zuin Zeidler, V. (Eds.). (2022). Waste to Food: Returning Nutrients to the Food Chain. Wageningen Academic Publishers. ISBN: 978-90-8686-377-8. 4. Athanassiou, A. (2021). Sustainable Food Packaging Technology. Academic Press. ISBN: 978-0-12-818531-4. 5. Kosseva, M. R., & Webb, C. (2013). Food Industry Wastes: Assessment and Recuperation of Commodities. Academic Press. ISBN: 978-0-12-391921-1.			
8.2 Seminar/ laboratory/ project	Teaching-learning methods	Number of hours	Remarks
1. Analysis of Food Waste Streams in households and companies. The seminar focuses on identifying and mapping	Lecture, Practical Applications, Teamwork	2	

the stages where food waste is generated, analyzing the causes, quantities, and opportunities for waste reduction at the source.			
2. Study on Food Waste in restaurants and canteens The students conduct a comparative analysis of the types of food waste, the factors contributing to it, and effective solutions implemented in public food service units.	Lecture, Practical Applications, Teamwork	2	
3. Designing a Strategy to Reduce Food Waste The activity aims to develop an integrated strategy that includes prevention, monitoring, and valorisation of waste, tailored to different types of gastronomic units.	Lecture, Practical Applications, Teamwork	2	
4. Application of Life Cycle Assessment (LCA) Methods for Food Waste The seminar provides tools for assessing the environmental impact associated with each stage of the food chain, using the LCA methodology to identify sustainable solutions.	Lecture, Practical Applications, Teamwork	2	
5. Evaluation of the Environmental Impact of Food Waste The session analyzes the effects of inefficient food waste management on soil, water, air, and biodiversity, as well as measures to mitigate these impacts.	Lecture, Practical Applications, Teamwork	2	
6. Packaging and Preservation Technologies to Reduce Food Waste The seminar explores modern solutions such as active, intelligent, and biodegradable packaging designed to extend product shelf life and reduce food losses.	Lecture, Practical Applications, Teamwork	2	
7. Development of an Educational Plan to Raise Consumer Awareness The students design an educational program aimed at informing and training consumers to adopt responsible and sustainable food consumption behaviors.	Lecture, Practical Applications, Teamwork	2	
8. Obtaining Bioactive Products from Food Waste The seminar presents biotechnological and chemical methods for extracting valuable compounds (antioxidants, fibers, polyphenols) from food waste to be used in functional food products.	Lecture, Practical Applications, Teamwork	2	
9. Valorisation of Food Waste and By-products - New Food Products Are analyses practical examples of transforming food residues and by-products into innovative, sustainable, and safe ingredients for consumption.	Lecture, Practical Applications, Teamwork	4	

10. Analysis of Public Policies and European Initiatives on Food Waste Reduction The seminar examines relevant European directives and strategies, such as the Green Deal and the "Farm to Fork" Strategy, identifying opportunities for local implementation.	Lecture, Practical Applications, Teamwork	2	
11. Evaluation of Circular Economy Models Applied in the Food Industry The students investigate case studies on the application of circular economy principles in food companies, analysing both environmental and economic outcomes.	Lecture, Practical Applications, Teamwork	2	
12. Digital Tools and Applications for Monitoring and Reducing Food Waste The seminar introduces innovative platforms, applications, and digital tools used for efficient stock management, demand forecasting, and redistribution of food surplus.	Lecture, Practical Applications, Teamwork	2	
13. Final Presentation of the Integrated Food Waste Management Project Students present their project results, highlighting proposed solutions for reducing, reusing, and efficiently valorizing food waste.	Lecture, Practical Applications, Teamwork	2	
Bibliography 1. Närvänen, E., Mesiranta, N., & Mattila, M. (2019). Food Waste Management: Solving the Wicked Problem. Springer. ISBN: 978-3-030-20560-7. 2. Blakeney, M. (2019). Food Loss and Food Waste: Causes and Solutions. Edward Elgar Publishing. ISBN: 978-1-78990-350-0. 3. Smetana, S., Pleissner, D., & Zuin Zeidler, V. (Eds.). (2022). Waste to Food: Returning Nutrients to the Food Chain. Wageningen Academic Publishers. ISBN: 978-90-8686-377-8. 4. Athanassiou, A. (2021). Sustainable Food Packaging Technology. Academic Press. ISBN: 978-0-12-818531-4. 5. Kosseva, M. R., & Webb, C. (2023). Food Industry Wastes: Assessment and Recuperation of Commodities. Academic Press. ISBN: 978-0-12-391921-1.			

9. Correlation of course content with the demands of the labor market (epistemic communities, professional associations, potential employers in the field of study)

The content of the discipline follows current academic trends and ensures a high relevance of the skills transmitted to students. The content reflects the methods and theories accepted by the scientific community and is in line with the actual approaches, allowing students to form a solid and up-to-date scientific foundation. Also, the topics and themes addressed in the course and the applied activities provide students with a framework for further research in the field.

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of the final grade
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10.4 Course	- Assessment of the student’s ability to understand and explain the fundamental concepts, theories, and principles of innovation applied in the field of waste management - The student formulates logical, well-structured answers and supports them with relevant scientific arguments. The student fully meets the assessment requirements and provides accurate, coherent, and well-founded explanations.	Oral evaluation	50%
	- The student participates consistently in course activities, contributing actively through relevant questions, observations, and comments. - Demonstrates the ability to connect the theoretical concepts studied with practical situations or case studies discussed during the course. Analyzes the concepts discussed from a personal, critical, and well-argued perspective.	Continuous Assessment	20%
10.5 Seminar/ laboratory/ project	- The student actively contributes to the laboratory work, engaging in discussions, clarifications, and team activities. - Completion of work tasks	Laboratory Activities	30%
10.6 Minimal performance standard			
- Completion of a project: Integrated Food Waste Management. - Understanding of the fundamental concepts covered in the course. - Ability to express ideas coherently and logically. - Addressing each subtopic in the exam and passing with a minimum grade.			
Evaluation grid by performance levels			
Performance level	General description	Characteristics	
Excellent (10–9)	Fully masters the concepts; analyses are innovative and precise	Perfect terminology, logical structure, autonomy, critical thinking	
Very good (8)	Demonstrates solid understanding and correct application	Minor errors, but conceptual and practical coherence	
Good (7)	Understands basic concepts, but application is partial	Terminology sometimes inaccurate, incomplete explanations	
Satisfactory (6)	Mechanical application of notions, without real reflection	Partially correct answers, logical gaps	
Insufficient (<5)	Does not demonstrate understanding of fundamental concepts	Theoretical confusion, incorrect applications, lack of argumentation	

This course outline was certified in the Department Board meeting on 12/09/2025 and approved in the Faculty Board meeting on 12/09/2025.

Prof. dr. ing. Vasile PĂDUREANU	Prof. dr. ing. Cristina Maria CANJA
Dean	Head of Department
Prof. dr. ing. Mirabela Ioana LUPU	Prof. dr. ing. Mirabela Ioana LUPU
Course holder	Holder of seminar/ laboratory/ project

Note:

1) One credit is the equivalent of 30 study hours (teaching activities and individual study).

COURSE OUTLINE

1. Data about the study programme

1.1 Higher education institution	Transilvania University of Braşov
1.2 Faculty	Food and tourism
1.3 Department	Food and tourism engineering and management
1.4 Field of study	Engineering of food products
1.5 Study level	Master
1.6 Study programme	Gastronomic Engineering (in English)

2. Data about the course

2.1 Name of course	Circular economy in gastronomy and hospitality							
2.2 Course convenor	Professor dr. eng. Mirabela Ioana LUPU							
2.3 Seminar/ laboratory/ project convenor	Professor dr. eng. Mirabela Ioana LUPU							
2.4 Study year	I	2.5 Semester	II	2.6 Evaluation type	E	2.7 Course status	Content	DS
							Attendance type	DO

3. Total estimated time (hours of teaching activities per semester)

3.1 Number of hours per week	4	out of which: 3.2 lecture	2	3.3 seminar/ laboratory/ project	2/0/0
3.4 Total number of hours in the curriculum	56	out of which: 3.5 lecture	28	3.6 seminar/ laboratory/ project	28/0/0
Time allocation					hours
Study of textbooks, course support, bibliography and notes					26
Additional documentation in libraries, specialized electronic platforms, and field research					25
Preparation of seminars/ laboratories/ projects, homework, papers, portfolios, and essays					31
Tutorial					10
Examinations					2
Other activities.....					0
3.7 Total number of hours of student activity		94			
3.8 Total number per semester		150			
3.9 Number of credits ¹⁾		5			

4. Prerequisites (if applicable)

4.1 curriculum-related	Technologies in the Food Industry, Hospitality in tourism
4.2 competences-related	Identification, description and appropriate use of food science specific notions; sustainability.

5. Conditions (if applicable)

5.1 for course development	Lecture room equipped with projection system; internet connection.
5.2 for seminar/ laboratory/ project development	Raw and auxiliary materials, technological schemes, gowns, specific equipment.

6. Specific competences

Professional competences and learning outcomes	P.C.1 Performs detailed food processing operations Upon completion of the master's program, the graduate will be able to: Competencies L.O. 1.1 Know precise food processing operations, paying special attention to all stages of creating a quality product. L.O. 1.2 Understand the process of monitoring parameters related to food processing operations L.O. 1.3 Know specific regulations related to the manufacture of food and beverages Skills L.O. 1.4 Perform precise food processing operations, paying special attention to all stages of creating a quality product. L.O. 1.5 Filter liquid foods to eliminate any solid residue. L.O. 1.6 Insert filtered liquid foods into different containers. L.O. 1.7 Monitor parameters during the food and beverage manufacturing process L.O. 1.8 Apply specific regulations regarding the manufacture of food and beverages Responsibilities and autonomy L.O. 1.9 Assume responsibility and accountability for his/her own professional decisions and actions or those delegated to others in the food preparation process. L.O. 1.10 Demonstrate willingness to immediately assume tasks resulting from professional activities. L.O. 1.11 Plan and implement sustainable strategies to improve production performance, integrating innovative solutions; P.C.3 Develop processes and techniques for food production or food preservation. Involved in the design, development, construction and operation of industrial processes and techniques for food production. Upon completion of the master's program, the graduate will be able to: Knowledge food for the gastronomic industry; and advanced packaging technologies; L.O. 3.1 Know the principles and innovative technologies applicable to the production of high-quality L.O. 3.2 Identify ecological methods and technologies for food preservation, including cold chain logistics L.O. 3.3 Explain ways to integrate sustainable and local sourcing into food production systems, with the aim of reducing waste; L.O. 3.4 Know the principles of design and optimization of workflows in gastronomic units; L.O. 3.5 Know modern solutions for flexible space layout for gastronomic production Skills L.O. 3.6 Develop and implement innovative processes and techniques for obtaining gastronomic products, ensuring their efficiency and coherence; L.O. 3.7 Design and use ecological and energy-efficient preservation methods, adapted to the specifics of the gastronomic industry; L.O. 3.8 Design and manage food production systems based on sustainable sourcing and waste reduction; L.O. 3.9 Optimize workflows in the gastronomic industry, to reduce losses; L.O. 3.10 Create and adapt the design of flexible arrangements for processes in the gastronomic industry Responsibilities and autonomy L.O. 3.11 Ensure the optimal and sustainable functioning of food production processes in gastronomic units; L.O. 3.12 Organize and coordinate the design, implementation and evaluation activities of preservation and production techniques; L.O. 3.13 Assume responsibility for the creation of gastronomic concepts and innovative serving spaces that combine quality, sustainability and exclusivity.
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7. Course objectives (resulting from the specific competences to be acquired)

7.1 General course objective	- To provide students with fundamental knowledge about the principles of the circular economy and their applicability in the gastronomic and hospitality sectors. - To develop skills for adopting sustainable practices in supply chains and operations within the gastronomic and hospitality fields. - To promote innovation and efficient resource management to minimize waste. - To encourage the use of modern technologies to optimize processes and reduce environmental impact.
7.2 Specific objectives	- Identifying strategies for reducing food waste within hospitality establishments. - Integrating circular economy principles into menus, culinary preparations, and services. - Analyzing and implementing recycling and resource reuse systems in professional kitchens. - Evaluating the impact of operational decisions on the environment and the economic sustainability of businesses. - Developing innovative business models based on the circular economy in the HORECA sector.

8. Content

8.1 Course	Teaching methods	Number of hours	Remarks
1. Introduction to the Circular Economy: Concepts and Principles The course presents the theoretical foundations of the circular economy, explaining its core concepts, sustainability principles, and economic models that promote efficient resource use.	Lecture, presentation, dialogue, debate	2	
2. The Circular Economy in the Context of Gastronomy and Hospitality This course analyzes the application of circular economy principles in gastronomy and hospitality, focusing on responsible resource management and reducing environmental impact.	Lecture, presentation, dialogue, debate	2	
3. Life Cycle Analysis of Food and Products Used in Gastronomy The course examines the environmental impact of food products throughout their life cycle, from production to consumption and disposal.	Lecture, presentation, dialogue, debate	2	
4. Strategies for Reducing Food Waste in Restaurants and Hotels Practical and innovative methods for preventing, monitoring, and minimizing food losses in the HORECA sector are explored.	Lecture, presentation, dialogue, debate	2	
5. Circular Menu Design: Optimizing Ingredients and Utilizing Surplus The course focuses on developing sustainable	Lecture, presentation, dialogue, debate	2	

menus based on full utilization of raw materials and reduction of food waste.			
6. Identifying Opportunities for Food Byproduct Utilization This course analyzes ways in which by-products from culinary processes can be transformed into valuable resources or innovative products.	Lecture, presentation, dialogue, debate	4	
7. Waste Management in Gastronomy and Hospitality Units The course provides modern solutions for selective collection, treatment, and reduction of waste generated in gastronomic activities.	Lecture, presentation, dialogue, debate	2	
8. Recycling and Resource Reuse in Professional Kitchens Efficient practices and technologies for resource reuse and recycling are discussed to optimize costs and protect the environment.	Lecture, presentation, dialogue, debate	2	
9. Implementing Green Technologies in the HORECA Industry The course highlights ecological technological innovations that contribute to reducing energy, water, and material consumption in the hospitality sector.	Lecture, presentation, dialogue, debate	2	
10. Alternative Energy Sources for Restaurants and Hotels The potential use of renewable energies such as solar, wind, and biogas in HORECA infrastructures is analyzed.	Lecture, presentation, dialogue, debate	2	
11. Circular Economy and Social Impact: Engaging Local Communities This course explores how the circular economy supports local development, community involvement, and the promotion of social responsibility.	Lecture, presentation, dialogue, debate	2	
12. Impact of Regulations and Public Policies on the Circular Economy The course examines the national and European legislative frameworks that support the transition to circular economic models in hospitality.	Lecture, presentation, dialogue, debate	2	
13. The Future of the Circular Economy in Hospitality: Trends and Challenges The course provides an overview of current developments, emerging trends, and the challenges faced by the hospitality industry in the context of the circular economy.	Lecture, presentation, dialogue, debate	2	
Bibliography 1. Ellen MacArthur Foundation. (2019). Cities and Circular Economy for Food. Ellen MacArthur Foundation. ISBN: 978-0-9572494-9-1.			

2. Blanco, E., & Cotrim, J. (2020). Circular Economy in the Hospitality Industry: A Practical Guide. Routledge. ISBN: 978-0-367-42345-6. 3. Sustainable Restaurant Association. (2018). The Sustainable Restaurant Handbook: How to Run a Restaurant That's Good for the Planet. Sustainable Restaurant Association. ISBN: 978-1-9997171-0-3. 4. Jones, P., Hillier, D., & Comfort, D. (2016). Sustainability in the Global Hotel Industry. International Journal of Contemporary Hospitality Management, 28(1), 36-67. 5. Baldassarre, B., Calabretta, G., Bocken, N. M. P., & Jaskiewicz, T. (2019). Bridging Sustainable Business Model Innovation and User-Driven Innovation: A Process for Sustainable Value Proposition Design. Journal of Cleaner Production, 215, 149-162.			
8.2 Seminar/ laboratory/ project	Teaching-learning methods	Number of hours	Remarks
1. Assessment of Food Waste Flows in a Gastronomic Unit The laboratory focuses on identifying and quantifying the main sources of food waste generated during culinary processes, in order to develop effective reduction strategies.	Lecture, Practical Applications, Teamwork	2	
2. Measuring Resource Losses (Energy, Water, Food) This practical activity analyzes resource consumption in a gastronomic unit and identifies avoidable losses through the implementation of efficiency measures.	Lecture, Practical Applications, Teamwork	2	
3. Designing a Sustainable Menu Based on Circular Economy Principles The laboratory involves creating a balanced menu that fully utilizes ingredients and minimizes food waste according to circular economy principles.	Lecture, Practical Applications, Teamwork	2	
4. Monitoring and Reducing Food Waste in a Restaurant Kitchen A practical study is carried out on data collection methods for food loss and the implementation of strategies to minimize waste.	Lecture, Practical Applications, Teamwork	2	
5. Testing Composting Processes for Food Waste The laboratory experiments with composting food residues, observing their transformation into useful resources for urban agriculture or community gardens.	Lecture, Practical Applications, Teamwork	2	
6. Identifying Opportunities for Food Byproduct Utilization This activity analyzes the potential for reusing by-products from gastronomic activities to create new products or materials.	Elaboration, Presentation, Discussions	4	
7. Case Study: Sustainability Analysis of a HoReCa Chain The laboratory involves evaluating a restaurant or hotel chain to determine its sustainability level and the application of circular economy principles.	Lecture, Practical Applications, Teamwork	2	
8. Applying Circular Design Concepts in Kitchen	Lecture, Practical	2	

Layouts This practical activity focuses on designing efficient, eco-friendly kitchen spaces based on resource reuse and optimized workflows.	Applications, Teamwork		
9. Cost-Benefit Analysis for Implementing Circular Solutions The laboratory develops skills for economic evaluation of sustainable measures, comparing initial costs and long-term benefits.	Lecture, Practical Applications, Teamwork	2	
10. Case Study: Impact of Suppliers on Sustainability This activity investigates how procurement policies and supplier selection influence the ecological and ethical performance of a hospitality unit.	Lecture, Practical Applications, Teamwork	2	
11. Digital Technologies for the Circular Economy The laboratory explores digital tools and applications for resource monitoring, traceability, and optimization of circular processes.	Lecture, Practical Applications, Teamwork	2	
12. Evaluating the Carbon Footprint of a Gastronomic Unit The laboratory aims to calculate and interpret the carbon emissions generated by a gastronomic unit's activities, identifying measures to reduce its environmental impact.	Lecture, Practical Applications, Teamwork	2	
13. Designing a Circular Model for a Hospitality Unit The final activity integrates all acquired knowledge through the development of a sustainable and circular model applicable to a modern hospitality unit.	Elaboration, Presentation, Discussions	2	
Bibliography 1. Ellen MacArthur Foundation. (2019). Cities and Circular Economy for Food. Ellen MacArthur Foundation. ISBN: 978-0-9572494-9-1. 2. Blanco, E., & Cotrim, J. (2020). Circular Economy in the Hospitality Industry: A Practical Guide. Routledge. ISBN: 978-0-367-42345-6. 3. Sustainable Restaurant Association. (2018). The Sustainable Restaurant Handbook: How to Run a Restaurant That's Good for the Planet. Sustainable Restaurant Association. ISBN: 978-1-9997171-0-3. 4. Jones, P., Hillier, D., & Comfort, D. (2016). Sustainability in the Global Hotel Industry. International Journal of Contemporary Hospitality Management, 28(1), 36-67. 5. Baldassarre, B., Calabretta, G., Bocken, N. M. P., & Jaskiewicz, T. (2019). Bridging Sustainable Business Model Innovation and User-Driven Innovation: A Process for Sustainable Value Proposition Design. Journal of Cleaner Production, 215, 149-162.			

9. Correlation of course content with the demands of the labor market (epistemic communities, professional associations, potential employers in the field of study)

The content of the discipline follows current academic trends and ensures a high relevance of the skills transmitted to students. The content reflects the methods and theories accepted by the scientific community and is in line with the actual approaches, allowing students to form a solid and up-to-date scientific foundation. Also, the topics and themes addressed in the course and the applied activities provide students with a framework for further research in the field.

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of the final grade
10.4 Course	- Assessment of the student's ability to understand and explain the fundamental concepts, theories, and principles of innovation applied in the field of circular economy - The student formulates logical, well-structured answers and supports them with relevant scientific arguments. - The student fully meets the assessment requirements and provides accurate, coherent, and well-founded explanations.	Oral evaluation	50%
	- The student participates consistently in course activities, contributing actively through relevant questions, observations, and comments. - Demonstrates the ability to connect the theoretical concepts studied with practical situations or case studies discussed during the course. - Analyzes the concepts discussed from a personal, critical, and well-argued perspective.	Continuous Assessment	20%
10.5 Seminar/ laboratory/ project	The student actively contributes to the laboratory work, engaging in discussions, clarifications, and team activities. ■ Completion of work tasks	Laboratory Activities	30%

10.6 Minimal performance standard

- Project Work: Designing a Circular Model for a Hospitality Unit
- Understanding of the fundamental concepts covered in the course.
- Passing the laboratory colloquium.
- Ability to express ideas coherently and logically.
- Addressing each subtopic in the exam and passing with a minimum grade.

Evaluation grid by performance levels

Performance level	General description	Characteristics
Excellent (10–9)	Fully masters the concepts; analyses are innovative and precise	Perfect terminology, logical structure, autonomy, critical thinking
Very good (8)	Demonstrates solid understanding and correct application	Minor errors, but conceptual and practical coherence
Good (7)	Understands basic concepts, but application is partial	Terminology sometimes inaccurate, incomplete explanations
Satisfactory (6)	Mechanical application of notions, without real reflection	Partially correct answers, logical gaps
Insufficient (<5)	Does not demonstrate understanding of fundamental concepts	Theoretical confusion, incorrect applications, lack of argumentation

This course outline was certified in the Department Board meeting on 12/09/2025 and approved in the Faculty Board meeting on 12/09/2025.

Prof. dr. ing. Vasile PĂDUREANU	Prof. dr. ing. Cristina Maria CANJA
Dean	Head of Department
Prof. dr. ing. Mirabela Ioana LUPU	Prof. dr. ing. Mirabela Ioana LUPU
Course holder	Holder of seminar/ laboratory/ project

Note:

- ²⁾ One credit is the equivalent of 30 study hours (teaching activities and individual study).

COURSE OUTLINE

1. Data about the study programme

1.1 Higher education institution	Transilvania University of Braşov
1.2 Faculty	Food and tourism
1.3 Department	Food and tourism engineering and management
1.4 Field of study	Engineering of food products
1.5 Study level	Master
1.6 Study programme	Gastronomic Engineering (in English)

2. Data about the course

2.1 Name of course	Advanced English							
2.2 Course convenor	Lecturer Dr. Mădălina Georgiana Matei							
2.3 Seminar/ laboratory/ project convenor	Lecturer Dr. Mădălina Georgiana Matei							
2.4 Study year	I	2.5 Semester	II	2.6 Evaluation type	V	2.7 Course status	Content	DA
							Attendance type	DA

3. Total estimated time (hours of teaching activities per semester)

3.1 Number of hours per week	4	out of which: 3.2 lecture	2	3.3 seminar	2
3.4 Total number of hours in the curriculum	56	out of which: 3.5 lecture	28	3.6 seminar	28
Time allocation					hours
Study of textbooks, course support, bibliography and notes					38
Additional documentation in libraries, specialized electronic platforms, and field research					23
Preparation of seminars/ laboratories/ projects, homework, papers, portfolios, and essays					25
Tutorial					6
Examinations					2
Other activities.....					
3.7 Total number of hours of student activity		94			
3.8 Total number per semester		150			
3.9 Number of credits ¹⁾		5			

4. Prerequisites (if applicable)

4.1 curriculum-related	•
4.2 competences-related	•

5. Conditions (if applicable)

5.1 for course development	• Laptop, video projector, internet connection
5.2 for seminar/ laboratory/ project development	• Laptop, video projector, internet connection

6. Competences and learning outcomes

Competences and learning outcomes	P.C.3 Develop processes and techniques for food production or food preservation. Involved in the design, development, construction and operation of industrial processes and techniques for food production. Upon completion of the master's program, the graduate will be able to: Knowledge L.O. 3.1 Know the principles and innovative technologies applicable to the production of high-quality food for the gastronomic industry; L.O. 3.4 Know the principles of design and optimization of workflows in gastronomic units; L.O. 3.6 Develop and implement innovative processes and techniques for obtaining gastronomic products, ensuring their efficiency and coherence; L.O. 3.8 Design and manage food production systems based on sustainable sourcing and waste reduction; L.O. 3.12 Organize and coordinate the design, implementation and evaluation activities of preservation and production techniques; L.O. 3.13 Assume responsibility for the creation of gastronomic concepts and innovative serving spaces that combine quality, sustainability and exclusivity.
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7. Course objectives

7.1 General course objective	■ Acquiring the ability to work with simple and complex grammatical and lexical structures ■ The course aims to provide students with basic knowledge that will enable them to understand specialized texts in English, produce their own sentences in English to express their ideas, make themselves understood, collaborate on national and international projects, and work with partners, suppliers, and clients in the course of their professional activities.
7.2 Specific objectives	■ to acquire the ability to use the studied grammatical and specialized lexical structures in concrete social and cultural contexts, in real communicative situations related to the field of food and tourism. ■ to develop teamwork skills through participation in a project in the field of engineering sciences.

8. Content

8.1 Course	Teaching methods	Number of hours	Remarks
1. Relative Clauses	debate, lecture/presentation, problem-solving, exemplification	2h/week	
2. The Infinitive	debate, lecture/presentation, problem-solving, exemplification	2h/week	
3. Modal Verbs	debate, lecture/presentation, problem-solving, exemplification	2h/week	

4. Reported Speech	debate, lecture/presentation, problem-solving, exemplification	2h/week	
5. The Gerund	debate, lecture/presentation, problem-solving, exemplification	2h/week	
6. Prepositions	debate, lecture/presentation, problem-solving, exemplification	2h/week	
7. The Noun	debate, lecture/presentation, problem-solving, exemplification	2h/week	
8. The Present Tenses	debate, lecture/presentation, problem-solving, exemplification	2h/week	
9. The Past Tenses	debate, lecture/presentation, problem-solving, exemplification	2h/week	
10. The Future Tenses	debate, lecture/presentation, problem-solving, exemplification	2h/week	
11. Conditional Clauses	debate, lecture/presentation, problem-solving, exemplification	2h/week	
12. The Passive Voice	debate, lecture/presentation, problem-solving, exemplification	2h/week	
13. The Adjective	debate, lecture/presentation, problem-solving, exemplification	2h/week	
14. Revision	debate, lecture/presentation, problem-solving, exemplification	2h/week	
Bibliography BEAUMONT, D (2004) <i>English Grammar – An Intermediate Reference and Practice Book</i> , Oxford, Macmillan Course materials available on the UnitBv E-learning Platform			
8.2 Seminar/ laboratory/ project	Teaching-learning	Number of	Remarks

	methods	hours	
1. Basic Foods	debate, presentation, problem-solving, exemplification	2h/week	
2. Food Issues	debate, presentation, problem-solving, exemplification	2h/week	
3. Preserving Food	debate, presentation, problem-solving, exemplification	2h/week	
4. Traditions	debate, presentation, problem-solving, exemplification	2h/week	
5. Classification of Food Groups	debate, presentation, problem-solving, exemplification	2h/week	
6. British and American English	debate, presentation, problem-solving, exemplification	2h/week	
7. Getting Around	debate, presentation, problem-solving, exemplification	2h/week	
8. Travel by Road and Rail	debate, presentation, problem-solving, exemplification	2h/week	
9. Hotels and Cruise Ships	debate, presentation, problem-solving, exemplification	2h/week	
10. Measurements and Dimensions	debate, presentation, problem-solving, exemplification	2h/week	
11. Food Colouring	debate, presentation, problem-solving, exemplification	2h/week	
12. Dealing with Clients	debate, presentation, problem-solving, exemplification	2h/week	
13. The Role of Food and Factors That Influence Human Health	debate, presentation, problem-solving, exemplification	2h/week	
14. Food Safety and Quality	debate, presentation, problem-solving, exemplification	2h/week	
Bibliography Oxford English Dictionary – online version - https://www.oed.com/?tl=true Seminar materials available on the UnitBv E-learning Platform			

9. Correlation of course content with the demands of the labour market (epistemic communities, professional associations, potential employers in the field of study)

The content of the discipline follows current academic trends and ensures a high relevance of the skills transmitted to students. The content reflects the methods and theories accepted by the scientific community and is in line with the actual approaches, allowing students to form a solid and up-to-date scientific foundation. Also, the topics and themes addressed in the course and the applied activities provide students with a framework for further research in the field.

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of the final grade
10.4 Course	According to the grading criteria: Accuracy and completeness of knowledge;	Ongoing assessment Students will take 2 multiple-choice tests on the e-learning platform.	35%
	Degree of grammar mastery; Criteria related to attitudinal aspects: conscientiousness.		
10.5 Seminar/ laboratory/ project	According to the grading criteria: Acquisition of discipline-specific competencies; Originality and creativity; Use of specialized language.	Ongoing assessment Students will take 2 multiple-choice tests on the e-learning platform.	35%
		Ongoing assessment 3 points of the final grade are awarded to the student for seminar activity.	30%
10.6 Minimal performance standard - to demonstrate a minimum but adequate mastery of the course and seminar contents - the answers must not contain serious errors			
Evaluation grid by performance levels			
Performance level	General description	Characteristics	
Excellent (10–9)	Fully masters the concepts; analyses are innovative and precise	Perfect terminology, logical structure, autonomy, critical thinking	
Very good (8)	Demonstrates solid understanding and correct application	Minor errors, but conceptual and practical coherence	
Good (7)	Understands basic concepts, but application is partial	Terminology sometimes inaccurate, incomplete explanations	
Satisfactory (6)	Mechanical application of notions, without real reflection	Partially correct answers, logical gaps	
Insufficient (<5)	Does not demonstrate understanding of fundamental concepts	Theoretical confusion, incorrect applications, lack of argumentation	

This course outline was certified in the Department Board meeting on 12 / 09 / 2025 and approved in the Faculty Board meeting on 12 / 09 / 2025.

Prof.PhD. Eng. Vasile PĂDUREANU	Prof.PhD. Eng. Cristina Maria CANJA
Dean	Head of Department
Lecturer Dr. Mădălina Georgiana Matei	Lecturer Dr. Mădălina Georgiana Matei
Course holder	Holder of seminar/ laboratory/ project

Note:

³⁾ One credit is the equivalent of 30 study hours (teaching activities and individual study).

COURSE OUTLINE

1. Data about the study programme

1.1 Higher education institution	TransilvaniaUniversity of Braşov
1.2 Faculty	Food and tourism
1.3 Department	Food and tourism engineering and management
1.4Field of study	Engineering of food products
1.5Study level	Master
1.6 Study programme	Gastronomic Engineering (in English)

2.Data about the course

2.1 Name of the course	Project Management inGastronomy							
2.2 Course convenor	PhD Prof. Florentina MATEI							
2.3 Seminar/ laboratory convenor	PhD Prof. Florentina MATEI							
2.4 Study year	II	2.5 Semester	I	2.6 Evaluation type	E	2.7 Course status	Content	DS
							Attendance type	DI

3.Total estimated time(hours of teaching activities per semester)

3.1 Number of hours per week	4	Out of which: 3.2 course	2	3.3 seminar/laboratory/ project	0/0/2
3.4 Total number of hours in the curriculum	56	Out of which: 3.5 course	28	3.6 seminar/laboratory/ project	0/0/28
Time allocation					hours
Study of textbooks, course support, bibliography and notes					38
Additional documentation in libraries, specialized electronic platforms, and field research					33
Preparation of seminars/ laboratories/ projects, homework, papers, portfolios, and essays					43
Tutorial					6
Examinations					4
Other activities					
3.7 Total number of hours of student activity	124				
3.8 Total number persemester	180				
3.9 Number of credits ¹⁾	6				

4. Prerequisites(if applicable)

4.1 curriculum-related	Not applicable
4.2 competences-related	Not applicable

5. Conditions(if applicable)

5.1 for course development	A classroom with a PC or a notebook + video projector and/or online educational platform
5.2 for seminar/ laboratory/ project development	A classroom with a PC or a notebook + video projector and/or online educational platform

6. Competences and learning outcomes

Competences and learning outcomes	P.C.3 Develop processes and techniques for food production or food preservation. Involved in the design, development, construction and operation of industrial processes and techniques for food production. Upon completion of the master's program, the graduate will be able to: Knowledge L.O. 3.1 Know the principles and innovative technologies applicable to the production of high-quality food for the gastronomic industry; L.O. 3.4 Know the principles of design and optimization of workflows in gastronomic units; L.O. 3.6 Develop and implement innovative processes and techniques for obtaining gastronomic products, ensuring their efficiency and coherence; L.O. 3.8 Design and manage food production systems based on sustainable sourcing and waste reduction; L.O. 3.12 Organize and coordinate the design, implementation and evaluation activities of preservation and production techniques; L.O. 3.13 Assume responsibility for the creation of gastronomic concepts and innovative serving spaces that combine quality, sustainability and exclusivity.
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7. Course objectives

7.1 General course objective	Developing the skills necessary to carry out the various project management stages in gastronomic engineering in optimal conditions: preparation, implementation, evaluation, quality control
7.2 Specific objectives	- Developing the capacity to identify needs and correlate with possible funding resources - Developing the capacity to build and coordinate a project team - Developing the capacity to implement and evaluate a project in the field - Developing the capacity to estimate costs and build budgets

8. Content

8.1 Course	Teaching methods	Number of hours	Remarks
Project Management principles Definition of project versus program and types of projects. Types of project management. Specificities of a project. Factors that influence the success of a project. Basic elements of a project. Specificities of a project manager	Lecture and debate	2	
Problem identification and needs analysis in the field of gastronomic engineering Project life cycle - generalities. Ways of identifying problems/needs and describing them. Tools and techniques of needs analysis. Decision making based on needs analysis	Lecture and debate	4	
Project life cycle and Project Management processes Identifying objectives, planning activities,	Lecture and debate	4	

work plan, planning human, material and time resources			
Cost estimation and budgeting for gastronomic engineering projects Stages of budget planning. Cost categories and their estimation	Lecture and debate	2	
Identifying funding resources for projects in the field of gastronomic engineering Identifying funding strategies. Bootstrapping, own resources, business angels, bank credit, European funds	Lecture and debate	4	
Human resources management Identifying human resource needs. Creating the project team. Recruiting, evaluating and motivating project team members. Communication management	Lecture and debate	4	
Risk management in Project Management Definition and types of risks. Risk identification and assessment. Risk response strategy development.	Lecture and debate	4	
Monitoring, evaluation, project closure Project monitoring and evaluation plan. Specific elements of the evaluation. Evaluation of results. Formal, administrative closure of the project. Document management and retention. Final report preparation.	Lecture and debate	4	
Bibliography 1. Huemann M.& Turner R. 92024). The Handbook of Project Management, Taylor& Francis, ISBN: 978-1-032-22763-4. 2. Matei F., Zirra D. (2019). Editors of "Introduction to Biotech Entrepreneurship: From Idea to Business". Springer, Cham. ISBN: 978-3-030-22141-6 3. Dearden Philip N., Carter Mike (2012). Handbook on "Programme and Project ThinkingTools", CIDT.			
8.2 Project	Teaching methods	Number of hours	Remarks
Developing a project plan in the field of gastronomic engineering Choosing the project topic and motivating this choice	Presentation, demonstration, individual and team work	4	
Needs analysis in the field of gastronomic engineering Identification of needs through specific techniques (SWOT analysis, fish chart)	Presentation, demonstration, individual and team work	4	
Project team building and motivation Project team design, job description development, team member identification	Presentation, demonstration, individual and team work	4	
Elaboration of a development project in the field of gastronomic engineering	Presentation, demonstration, individual	8	

Identification of the main purpose, specific objectives, definition of activities and their planning in time (Gantt chart). Identification of material resources, construction of budgets	and team work		
Use of tools and techniques for risk analysis Identifying risks, assessing the probability and effects of risk, identifying risk reduction actions, developing a risk management plan	Presentation, demonstration, individual and team work	4	
Project evaluation and quality control plan development Identification of monitoring and evaluation objectives, definition of action points, definition of those responsible and frequency of evaluation and monitoring actions. Application of corrective actions	Presentation, demonstration, individual and team work	4	
Bibliography 1. Matei F., Zirra D. (2019). Editors of "Introduction to Biotech Entrepreneurship: From Idea to Business". Springer, Cham. ISBN: 978-3-030-22141-6 2. Dearden Philip N., Carter Mike (2012). Handbook on "Programme and Project ThinkingTools", CIDT.			

9. Correlation of course content with the demands of the labour market (epistemic communities, professional associations, potential employers in the field of study)

The content of the discipline complies with current academic trends and ensures a high relevance of the skills transmitted to students. The content reflects the methods and theories accepted by the scientific community and are in line with current approaches, allowing students to form a solid and updated scientific basis. Also, the topics and themes addressed in the course and applied activities provide students with a framework for further research in the field. The learning outcomes of the vpr allow for the identification and good communication with relevant stakeholders, as well as networking with stakeholders in the field of gastronomic engineering to identify sources of funding

10.Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of the final grade
10.4 Course	The level of acquisition of theoretical knowledge of project management applied in the field of gastronomic engineering	Multiple choice written exam	50%
10.5 Seminar/ laboratory/ project	The level of knowledge acquisition for developing a project specific to gastronomic engineering in the context of teamwork	Worksheets/Presentation of a project developed in the field of gastronomic engineering	50%
10.6 Minimal performance standard			
- Obtaining a minimum grade of 5 on the group project - The exam is passed with a minimum grade of 5			
Evaluation grid by performance levels			

Nivel de performanță	Descriere generală	Caracteristici
Excellent (10–9)	Fully masters the concepts; analyses are innovative and precise	Perfect terminology, logical structure, autonomy, critical thinking
Very good (8)	Demonstrates solid understanding and correct application	Minor errors, but conceptual and practical coherence
Good (7)	Understands basic concepts, but application is partial	Terminology sometimes inaccurate, incomplete explanations
Satisfactory (6)	Mechanical application of notions, without real reflection	Partially correct answers, logical gaps
Insufficient (<5)	Does not demonstrate understanding of fundamental concepts	Theoretical confusion, incorrect applications, lack of argumentation

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Prof.PhD. Eng. Vasile PĂDUREANU Dean	Prof. PhD. Eng. Cristina Maria CANJA Head of Department
Prof.PhD. Florentina MATEI Course holder	Prof. PhD. Florentina MATEI Project holder

Note:

1) One credit is the equivalent of 30 study hours (teaching activities and individual study).

COURSE OUTLINE

1. Data about the study programme

1.1 Higher education institution	TransilvaniaUniversity of Braşov
1.2 Faculty	Food and tourism
1.3 Department	Food and tourism engineering and management
1.4Field of study	Engineering of food products
1.5Study level	Master
1.6 Study programme	Gastronomic Engineering (in English)

2. Data about the course

2.1 Name of course	Digitalisation of gastronomic design							
2.2 Course convenor	Prof. eng. PhD. Gaceu Liviu							
2.3 Seminar/ laboratory/ projectconvenor	Prof. eng. PhD. Gaceu Liviu							
2.4 Study year	II	2.5 Semester	I	2.6 Evaluation type	E	2.7 Course status	Content	DS
							Attendance type	DI

3. Total estimated time(hours of teaching activities per semester)

3.1 Number of hours per week	4	out of which: 3.2 lecture	2	3.3 seminar/ laboratory/ project	2
3.4 Total number of hours in the curriculum	56	out of which: 3.5 lecture	28	3.6 seminar/ laboratory/ project	28
Time allocation					hours
Study of textbooks, course support, bibliography and notes					40
Additional documentation in libraries, specialized electronic platforms, and field research					40
Preparation of seminars/ laboratories/ projects, homework, papers, portfolios, and essays					40
Tutorial					
Examinations					4
Other activities.....					
3.7 Total number of hours of student activity		124			
3.8 Total number per semester		180			
3.9 Number of credits ¹⁾		6			

4. Prerequisites(if applicable)

4.1 curriculum-related	•
4.2 competences-related	•

5. Conditions(if applicable)

5.1 for course development	• videoprojector
5.2 for seminar/ laboratory/ project development	• Technological line for bakery • Computer network with internet access • Computer-aided design software, graphic editing applications, artificial intelligence

6. Specific competences and learning outcomes

Competences and learning outcomes	Cp.1 Performs detailed food processing operations At the end of the course, the graduate will be able to: Knowledge L.O. 1.1 Explain the principles of using software and digital equipment in the design of gastronomic products. L.O. 1.2 Identify the types of equipment and materials used in 3D food printing and digital plating. L.O. 1.3 Understand the technological stages and specific regulations applicable to the digital food creation process. Skills L.O. 1.4 Use computer-aided design (CAD) software to create 3D models of gastronomic products. L.O. 1.5 Perform 3D food printing operations and monitor the process parameters. L.O. 1.6 Apply specific regulations during the stages of digitalized food design and production. Responsibility and Autonomy L.O. 1.7 Take responsibility for the accuracy of the digitalized production process. L.O. 1.8 Demonstrate autonomy in using modern technologies to create innovative gastronomic products. L.O. 1.9 Propose sustainable and innovative solutions to improve the digital food production flow. Cp.2 Checks the quality of raw materials At the end of the course, the graduate will be able to: Knowledge L.O. 2.1 Know the quality requirements for raw materials used in digital gastronomic design and 3D printing. L.O. 2.2 Understand the relevant sensory and physicochemical criteria for products used in digital processes. Skills L.O. 2.3 Evaluate the quality of raw materials used for 3D food printing and digital plating. L.O. 2.4 Use digital tools and sensors to measure quality parameters. L.O. 2.5 Apply food safety standards and regulations. Responsibility and Autonomy L.O. 2.6 Ensure compliance with quality requirements throughout all stages of the digitalized process. L.O. 2.7 Propose measures to improve the quality of the raw materials used. Cp.4 Performs quality control over food processing At the end of the course, the graduate will be able to: Knowledge L.O. 4.1 Know the principles of quality management in digital gastronomy. L.O. 4.2 Understand how digital systems can be integrated into gastronomic process control. Skills L.O. 4.3 Use digital applications to monitor and analyze process parameters. L.O. 4.4 Carry out sensory and functional evaluations of products obtained through 3D printing and digital plating. Responsibility and Autonomy L.O. 4.5 Take responsibility for applying quality control procedures. L.O. 4.6 Optimize processes through feedback and corrective actions.
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7. Course objectives (resulting from the specific competences to be acquired)

7.1 General course objective	Developing competencies in the use of digital technologies for the innovation
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	and optimization of food products through: the application of computer-aided design in creating modern gastronomic concepts; the use of advanced equipment for analyzing and improving food product quality; the integration of 3D printing technologies and graphic modeling software into the creative process in gastronomy; the creation of innovative food products through the analysis of physico-chemical parameters and process optimization.
7.2 Specific objectives	• Familiarization with equipment and software used in the digitalization of gastronomic design. • Analysis of data obtained using measurement devices for food product quality control. • Application of 3D modeling and food printing technologies for dish customization. • Use of graphic and design software for conceptualizing and presenting gastronomic products. • Optimization of recipes and culinary processes through digital ingredient analysis. • Development of interdisciplinary projects that combine food engineering with computer-aided design.

8. Content

8.1 Course	Teaching methods	Number of hours	Remarks
Introduction to the digitalization of gastronomy	Thematic presentation interactive course	2	Use of multimedia tools, educational films
Software and applications for gastronomic design. General aspects, classification, examples.	Thematic presentation interactive course	2	Use of multimedia tools, educational films
Software for graphic design and virtual plating	Thematic presentation interactive course	2	Use of multimedia tools, educational films
Software for recipe simulation and optimization	Thematic presentation interactive course	2	Use of multimedia tools, educational films
Software for digital plating	Thematic presentation interactive course	2	Use of multimedia tools, educational films
Principles of 3D food printing. Equipment and software for 3D food printing. Types of raw materials used for 3D food printing	Thematic presentation interactive course	4	Use of multimedia tools, educational films
Computer-aided design in modern gastronomy – CAD applications for food structures.	Thematic presentation interactive course	4	Use of multimedia tools, educational films
Augmented reality technologies in gastronomy	Thematic presentation interactive course	2	Use of multimedia tools, educational films
Automation and artificial intelligence in food design – Trends and innovations	Thematic presentation interactive course	4	Use of multimedia tools, educational

			films
Integration of sensors and digital analyses in the food production process.	Thematic presentation interactive course	4	Use of multimedia tools, educational films
Bibliography 1. Sun, J., Peng, Z., Yan, L., Fuh, J. Y., & Hong, G. S. (2015). 3D foodprinting—An innovativeway of mass customization in foodfabrication. <i>International Journal of Bioprinting</i>, 1(1), 27-38. 2. Liu, Z., Zhang, M., Bhandari, B., & Yang, C. (2018). Impact of rheologicalproperties of mashedpotatoes on 3D printing. <i>Journal of Food Engineering</i>, 220, 76-82. 3. Gaceu, L., Digitalizarea design-ului gastronomic. Note de curs, 2025 4. Gaceu L., Inginerie asistată de calculator, Editura Informarket (Editură recunoscută CNC SIS), Braşov, ISBN (10)973-8204-80-1, ISBN (13) 978-973-8204-80-5, 240 pag., 2006. 5. Gaceu L., Oprea O.B., Utilaje si tehnologii in industria panificatiei, Îndrumar de laborator, Editura Clarion, ISBN 978-606-94470-1-7, 117 pag, 2018. 6. Gaceu, L., Ola D., Sperchez C., Information andcommunicationtechnologiesworking for agrifoodarea, Proceeding on BIOATLAS 2012 Conference, Journal Of EcoAgriTourism, Vol 8, no. 1, 2012, pg. 314-317, ISSN 1844-8577; 7. Gaceu L., Preliminary studies regarding the infrared images uses in the drying process of agricultural products – Agricultural Informatics 2011 conference, Debrecen, 11-12 nov, pag. 53-58, ISBN: 978-615-5094-7; 8. Gaceu, L., Tecuceanu, E., Byelyayeva, I.M., Oprea, O.B., Aspects related to the colour analyses of vegetable products during convective drying process - Proceeding of BIOATLAS 2012 Conference, Journal of EcoAgriTourism, vol 8, no 2, pg. 308 – 312, ISBN: 1844-8577; 9. Severini, C., & Derossi, A. (2016). Could the 3D printing technology be a useful strategy to obtain customized nutrition? <i>Journal of Clinical Gastroenterology</i>, 50(2), 175-178. 10. Mantihal, S., Prakash, S., Godoi, F. C., & Bhandari, B. (2017). Optimization of chocolate 3D printing by correlating thermal and flow properties with 3D structure modeling. <i>Innovative Food Science & Emerging Technologies</i>, 44, 21-29. 11. Pallottino, F., Hakola, L., Costa, C., Antonucci, F., Figorilli, S., Seisto, A., & Menesatti, P. (2016). Printing on food or foodprinting: a review. <i>Food and Bioprocess Technology</i>, 9(5), 725-733. 12. Zhu, S., Stieger, M. A., van der Goot, A. J., & Schutyser, M. A. I. (2019). Extrusion-based 3D printing of food pastes: Correlating rheological properties with printing behaviour. <i>Innovative Food Science & Emerging Technologies</i>, 58, 102214			
8.2 Seminar/ laboratory/ project	Teaching-learning methods	Number of hours	Remarks
Software for 3D modeling and food printing: Blender; Tinkercad, Cura	Applications in the computer laboratory	4	
Simulation of 3D food printing – 3D modeling of a food product and file preparation for printing.	Applications in the computer laboratory	2	
3D printing of food products using: extrudable food pastes; powders and rehydratable mixes. Sensory analysis and water activity measurements.	Experimental research in the laboratory	2	Application 3D printer ProCUSINI
3D printing of food products using: biopolymers and hydrocolloids; liquefiable and sinterable solid materials. Sensory analysis and water activity measurements.	Experimental research in the laboratory	2	Application 3D printer ProCUSINI
Software for graphic design and virtual plating, applications for the visual presentation of dishes,	Applications in the computer laboratory	4	

menu design, and gastronomic branding. (Affinity Designer; SketchUp; Food Styling AI)			
Plating using digitally created models.	Experimental research in the laboratory	2	
Software for recipe simulation and optimization, applications used for calculating nutritional values, ingredient analysis, and recipe adjustments (ChefTec – recipe and cost management; NutriCalc – nutritional analysis of food products; Genesis R&D – formulation and labeling of products; Recipe Costing Software – cost calculation and recipe optimization).	Experimental research in the laboratory	4	
Designing and producing a functional bakery product based on flour mixes. Sensory analysis and water activity measurements.	Experimental research in the laboratory	2	Application of Mixolab equipment
Software for augmented reality and digital plating, applications for visualizing dishes digitally before serving (HoloLens (Microsoft) + Unity – creating augmented reality plating; Kabaq – 3D modeling of dishes for restaurants and virtual menus; Foodvisor – AI application for food recognition and analysis).	Applications in the computer laboratory	4	
Verification of knowledge acquisition regarding laboratory activities.		2	
Bibliography 1. Sun, J., Peng, Z., Yan, L., Fuh, J. Y., & Hong, G. S. (2015). 3D foodprinting—An innovative way of mass customization in food fabrication. <i>International Journal of Bioprinting</i>, 1(1), 27-38. 2. Liu, Z., Zhang, M., Bhandari, B., & Yang, C. (2018). Impact of rheological properties of mashed potatoes on 3D printing. <i>Journal of Food Engineering</i>, 220, 76-82. 3. Gaceu, L., Digitalizarea design-ului gastronomic. Note de curs, 2025 4. Gaceu L., Inginerie asistată de calculator, Editura Informarket (Editură recunoscută CNCIS), Braşov, ISBN (10)973-8204-80-1, ISBN (13) 978-973-8204-80-5, 240 pag., 2006. 5. Gaceu L., Oprea O.B., Utilaje si tehnologii in industria panificatiei, Îndrumar de laborator, Editura Clarion, ISBN 978-606-94470-1-7, 117 pag, 2018. 6. Gaceu, L., Ola D., Sperchez C., Information and communication technologies working for agrifood area, Proceeding on BIOATLAS 2012 Conference, <i>Journal Of EcoAgriTourism</i>, Vol 8, no. 1, 2012, pg. 314-317, ISSN 1844-8577; 7. Gaceu L., Preliminary studies regarding the infrared images uses in the drying process of agricultural products – Agricultural Informatics 2011 conference, Debrecen, 11-12 nov, pag. 53-58, ISBN: 978-615-5094-7; 8. Gaceu, L., Tecuceanu, E., Byelyayeva, I.M., Oprea, O.B., Aspects related to the colour analyses of vegetable products during convective drying process - Proceeding of BIOATLAS 2012 Conference, <i>Journal of EcoAgriTourism</i>, vol 8, no 2, pg. 308 – 312, ISBN: 1844-8577; 9. Oprea, Oana Bianca, Sannan, Sigurd, Tolstorebrov, Ignat, Claussen, Ingrid Camilla, Gaceu, Liviu. Effects of Fish Protein Hydrolysate on the Nutritional, Rheological, Sensorial, and Textural Characteristics of Bread. <i>Foods</i>, 2024. 10. Oprea, Oana Bianca, Popa, Mona Elena, Apostol, Livia, Gaceu, Liviu. Research on the Potential Use of Grape Seed Flour in the Bakery Industry. <i>Foods</i>, 2022.			

11. Oprea, Oana Bianca, Tolstorebrov, Ignat, Claussen, Ingrid Camilla, Sannan, Sigurd, Apostol, Livia, Moşoiu, Claudia, Gaceu, Liviu. Potential for Saccharina latissima Flour as a Functional Ingredient in the Baking Sector. Foods, 2023. <https://www.mdpi.com/2304-8158/12/24/44989>. Moraru, C., Tehnologia și utilajul industriei morăritului. și a crupelor. Universitatea. Galati, 1988
12. Severini, C., & Derossi, A. (2016). Could the 3D printing technology be a useful strategy to obtain customized nutrition? Journal of Clinical Gastroenterology, 50(2), 175–178.
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14. Pallottino, F., Hakola, L., Costa, C., Antonucci, F., Figorilli, S., Seisto, A., & Menesatti, P. (2016). Printing on food or food printing: a review. Food and Bioprocess Technology, 9(5), 725–733.
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9. Correlation of course content with the demands of the labour market (epistemic communities, professional associations, potential employers in the field of study)

The content of the discipline follows current academic trends and ensures a high relevance of the skills transmitted to students. The content reflects the methods and theories accepted by the scientific community and is in line with the actual approaches, allowing students to form a solid and up-to-date scientific foundation. Also, the topics and themes addressed in the course and the applied activities provide students with a framework for further research in the field.

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of the final grade
10.4 Course	Using the acquired knowledge to explain and clarify the taught concepts.	Oral examination	70%
10.5 Seminar/ laboratory/ project	Using the skills developed during the semester to solve problems.	Specific problems in the laboratory.	30%
10.6 Minimal performance standard			
- Lecture: covering each topic to at least a grade 5 level. - Laboratory: correctly solving at least 2/3 of the required problems.			
Evaluation grid by performance levels			
Performance level	General description	Characteristics	
Excellent (10–9)	Fully masters the concepts; analyses are innovative and precise	Perfect terminology, logical structure, autonomy, critical thinking	
Very good (8)	Demonstrates solid understanding and correct application	Minor errors, but conceptual and practical coherence	
Good (7)	Understands basic concepts, but application is partial	Terminology sometimes inaccurate, incomplete explanations	
Satisfactory (6)	Mechanical application of notions, without real reflection	Partially correct answers, logical gaps	
Insufficient (<5)	Does not demonstrate understanding of fundamental concepts	Theoretical confusion, incorrect applications, lack of argumentation	

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Prof.ing. PhD. Vasile PĂDUREANU Dean	Prof. eng.PhD.. Cristina Maria CANJA Head of Department
Prof. eng. PhD. Liviu GACEU Courseholder	Prof. eng. PhD. Liviu GACEU Holder of seminar/ laboratory/ project

Note:

⁴⁾ One credit is the equivalent of 30 study hours (teaching activities and individual study).

COURSE OUTLINE

1. Data about the study programme

1.1 Higher education institution	Transilvania University of Braşov
1.2 Faculty	Food and tourism
1.3 Department	Food and tourism engineering and management
1.4 Field of study	Engineering of food products
1.5 Study level	Master
1.6 Study programme/ Qualification	Gastronomic Engineering (in English)

2. Data about the course

2.1 Name of course	NOVEL GASTRONOMIC TECHNIQUES AND EQUIPMENT							
2.2 Course convenor	Phd Professor Cristina Maria CANJA							
2.3 Seminar/ laboratory/ project convenor	Phd Professor Cristina Maria CANJA							
2.4 Study year	II	2.5 Semester	I	2.6 Evaluation type	E	2.7 Course status	Content	DS
							Attendance type	DI

3. Total estimated time (hours of teaching activities per semester)

3.1 Number of hours per week	4	out of which: 3.2 lecture	2	3.3 seminar/ laboratory/ project	2
3.4 Total number of hours in the curriculum	56	out of which: 3.5 lecture	28	3.6 seminar/ laboratory/ project	28
Time allocation					hours
Study of textbooks, course support, bibliography and notes					64
Additional documentation in libraries, specialized electronic platforms, and field research					36
Preparation of seminars/ laboratories/ projects, homework, papers, portfolios, and essays					20
Tutorial					
Examinations					2
Other activities.....					2
3.7 Total number of hours of student activity		124			
3.8 Total number per semester		180			
3.9 Number of credits ¹⁾		6			

4. Prerequisites (if applicable)

4.1 curriculum-related	Basic knowledge in food technology and equipment specific to the food industry
4.2 competences-related	

5. Conditions (if applicable)

5.1 for course development	
5.2 for seminar/ laboratory/ project development	

6. Specific competences and learning outcomes

Professional competences	P.C.3 Develop processes and techniques for food production or food preservation. Involved in the design, development, construction and operation of industrial processes and techniques for food production. Upon completion of the master's program, the graduate will be able to: Knowledge food for the gastronomic industry; and advanced packaging technologies; L.O. 3.1 Know the principles and innovative technologies applicable to the production of high-quality L.O. 3.2 Identify ecological methods and technologies for food preservation, including cold chain logistics L.O. 3.3 Explain ways to integrate sustainable and local sourcing into food production systems, with the aim of reducing waste; L.O. 3.4 Know the principles of design and optimization of workflows in gastronomic units; L.O. 3.5 Know modern solutions for flexible space layout for gastronomic production Skills L.O. 3.6 Develop and implement innovative processes and techniques for obtaining gastronomic products, ensuring their efficiency and coherence; L.O. 3.7 Design and use ecological and energy-efficient preservation methods, adapted to the specifics of the gastronomic industry; L.O. 3.8 Design and manage food production systems based on sustainable sourcing and waste reduction; L.O. 3.9 Optimize workflows in the gastronomic industry, to reduce losses; L.O. 3.10 Create and adapt the design of flexible arrangements for processes in the gastronomic industry Responsibilities and autonomy L.O. 3.11 Ensure the optimal and sustainable functioning of food production processes in gastronomic units; L.O. 3.12 Organize and coordinate the design, implementation and evaluation activities of preservation and production techniques; L.O. 3.13 Assume responsibility for the creation of gastronomic concepts and innovative serving spaces that combine quality, sustainability and exclusivity. P.C. 4 Performs sensory evaluation of food products Upon completion of the master's program, the graduate will be able to: Competencies L.O. 4.1 Identify the specific elements for evaluating the sensory quality of a certain type of food or beverage. L.O. 4.2 Understand the methods and techniques of sensory analysis of gastronomic products. L.O. 4.3 Know the stages of sensory analysis using descriptive statistical analysis Skills L.O. 4.4 Evaluate the quality of a certain type of food or beverage, depending on its sensory characteristics. L.O. 4.5 Develop their own discrimination tests and apply real procedures for testing gastronomic products. L.O. 4.6 Plan the organization of a sensory analysis session, including the choice of the tasting panel. L.O. 4.7 Analyze the results of the sensory analysis in order to improve the quality of future gastronomic products. Responsibilities and autonomy L.O. 4.8 Organize and coordinate a sensory analysis session of gastronomic products. L.O. 4.9 Make decisions regarding the organization of a sensory analysis panel and the tests used. L.O. 4.10 Make decisions regarding changes to the gastronomic process based on the results of a sensory analysis.
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7. Course objectives

7.1 General course objective	• Development of advanced skills in the field of modern gastronomy: Students will learn to apply innovative techniques and technologies to create high-quality gastronomic dishes, promoting creativity and sustainability in the kitchen. • Familiarization with state-of-the-art equipment: Participants will gain in-
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	depth knowledge about the use of modern cooking equipment and optimizing culinary processes for efficiency and performance. Promoting the integration of science in gastronomy: The discipline will emphasize the application of scientific principles to understand and innovate in culinary processes, contributing to the development of a gastronomic field based on solid knowledge.
7.2 Specific objectives	- Understanding the fundamental principles of modern gastronomic techniques: Students will study technologies such as sous-vide, low-temperature cooking, the use of liquid nitrogen, food dehydration, and other innovative methods. - The ability to select the right equipment according to the preparation: Participants will learn to correctly identify and use equipment such as rotavap, thermocirculators, dehydration systems, vacuum equipment and other specialized devices. - Exploring molecular gastronomy: Processes such as spherification, emulsification, gelling and foaming will be studied, along with their creative application in innovative menus. - Development of sustainable gastronomic preparations: Students will learn how to integrate modern techniques to minimize food waste and make full use of ingredients. - Enforcement of food safety rules: The discipline will include modules on hygiene and safety in the use of modern cooking equipment, as well as on preserving the quality of processed foods. Analysis of the impact of modern technologies on nutritional value: Students will learn how different techniques and equipment influence the nutritional and organoleptic properties of preparations.

8. Content

8.1 Course	Teaching methods	Number of hours	Remarks
Introduction to modern gastronomy and innovative equipment The evolution of culinary techniques and the impact of technological innovations. Classification of equipment used in modern gastronomy. The role of creativity and science in the development of innovative dishes.	Interactive Lectures/ Problem-Based Learning	2	
Advanced gastronomic techniques Sous-vide and low-temperature cooking: Principles, equipment, advantages and applications. Vacuum cooking techniques: Vacuum sealing, infusion, accelerated marinating. Pressure cooking: Technologies and methods (e.g. the use of the autoclave in the kitchen). Dehydration and freeze-drying of food: Preservation and creative uses.	Interactive Lectures/ Problem-Based Learning	4	
Molecular Gastronomy: Techniques and Applications Spherification: Chemical principles and practical applications. Gelling: The use of gelling agents (e.g. agar-agar, gelatin). Emulsification:	Interactive Lectures/ Problem-Based Learning	4	

Stabilizers and culinary foams. Soda foaming: Preparation of cold and hot foams. Use of liquid nitrogen: Cryogenics for innovative textures.			
Modern kitchen equipment. Thermocirculators and sous-vide systems: Use and maintenance. Rotavapors and evaporators: Flavor concentration. Dehydration equipment: Techniques for preserving and creating unique products. Vacuum systems: Functionalities in food preparation and preservation. Food 3D printers: Applicability in personalized gastronomy.	Interactive Lectures/ Problem-Based Learning	6	
Impact of techniques on food properties Modification of organoleptic properties (texture, color, taste). The effect of modern techniques on nutritional value. Adaptation of techniques for special dietary requirements (e.g. gluten-free, vegan preparations).	Interactive Lectures/ Problem-Based Learning	4	
Sustainable gastronomy Techniques for reducing food waste. Full use of ingredients. Preparation of sustainable products using modern equipment.	Interactive Lectures/ Problem-Based Learning	4	
Food safety and ethics in the use of equipment Hygiene and maintenance of advanced equipment. Compliance with food safety standards. Ethics in the development of innovative menus.	Interactive Lectures/ Problem-Based Learning	4	
Bibliography Dr. José Miguel Aguilera, Dr. Peter J. Lillford Handbook of Molecular Gastronomy: Principles and Practices", 2019 Dr. John E. Hall "Cryogenic Applications in Culinary Arts", 2015 Chef Douglas Baldwin, Sous Vide for the Professional Kitchen", 2010 Nathan Myhrvold, Chris Young, Maxime Bilet, "Modernist Cuisine: The Art and Science of Cooking" Editura: The Cooking Lab, 2011 Hervé This, "Molecular Gastronomy: Exploring the Science of Flavor", Editura: Columbia University Press, 2006 Lisa Q. Fetterman, Sous Vide at Home: The Modern Technique for Perfectly Cooked Meals", Editura: Ten Speed Press, 2016 James Briscione, The Flavor Matrix: The Art and Science of Pairing Common Ingredients to Create Extraordinary Dishes", Editura: Houghton Mifflin Harcourt, 2018. Dr. Stuart Farrimond, The Science of Cooking: Every Question Answered to Perfect Your Cooking", Editura: DK Publishing, 2018. Dan C. Vodnar, Știință cu sare și piper. Chimia pe care nu o înveți la școală", 2024			
8.2 Seminar/ laboratory/ project	Teaching-learning methods	Number of hours	Remarks
Application of sous-vide techniques in the laboratory. Analysis of the quality of the preparations compared to traditional techniques	Practical Demonstrations/ Hands-On Workshops	4	
Comparison of texture, taste and moisture loss between the traditional and sous-vide method.	Practical Demonstrations/ Hands-On Workshops	2	

Creating an innovative recipe that includes sous-vide cooked ingredients.	Practical Demonstrations/ Hands-On Workshops	2	
Making spheres from fruit juice or cocktails using sodium alginate and calcium chloride.	Practical Demonstrations/ Hands-On Workshops	2	
Preparation of jellied desserts with different textures and colors using agar-agar or pectin	Practical Demonstrations/ Hands-On Workshops	2	
Preparation of cold (e.g. white chocolate foam) and hot (e.g. coffee foam) foams with the soda.	Practical Demonstrations/ Hands-On Workshops	2	
Creating a stable emulsion for innovative sauces	Practical Demonstrations/ Hands-On Workshops	2	
Preparing a complete menu using all parts of an ingredient (e.g., vegetable peels turned into chips, fruit pulp for dessert).	Practical Demonstrations/ Hands-On Workshops	4	
Extraction and concentration of a natural flavour (e.g. lemon or mint essence) using a rotavap.	Practical Demonstrations/ Hands-On Workshops	2	
Development of a complete preparation using at least two innovative techniques and equipment. Document and present the process, including justification of choices and food quality impact assessment.	Project-Based Learning	4	
Laboratory colloquium	Practice and oral evaluation	2	
Bibliography Nathan Myhrvold, Chris Young, Maxime Bilet, "Modernist Cuisine: The Art and Science of Cooking" Editura: The Cooking Lab, 2011 Hervé This, "Molecular Gastronomy: Exploring the Science of Flavor", Editura: Columbia University Press, 2006 Lisa Q. Fetterman, Sous Vide at Home: The Modern Technique for Perfectly Cooked Meals", Editura: Ten Speed Press, 2016 James Briscione, The Flavor Matrix: The Art and Science of Pairing Common Ingredients to Create Extraordinary Dishes", Editura: Houghton Mifflin Harcourt, 2018. Dr. Stuart Farrimond, The Science of Cooking: Every Question Answered to Perfect Your Cooking", Editura: DK Publishing, 2018. Dan C. Vodnar, Știință cu sare și piper. Chimia pe care nu o înveți la școală", 2024			

9. Correlation of course content with the demands of the labour market (epistemic communities, professional associations, potential employers in the field of study)

The course "Novel Gastronomic Techniques and Equipment" aligns with the labor market's demands by integrating cutting-edge culinary techniques, collaboration with professional associations and epistemic communities, emphasis on sustainability, and engagement with potential employers, ensuring students are equipped with future-proof skills and global industry-relevant expertise.

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of the final grade																					
10.4 Course	Understanding the principles of modern brewing techniques (e.g. sous-vide, spherification). Explanation of the operation of innovative equipment (e.g. Sous-Vacuum Thermocirculator, dehydrator).	continuous assessment	30%																					
	The ability to correlate techniques with practical applicability and market requirements.	summative assessment (oral)	20%																					
10.5 Seminar/ laboratory/ project	Correct and efficient use of modern gastronomic equipment. Preparation of a preparation according to specific technical requirements (e.g. texture, taste, appearance).	Practical test	30%																					
	Integrating sustainability elements and reducing food waste in the preparation of the dish.	Practical test/oral presentation	20%																					
10.6 Minimal performance standard																								
Demonstrate a fundamental understanding of the theoretical principles of innovative gastronomic techniques, the correct use of modern equipment in a practical context and create a preparation that demonstrates the coherent application of an innovative technique, while respecting food safety and professional presentation.																								
<table><tr><th colspan="3">Evaluation grid by performance levels</th></tr><tr><th>Performance level</th><th>General description</th><th>Characteristics</th></tr><tr><td>Excellent (10–9)</td><td>Fully masters the concepts; analyses are innovative and precise</td><td>Perfect terminology, logical structure, autonomy, critical thinking</td></tr><tr><td>Very good (8)</td><td>Demonstrates solid understanding and correct application</td><td>Minor errors, but conceptual and practical coherence</td></tr><tr><td>Good (7)</td><td>Understands basic concepts, but application is partial</td><td>Terminology sometimes inaccurate, incomplete explanations</td></tr><tr><td>Satisfactory (6)</td><td>Mechanical application of notions, without real reflection</td><td>Partially correct answers, logical gaps</td></tr><tr><td>Insufficient (<5)</td><td>Does not demonstrate understanding of fundamental concepts</td><td>Theoretical confusion, incorrect applications, lack of argumentation</td></tr></table>				Evaluation grid by performance levels			Performance level	General description	Characteristics	Excellent (10–9)	Fully masters the concepts; analyses are innovative and precise	Perfect terminology, logical structure, autonomy, critical thinking	Very good (8)	Demonstrates solid understanding and correct application	Minor errors, but conceptual and practical coherence	Good (7)	Understands basic concepts, but application is partial	Terminology sometimes inaccurate, incomplete explanations	Satisfactory (6)	Mechanical application of notions, without real reflection	Partially correct answers, logical gaps	Insufficient (<5)	Does not demonstrate understanding of fundamental concepts	Theoretical confusion, incorrect applications, lack of argumentation
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This course outline was certified in the Department Board meeting on 12/09/2025 and approved in the Faculty Board meeting on 12/09/2025.

PhD Professor, Vasile PĂDUREANU, Dean	PhD Professor, Cristina Maria CANJA, Head of Department
PhD Professor, Cristina Maria CANJA, Course holder	PhD Professor, Cristina Maria CANJA, Holder of laboratory

Note:

5) One credit is the equivalent of 30 study hours (teaching activities and individual study).

COURSE OUTLINE

1. Data about the study programme

1.1 Higher education institution	TransilvaniaUniversity of Braşov
1.2 Faculty	Food and tourism
1.3 Department	Food and tourism engineering and management
1.4Field of study	Engineering of food products
1.5Study level	Master
1.6 Study programme	Gastronomic Engineering (in English)

2. Data about the course

2.1 Name of course	Professional practice III							
2.2 Course convenor	Prof. PhD. Florentina MATEI							
2.3 Seminar/ laboratory/ project convenor	Prof. PhD. Florentina MATEI							
2.4 Study year	II	2.5 Semester	I	2.6 Evaluation type	V	2.7 Course status	Content	PS
							Attendance type	DI

3. Total estimated time (hours of teaching activities per semester)

3.1 Number of hours per week	10	out of which: 3.2 lecture	-	3.3 laboratory	10
3.4 Total number of hours in the curriculum	140	out of which: 3.5 lecture	-	3.6 laboratory	140
Time allocation					hours
Study of textbooks, course support, bibliography and notes					10
Additional documentation in libraries, specialized electronic platforms, and field research					8
Preparation of seminars/ laboratories/ projects, homework, papers, portfolios, and essays					20
Tutorial					
Examinations					2
Other activities.....					-
3.7 Total number of hours of student activity		40			
3.8 Total number per semester		180			
3.9 Number of credits ¹⁾		6			

4. Prerequisites (if applicable)

4.1 curriculum-related	• Not applicable
4.2 competences-related	• Not applicable

5. Conditions (if applicable)

5.2 for laboratory	• Not applicable
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6. Specific competences and learning outcomes

Competences and learning outcomes	P.C.1 Performs detailed food processing operations Upon completion of the master's program, the graduate will be able to: Competencies L.O. 1.1 Know precise food processing operations, paying special attention to all stages of creating a quality product. L.O. 1.2 Understand the process of monitoring parameters related to food processing operations L.O. 1.3 Know specific regulations related to the manufacture of food and beverages Skills L.O. 1.4 Perform precise food processing operations, paying special attention to all stages of creating a quality product. L.O. 1.5 Filter liquid foods to eliminate any solid residue. L.O. 1.6 Insert filtered liquid foods into different containers. L.O. 1.7 Monitor parameters during the food and beverage manufacturing process L.O. 1.8 Apply specific regulations regarding the manufacture of food and beverages Responsibilities and autonomy L.O. 1.9 Assume responsibility and accountability for his/her own professional decisions and actions or those delegated to others in the food preparation process. L.O. 1.10 Demonstrate willingness to immediately assume tasks resulting from professional activities. L.O. 1.11 Plan and implement sustainable strategies to improve production performance, integrating innovative solutions; P.C.3 Develop processes and techniques for food production or food preservation. Involved in the design, development, construction and operation of industrial processes and techniques for food production. Upon completion of the master's program, the graduate will be able to: Knowledge L.O. 3.1 Know the principles and innovative technologies applicable to the production of high-quality food for the gastronomic industry; L.O. 3.2 Identify ecological methods and technologies for food preservation, including cold chain logistics and advanced packaging technologies; L.O. 3.3 Explain ways to integrate sustainable and local sourcing into food production systems, with the aim of reducing waste; L.O. 3.4 Know the principles of design and optimization of workflows in gastronomic units; L.O. 3.5 Know modern solutions for flexible space layout for gastronomic production Skills L.O. 3.6 Develop and implement innovative processes and techniques for obtaining gastronomic products, ensuring their efficiency and coherence; L.O. 3.7 Design and use ecological and energy-efficient preservation methods, adapted to the specifics of the gastronomic industry; L.O. 3.8 Design and manage food production systems based on sustainable sourcing and waste reduction; L.O. 3.9 Optimize workflows in the gastronomic industry, to reduce losses; L.O. 3.10 Create and adapt the design of flexible arrangements for processes in the gastronomic industry Responsibilities and autonomy L.O. 3.11 Ensure the optimal and sustainable functioning of food production processes in gastronomic units; L.O. 3.12 Organize and coordinate the design, implementation and evaluation activities of preservation and production techniques; L.O. 3.13 Assume responsibility for the creation of gastronomic concepts and innovative serving spaces that combine quality, sustainability and exclusivity. P.C.5 Performs quality control on food processing Upon completion of the master's program, the graduate will be able to: Competencies L.O. 5.1 Understand the specific concepts of quality management and food safety in gastronomy L.O. 5.2 Know the methods and procedures of systematic testing and analysis for the evaluation of gastronomic products L.O. 5.3 Understand the quality criteria specific to food processing and the feedback mechanisms associated with them; L.O. 5.4 Know the assortments of culinary preparations and understand the transformations undergone by foods during primary and thermal processing. Skills L.O. 5.5 Perform standard tests and analyzes to evaluate the quality of gastronomic products L.O. 5.6 Inspect and monitor production processes and gastronomic flows to identify non-conformities and opportunities for improvement; L.O. 5.7 Verify the conformity of gastronomy processes and products Responsibilities and autonomy L.O. 5.8 Ensure the necessary framework for conducting quality inspections and tests in gastronomic units L.O. 5.9 Organize and coordinate the monitoring and control activities of gastronomic processes and products L.O. 5.10 Plan and supervise the implementation of culinary, safety and sustainability standards in gastronomic units L.O. 5.11 Assume responsibility for the final validation of the quality of gastronomic products.
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7. Course objectives (resulting from the specific competences to be acquired)

7.1 General course objective	Fully understanding the concepts of food processing operations, understanding the principles and technologies applicable to high-quality food, but also the concepts of quality management, food safety and food processing criteria with their applicability in gastronomy
7.2 Specific objectives	- The acquirement of the specific concepts related to all the stages of a quality product creation - The integration of the principle of innovation in high-quality food technology; The correct identification of the ecological methods and technologies for food preservation - The application of quality management and food safety concepts in gastronomy, with specific criteria included

8. Content

8.1 Laboratory	Teaching methods	Number of hours	Remarks
	Training practice	140	
Bibliography Rothbaum N., Wondrich D. (2021).The Oxford Companion to SpiritsandCocktails. Oxford University Press. ISBN 9780199311132 Galanakis, C.M. (eds.) (2020) GastronomyandFoodScience. Academic Press, ISBN 978-0-12-820057-5 Shimmura, T., Nonaka, T., Kunieda, S. (eds.) (2020) Service Engineering for Gastronomic Sciences. An InterdisciplinaryApproach for FoodStudy, Springer Singapore, ISBN 978-981-15-5320-2			

9. Correlation of course content with the demands of the labour market (epistemic communities, professional associations, potential employers in the field of study)

The course content responds to current trends in the gastronomy industry and provides students with a directly applicable framework, in line with academic standards and employer requirements. With an emphasis on training and developing the master's students' knowledge capacity, but also of critical and innovative thinking, this professional practice in the field of gastronomy represents a border area between food, hospitality and tourism. The practical activities allow students to develop real working skills, ensuring their contribution in food production innovation in gastronomy, in line with current trends in food and hospitality.

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of the final grade																		
10.4 Laboratory	The level of knowledge acquisition for writing a practice workbook/reports	Presentation of the professional practice workbook/reports	100%																		
10.6 Minimal performance standard																					
• Writing a professional practice workbook/reports is mandatory • Obtaining a minimum grade of 5 on the workbook/reports.																					
<table><tr><th colspan="3">Evaluation grid by performance levels</th></tr><tr><th>Performance level</th><th>General description</th><th>Characteristics</th></tr><tr><td>Excellent (10–9)</td><td>Fully masters the concepts; analyses are innovative and precise</td><td>Perfect terminology, logical structure, autonomy, critical thinking</td></tr><tr><td>Very good (8)</td><td>Demonstrates solid understanding and correct application</td><td>Minor errors, but conceptual and practical coherence</td></tr><tr><td>Good (7)</td><td>Understands basic concepts, but application is partial</td><td>Terminology sometimes inaccurate, incomplete explanations</td></tr><tr><td>Satisfactory (6)</td><td>Mechanical application of notions, without real</td><td>Partially correct answers, logical gaps</td></tr></table>				Evaluation grid by performance levels			Performance level	General description	Characteristics	Excellent (10–9)	Fully masters the concepts; analyses are innovative and precise	Perfect terminology, logical structure, autonomy, critical thinking	Very good (8)	Demonstrates solid understanding and correct application	Minor errors, but conceptual and practical coherence	Good (7)	Understands basic concepts, but application is partial	Terminology sometimes inaccurate, incomplete explanations	Satisfactory (6)	Mechanical application of notions, without real	Partially correct answers, logical gaps
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		reflection	
	Insufficient (<5)	Doesnot demonstrate understanding of fundamental concepts	Theoreticalconfusion, incorrectapplications, lack of argumentation

This course outline was certified in the Department Board meeting on 12/09/2025 and approved in the Faculty Board meeting on 12/09/2025.

Prof. PhD. Eng. Vasile PĂDUREANU Dean	Prof. PhD. Eng. Cristina-Maria CANJA Head of Department
	Prof. PhD. Florentina MATEI Holder of laboratory

Note:

⁶⁾ One credit is the equivalent of 30 study hours (teaching activities and individual study).

COURSE OUTLINE

1. Data about the study programme

1.1 Higher education institution	Transilvania University of Braşov
1.2 Faculty	Faculty of Food and Tourism
1.3 Department	Food and Tourism Engineering and Management
1.4 Field of study	Engineering and management
1.5 Study level	Master
1.6 Study programme/ Qualification	Gastronomic Engineering (in English)

2. Data about the course

2.1 Name of course	Professional practice IV							
2.2 Course convenor	Prof. PhD. Florentina MATEI							
2.3 Seminar/ laboratory/ project convenor	Prof. PhD. Florentina MATEI							
2.4 Study year	II	2.5 Semester	II	2.6 Evaluation type	V	2.7 Course status	Content	PS
							Attendance type	DI

3. Total estimated time (hours of teaching activities per semester)

3.1 Number of hours per week	10	out of which: 3.2 lecture	-	3.3 laboratory	10
3.4 Total number of hours in the curriculum	140	out of which: 3.5 lecture	-	3.6 laboratory	140
Time allocation					hours
Study of textbooks, course support, bibliography and notes					30
Additional documentation in libraries, specialized electronic platforms, and field research					100
Preparation of seminars/ laboratories/ projects, homework, papers, portfolios, and essays					28
Tutorial					
Examinations					2
Other activities.....					-
3.7 Total number of hours of student activity		160			
3.8 Total number per semester		300			
3.9 Number of credits ¹⁾		10			

4. Prerequisites (if applicable)

4.1 curriculum-related	• Not applicable
4.2 competences-related	• Not applicable

5. Conditions (if applicable)

5.1 for laboratory	• Not applicable
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6. Specific competences and learning outcomes

Competences and learning outcomes	P.C.1 Performs detailed food processing operations Upon completion of the master's program, the graduate will be able to: Competencies L.O. 1.1 Know precise food processing operations, paying special attention to all stages of creating a quality product. L.O. 1.2 Understand the process of monitoring parameters related to food processing operations L.O. 1.3 Know specific regulations related to the manufacture of food and beverages Skills L.O. 1.4 Perform precise food processing operations, paying special attention to all stages of creating a quality product. L.O. 1.5 Filter liquid foods to eliminate any solid residue. L.O. 1.6 Insert filtered liquid foods into different containers. L.O. 1.7 Monitor parameters during the food and beverage manufacturing process L.O. 1.8 Apply specific regulations regarding the manufacture of food and beverages Responsibilities and autonomy L.O. 1.9 Assume responsibility and accountability for his/her own professional decisions and actions or those delegated to others in the food preparation process. L.O. 1.10 Demonstrate willingness to immediately assume tasks resulting from professional activities. L.O. 1.11 Plan and implement sustainable strategies to improve production performance, integrating innovative solutions; P.C.3 Develop processes and techniques for food production or food preservation. Involved in the design, development, construction and operation of industrial processes and techniques for food production. Upon completion of the master's program, the graduate will be able to: Knowledge L.O. 3.1 Know the principles and innovative technologies applicable to the production of high-quality food for the gastronomic industry; L.O. 3.2 Identify ecological methods and technologies for food preservation, including cold chain logistics and advanced packaging technologies; L.O. 3.3 Explain ways to integrate sustainable and local sourcing into food production systems, with the aim of reducing waste; L.O. 3.4 Know the principles of design and optimization of workflows in gastronomic units; L.O. 3.5 Know modern solutions for flexible space layout for gastronomic production Skills L.O. 3.6 Develop and implement innovative processes and techniques for obtaining gastronomic products, ensuring their efficiency and coherence; L.O. 3.7 Design and use ecological and energy-efficient preservation methods, adapted to the specifics of the gastronomic industry; L.O. 3.8 Design and manage food production systems based on sustainable sourcing and waste reduction; L.O. 3.9 Optimize workflows in the gastronomic industry, to reduce losses; L.O. 3.10 Create and adapt the design of flexible arrangements for processes in the gastronomic industry Responsibilities and autonomy L.O. 3.11 Ensure the optimal and sustainable functioning of food production processes in gastronomic units; L.O. 3.12 Organize and coordinate the design, implementation and evaluation activities of preservation and production techniques; L.O. 3.13 Assume responsibility for the creation of gastronomic concepts and innovative serving spaces that combine quality, sustainability and exclusivity. P.C.5 Performs quality control on food processing Upon completion of the master's program, the graduate will be able to: Competencies L.O. 5.1 Understand the specific concepts of quality management and food safety in gastronomy L.O. 5.2 Know the methods and procedures of systematic testing and analysis for the evaluation of gastronomic products L.O. 5.3 Understand the quality criteria specific to food processing and the feedback mechanisms associated with them; L.O. 5.4 Know the assortments of culinary preparations and understand the transformations undergone by foods during primary and thermal processing. Skills L.O. 5.5 Perform standard tests and analyzes to evaluate the quality of gastronomic products L.O. 5.6 Inspect and monitor production processes and gastronomic flows to identify non-conformities and opportunities for improvement; L.O. 5.7 Verify the conformity of gastronomy processes and products Responsibilities and autonomy L.O. 5.8 Ensure the necessary framework for conducting quality inspections and tests in gastronomic units L.O. 5.9 Organize and coordinate the monitoring and control activities of gastronomic processes and products L.O. 5.10 Plan and supervise the implementation of culinary, safety and sustainability standards in gastronomic units L.O. 5.11 Assume responsibility for the final validation of the quality of gastronomic products.
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7. Course objectives (resulting from the specific competences to be acquired)

7.1 General course objective	Fully understanding the concepts of food processing operations, understanding the principles and technologies applicable to high-quality food, but also the concepts of quality management, food safety and food processing criteria with their applicability in gastronomy
7.2 Specific objectives	- The acquirement of the specific concepts related to all the stages of a quality product creation - The integration of the principle of innovation in high-quality food technology; The correct identification of the ecological methods and technologies for food preservation; The acquirement of sustainability concept in local sourcing of foods; The correct understanding and application of workflows and flexible layouts in gastronomic units - The application of quality management and food safety concepts in gastronomy, with specific criteria included; The correct understanding and application of foods primary and thermal processing transformations

8. Content

8.1 Laboratory	Teaching methods	Number of hours	Remarks
	Training practice	140	
Bibliography Rothbaum N., Wondrich D. (2021). The Oxford Companion to Spirits and Cocktails. Oxford University Press. ISBN 9780199311132 Galanakis, C.M. (eds.) (2020) Gastronomy and Food Science. Academic Press, ISBN 978-0-12-820057-5 Shimmura, T., Nonaka, T., Kunieda, S. (eds.) (2020) Service Engineering for Gastronomic Sciences. An Interdisciplinary Approach for Food Study, Springer Singapore, ISBN 978-981-15-5320-2			

9. Correlation of course content with the demands of the labour market (epistemic communities, professional associations, potential employers in the field of study)

The course content responds to current trends in the gastronomy industry and provides students with a directly applicable framework, in line with academic standards and employer requirements. With an emphasis on training and developing the master's students' knowledge capacity, but also of critical and innovative thinking, this professional practice in the field of gastronomy represents a border area between food, hospitality and tourism. The practical activities allow students to develop real working skills, ensuring their contribution in food production innovation in gastronomy, in line with current trends in food and hospitality.

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of the final grade
10.4 Laboratory	The level of knowledge acquisition for writing a practice workbook/reports	Presentation of the professional practice workbook/reports	100%
10.6 Minimal performance standard			
- Writing a professional practice workbook/reports is mandatory - Obtaining a minimum grade of 5 on the workbook/reports.			
Evaluation grid by performance levels			
Performance level	General description		Characteristics
Excellent (10–9)	Fully masters the concepts; analyses		Perfect terminology, logical

	are innovative and precise		structure, autonomy, critical thinking
Very good (8)	Demonstrates solid understanding and correct application		Minor errors, but conceptual and practical coherence
Good (7)	Understands basic concepts, but application is partial		Terminology sometimes inaccurate, incomplete explanations
Satisfactory (6)	Mechanical application of notions, without real reflection		Partially correct answers, logical gaps
Insufficient (<5)	Does not demonstrate understanding of fundamental concepts		Theoretical confusion, incorrect applications, lack of argumentation

This course outline was certified in the Department Board meeting on 12/09/2025 and approved in the Faculty Board meeting on 12/09/2025.

Prof. PhD. Eng. Vasile PĂDUREANU Dean	Prof. PhD. Eng. Cristina-Maria CANJA Head of Department
	Prof. PhD. Florentina MATEI Holder of laboratory

Note:

⁷⁾ One credit is the equivalent of 30 study hours (teaching activities and individual study).

COURSE OUTLINE

1. Data about the study programme

1.1 Higher education institution	TransilvaniaUniversity of Braşov
1.2 Faculty	Food and tourism
1.3 Department	Food and tourism engineering and management
1.4Field of study	Engineering of food products
1.5Study level	Master
1.6 Study programme	Gastronomic Engineering (in English)

2.Data about the course

2.1 Name of the course	Professional Practice for Dissertation Drafting							
2.2 Seminar/ laboratory convenor	Prof. PhD. Florentina MATEI							
2.3Study year	II	2.4 Semester	II	2.5Evaluation type	V	2.6Course status	Content	PLD
							Attendance type	DI

3.Total estimated time(hours of teaching activities per semester)

3.1 Number of hours per week	7	out of which: 3.2 lecture	-	3.3 laboratory	7
3.4 Total number of hours in the curriculum	98	out of which: 3.5 lecture	-	3.6 laboratory	98
Time allocation					hours
Study of textbooks, course support, bibliography and notes					50
Additional documentation in libraries, specialized electronic platforms, and field research					100
Preparation of seminars/ laboratories/ projects, homework, papers, portfolios, and essays					50
Tutorial					
Examinations					2
Other activities.....					-
3.7 Total number of hours of student activity		202			
3.8 Total number per semester		300			
3.9 Number of credits ¹⁾		10			

4. Prerequisites(if applicable)

4.1 curriculum-related	• Not applicable
4.2 competences-related	• Not applicable

5. Conditions(if applicable)

5.1 for course development	• Not applicable
5.2 for seminar/ laboratory/ project development	• Not applicable

6. Competences and learning outcomes

Competences and learning outcomes	P.C.1 Performs detailed food processing operations Upon completion of the master's program, the graduate will be able to: Competencies L.O. 1.1 Know precise food processing operations, paying special attention to all stages of creating a quality product. L.O. 1.2 Understand the process of monitoring parameters related to food processing operations L.O. 1.3 Know specific regulations related to the manufacture of food and beverages Skills L.O. 1.4 Perform precise food processing operations, paying special attention to all stages of creating a quality product. L.O. 1.5 Filter liquid foods to eliminate any solid residue. L.O. 1.6 Insert filtered liquid foods into different containers. L.O. 1.7 Monitor parameters during the food and beverage manufacturing process L.O. 1.8 Apply specific regulations regarding the manufacture of food and beverages Responsibilities and autonomy L.O. 1.9 Assume responsibility and accountability for his/her own professional decisions and actions or those delegated to others in the food preparation process. L.O. 1.10 Demonstrate willingness to immediately assume tasks resulting from professional activities. L.O. 1.11 Plan and implement sustainable strategies to improve production performance, integrating innovative solutions; P.C. 2 Check the quality of raw materials Upon completion of the master's program, the graduate will be able to: Competencies L.O. 2.1 Know the quality elements of raw materials used in gastronomic processes. L.O. 2.2 Identify the factors that influence the quality of raw materials used in gastronomic processes. L.O. 2.3 Understand concepts related to quality assurance during food processing operations L.O. 2.4 Know national, international and domestic regulations mentioned in standards, regulations and other specifications related to raw materials used in gastronomic processes. Skills L.O. 2.5 Evaluate the quality of raw materials used in gastronomic processes. L.O. 2.6 Recommend possible improvements and comparisons with other products. L.O. 2.7 Ensure the quality of all factors that influence the quality of raw materials used in gastronomic processes. L.O. 2.8 Apply national, international and domestic regulations mentioned in standards, regulations and other specifications relating to raw materials used in gastronomic processes. Responsibilities and autonomy L.O. 2.9 Plan and supervise the implementation of quality standards relating to raw materials in gastronomic processes. L.O. 2.10 Organize and coordinate the quality assurance process of raw materials in gastronomic processes. L.O. 2.11 Ensure the necessary framework for carrying out quality inspections and tests in gastronomic processes. P.C.3 Develop processes and techniques for food production or food preservation. Involved in the design, development, construction and operation of industrial processes and techniques for food production. Upon completion of the master's program, the graduate will be able to: Knowledge L.O. 3.1 Know the principles and innovative technologies applicable to the production of high-quality food for the gastronomic industry; L.O. 3.2 Identify ecological methods and technologies for food preservation, including cold chain logistics and advanced packaging technologies; L.O. 3.3 Explain ways to integrate sustainable and local sourcing into food production systems, with the aim of reducing waste; L.O. 3.4 Know the principles of design and optimization of workflows in gastronomic units; L.O. 3.5 Know modern solutions for flexible space layout for gastronomic production Skills L.O. 3.6 Develop and implement innovative processes and techniques for obtaining gastronomic products, ensuring their efficiency and coherence; L.O. 3.7 Design and use ecological and energy-efficient preservation methods, adapted to the specifics of the gastronomic industry; L.O. 3.8 Design and manage food production systems based on sustainable sourcing and waste reduction; L.O. 3.9 Optimize workflows in the gastronomic industry, to reduce losses; L.O. 3.10 Create and adapt the design of flexible arrangements for processes in the gastronomic industry Responsibilities and autonomy L.O. 3.11 Ensure the optimal and sustainable functioning of food production processes in gastronomic units; L.O. 3.12 Organize and coordinate the design, implementation and evaluation activities of preservation and production techniques; L.O. 3.13 Assume responsibility for the creation of gastronomic concepts and innovative serving spaces that combine quality, sustainability and exclusivity. P.C.4 Performs sensory evaluation of food products Upon completion of the master's program, the graduate will be able to: Competencies L.O. 4.1 Identify the specific elements for evaluating the sensory quality of a certain type of food or beverage.
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7. Course objectives

7.1 General course objective	Supporting the master students in the practical part of their dissertation thesis writing
7.2 Specific objectives	- Developing the analytical skills necessary to correctly identify the relevant bibliography in writing the dissertation thesis - Developing the ability to find appropriate solution and methods for the practical implementation of the dissertation topic - Training in producing technical documents specific to the gastronomic engineering topic

8. Content

8.1 Laboratory	Teaching methods	Number of hours	Remarks
Field documentation for a case study (if applicable); Identification of the appropriate solutions and methods for the practical implementation of the dissertation topic; Online/library documentation	Individual work	98	
Bibliography Recommended by the dissertation coordinator			

9. Correlation of course content with the demands of the labour market (epistemic communities, professional associations, potential employers in the field of study)

Employers' relevant expectations have been identified regarding the development of practical implementation skills and application of the acquired knowledge in the field of gastronomic engineering and the course provides for their correlation with theoretical and practical information from case studies.

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of the final grade
10.4 Laboratory	The level of acquisition of theoretical and practical knowledge applied in the field of gastronomic engineering; Determined by the dissertation coordinator	Determined by each dissertation coordinator	100%
10.5 Minimal performance standard			
- Obtaining a minimum grade of 5 - The minimum performance standard is assessed by the dissertation coordinator			
Evaluation grid by performance levels			
Performance level	General description	Characteristics	
Excellent (10–9)	Fully masters the concepts; analyses are innovative and precise	Perfect terminology, logical structure, autonomy, critical thinking	
Very good (8)	Demonstrates solid understanding and correct application	Minor errors, but conceptual and practical coherence	
Good (7)	Understands basic concepts, but application is partial	Terminology sometimes inaccurate,	

		incomplete explanations
Satisfactory (6)	Mechanical application of notions, without real reflection	Partially correct answers, logical gaps
Insufficient (<5)	Does not demonstrate understanding of fundamental concepts	Theoretical confusion, incorrect applications, lack of argumentation

This course outline was certified in the Department Board meeting on 12/09/2025 and approved in the Faculty Board meeting on 12/09/2025.

Prof. PhD. Eng. Vasile PĂDUREANU Dean	Prof. PhD. Eng. Cristina Maria CANJA Head of Department
	Prof. PhD. Florentina MATEI Project holder

Note:

1) One credit is the equivalent of 30 study hours (teaching activities and individual study).

COURSE OUTLINE

1. Data about the study programme

1.1 Higher education institution	Transilvania University of Braşov
1.2 Faculty	Faculty of FoodandTourism
1.3 Department	FoodandTourism Engineering and Management
1.4Field of study	Engineering and management
1.5Study level	Master
1.6 Study programme/ Qualification	Gastronomic Engineering (in English)

2. Data about the course

2.1 Name of course	Dissertation drafting							
2.2 Course convenor	Prof. PhD. Florentina MATEI							
2.3 Seminar/ laboratory/ project convenor	Prof. PhD. Florentina MATEI							
2.4 Study year	II	2.5 Semester	II	2.6 Evaluation type	V	2.7 Course status	Content	PLD
							Attendance type	DI

3. Total estimated time (hours of teaching activities per semester)

3.1 Number of hours per week	10	out of which: 3.2 lecture	-	3.3 laboratory	10
3.4 Total number of hours in the curriculum	140	out of which: 3.5 lecture	-	3.6 laboratory	140
Time allocation					hours
Study of textbooks, course support, bibliography and notes					30
Additional documentation in libraries, specialized electronic platforms, and field research					100
Preparation of seminars/ laboratories/ projects, homework, papers, portfolios, and essays					28
Tutorial					
Examinations					2
Other activities.....					-
3.7 Total number of hours of student activity		160			
3.8 Total number per semester		300			
3.9 Number of credits¹⁾		10			

4. Prerequisites (if applicable)

4.1 curriculum-related	• Not applicable
4.2 competences-related	• Not applicable

5. Conditions (if applicable)

5.1 for laboratory	• Not applicable
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6. Specific competences and learning outcomes

Competences and learning outcomes	P.C.3 Develop processes and techniques for food production or food preservation. Involved in the design, development, construction and operation of industrial processes and techniques for food production. Upon completion of the master's program, the graduate will be able to: Knowledge L.O. 3.1 Know the principles and innovative technologies applicable to the production of high-quality food for the gastronomic industry; L.O. 3.2 Identify ecological methods and technologies for food preservation, including cold chain logistics and advanced packaging technologies; L.O. 3.3 Explain ways to integrate sustainable and local sourcing into food production systems, with the aim of reducing waste; L.O. 3.4 Know the principles of design and optimization of workflows in gastronomic units; L.O. 3.5 Know modern solutions for flexible space layout for gastronomic production Skills L.O. 3.6 Develop and implement innovative processes and techniques for obtaining gastronomic products, ensuring their efficiency and coherence; L.O. 3.7 Design and use ecological and energy-efficient preservation methods, adapted to the specifics of the gastronomic industry; L.O. 3.8 Design and manage food production systems based on sustainable sourcing and waste reduction; L.O. 3.9 Optimize workflows in the gastronomic industry, to reduce losses; L.O. 3.10 Create and adapt the design of flexible arrangements for processes in the gastronomic industry Responsibilities and autonomy L.O. 3.11 Ensure the optimal and sustainable functioning of food production processes in gastronomic units; L.O. 3.12 Organize and coordinate the design, implementation and evaluation activities of preservation and production techniques; L.O. 3.13 Assume responsibility for the creation of gastronomic concepts and innovative serving spaces that combine quality, sustainability and exclusivity. P.C. 4 Performs sensory evaluation of food products Upon completion of the master's program, the graduate will be able to: Competencies L.O. 4.1 Identify the specific elements for evaluating the sensory quality of a certain type of food or beverage. L.O. 4.2 Understand the methods and techniques of sensory analysis of gastronomic products. L.O. 4.3 Know the stages of sensory analysis using descriptive statistical analysis Skills L.O. 4.4 Evaluate the quality of a certain type of food or beverage, depending on its sensory characteristics. L.O. 4.5 Develop their own discrimination tests and apply real procedures for testing gastronomic products. L.O. 4.6 Plan the organization of a sensory analysis session, including the choice of the tasting panel. L.O. 4.7 Analyze the results of the sensory analysis in order to improve the quality of future gastronomic products. Responsibilities and autonomy L.O. 4.8 Organize and coordinate a sensory analysis session of gastronomic products. L.O. 4.9 Make decisions regarding the organization of a sensory analysis panel and the tests used. L.O. 4.10 Make decisions regarding changes to the gastronomic process based on the results of a sensory analysis. P.C.5 Performs quality control on food processing Upon completion of the master's program, the graduate will be able to: Competencies L.O. 5.1 Understand the specific concepts of quality management and food safety in gastronomy L.O. 5.2 Know the methods and procedures of systematic testing and analysis for the evaluation of gastronomic products L.O. 5.3 Understand the quality criteria specific to food processing and the feedback mechanisms associated with them; L.O. 5.4 Know the assortments of culinary preparations and understand the transformations undergone by foods during primary and thermal processing. Skills L.O. 5.5 Perform standard tests and analyzes to evaluate the quality of gastronomic products L.O. 5.6 Inspect and monitor production processes and gastronomic flows to identify non-conformities and opportunities for improvement; L.O. 5.7 Verify the conformity of gastronomy processes and products Responsibilities and autonomy L.O. 5.8 Ensure the necessary framework for conducting quality inspections and tests in gastronomic units L.O. 5.9 Organize and coordinate the monitoring and control activities of gastronomic processes and products L.O. 5.10 Plan and supervise the implementation of culinary, safety and sustainability standards in gastronomic units L.O. 5.11 Assume responsibility for the final validation of the quality of gastronomic products
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7. Course objectives (resulting from the specific competences to be acquired)

7.1 General course objective	Fully understanding the concepts of food processing operations, understanding the principles and technologies applicable to high-quality
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	food, but also the concepts of quality management, food safety and food processing criteria with their applicability in gastronomy
7.2 Specific objectives	• The acquirement of the specific concepts related to all the stages of a quality product creation • The integration of the principle of innovation in high-quality food technology; The correct identification of the ecological methods and technologies for food preservation; The acquirement of sustainability concept in local sourcing of foods; The correct understanding and application of workflows and flexible layouts in gastronomic units • The application of quality management and food safety concepts in gastronomy, with specific criteria included; The correct understanding and application of foods primary and thermal processing transformations

8. Content

8.1 Laboratory	Teaching methods	Number of hours	Remarks
Dissertation development, technical editing in compliance with the format and structure approved by the Faculty Council. Interpretation of experimental results, development of conclusions, presentation of personal contributions and potential perspectives in the field studied.	Consultations	140	
Bibliography ☒ Recommended by each dissertation supervisor			

9. Correlation of course content with the demands of the labour market (epistemic communities, professional associations, potential employers in the field of study)

The course content responds to current trends in the gastronomy industry and provides students with a directly applicable framework, in line with academic standards and employer requirements. With an emphasis on training and developing the master's students' knowledge capacity, but also of critical and innovative thinking, this professional practice in the field of gastronomy represents a border area between food, hospitality and tourism. The practical activities allow students to develop real working skills, ensuring their contribution in food production innovation in gastronomy, in line with current trends in food and hospitality.

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of the final grade
10.4 Dissertation drafting	☒ The evaluation criteria are specified in the dissertation evaluation form.		
10.6 Minimal performance standard			
•			

This course outline was certified in the Department Board meeting on 12/09/2025 and approved in the Faculty Board meeting on 12/09/2025.

Prof. PhD. Eng. Vasile PĂDUREANU Dean	Prof. PhD. Eng. Cristina-Maria CANJA Head of Department
	Prof. PhD. Florentina MATEI Holder of laboratory

Note:

8) One credit is the equivalent of 30 study hours (teaching activities and individual study).

COURSE OUTLINE

1. Data about the study programme

1.1 Higher education institution	Transilvania University of Brasov
1.2 Faculty	Food and tourism
1.3 Department	Food and tourism engineering and management
1.4 Field of study	Engineering of food products
1.5 Study level	Master
1.6 Study programme	Gastronomic Engineering (in English)

2. Data about the course

2.1 Name of course	Business Strategy and Entrepreneurship							
2.2 Course convenor	Dr.ec. Emilia GIOL							
2.3 Seminar/ laboratory/ project convenor	Dr.ec. Emilia GIOL							
2.4 Study year	II	2.5 Semester	I	2.6 Evaluation type	E	2.7 Course status	Content	DC
							Attendance type	DO

3. Total estimated time (hours of teaching activities per semester)

3.1 Number of hours per week	4	out of which: 3.2 lecture	2	3.3 seminar/ laboratory/ project	0/0/2
3.4 Total number of hours in the curriculum	56	out of which: 3.5 lecture	28	3.6 seminar/ laboratory/ project	0/0/28
Time allocation					hours
Study of textbooks, course support, bibliography and notes					50
Additional documentation in libraries, specialized electronic platforms, and field research					35
Preparation of seminars/ laboratories/ projects, homework, papers, portfolios, and essays					35
Tutorial					
Examinations					4
Other activities.....					
3.7 Total number of hours of student activity		124			
3.8 Total number per semester		180			
3.9 Number of credits ¹⁾		6			

4. Prerequisites (if applicable)

4.1 curriculum-related	Basics of Economics; Basics of Accounting; Basics of Management; Investment Management
4.2 competences-related	Explanatory theories and fundamental engineering, economic and legal notions; Project implementation and management and teamwork

5. Conditions (if applicable)

5.1 for course development	Room equipped with video projector
5.2 for seminar/ laboratory/ project development	

6. Competences and learning outcomes

Competences and learning outcomes	P.C.3 Develop processes and techniques for food production or food preservation. Involved in the design, development, construction and operation of industrial processes and techniques for food production. Upon completion of the master's program, the graduate will be able to: Knowledge L.O. 3.1 Know the principles and innovative technologies applicable to the production of high-quality food for the gastronomic industry; L.O. 3.4 Know the principles of design and optimization of workflows in gastronomic units; L.O. 3.6 Develop and implement innovative processes and techniques for obtaining gastronomic products, ensuring their efficiency and coherence; L.O. 3.8 Design and manage food production systems based on sustainable sourcing and waste reduction; L.O. 3.12 Organize and coordinate the design, implementation and evaluation activities of preservation and production techniques; L.O. 3.13 Assume responsibility for the creation of gastronomic concepts and innovative serving spaces that combine quality, sustainability and exclusivity

7. Course objectives

7.1 General course objective	The discipline provides information and training to students in the complex issues of decision-making mechanisms in the field of economic activities management, providing them with the knowledge and skills necessary to develop, implement and evaluate effective strategies for business growth and sustainability, both in the context of large and entrepreneurial organizations.
7.2 Specific objectives	The specific objectives aim to analyze the market and the organization's external environment, identify business opportunities, formulate a business strategy based on the organization's internal and external analysis, create a sustainable business plan, and evaluate and monitor strategic performance, all in a context that allows for the management of strategic risks.

8. Content

8.1 Course	Teaching methods	Number of hours	Remarks
1. Introduction to strategy and entrepreneurship	Slide-based lectures / E-Learning Platform	2 hours	
2. Business environment analysis: Porter's 5 forces analysis, market and economic trends analysis.	Slide-based lectures / E-Learning Platform	4 hours	
3. Internal business analysis: SWOT analysis and strategic resources – financial, human, technological	Slide-based lectures / E-Learning Platform	2 hours	
4. Formulation of business strategies - types of strategies: differentiation, focus, strategic innovation.	Slide-based lectures / E-Learning Platform	2 hours	
5. Business strategy and innovation – innovation management	Slide-based lectures / E-Learning Platform	2 hours	
6. Models and tools for strategic analysis – BCG matrix	Slide-based lectures / E-Learning Platform	2 hours	
7. Planning and implementing strategies - strategic planning, setting SMART goals	Slide-based lectures / E-Learning Platform	4 hours	
8. Strategic leadership - developing strategic	Slide-based lectures /	4 hours	

leadership skills.	E-Learning Platform		
9. Creating and developing a business plan	Slide-based lectures / E-Learning Platform	4 hours	
10. Evaluating and adjusting strategies	Slide-based lectures / E-Learning Platform	2 hours	
Bibliography			
1. Benjamin Graham - The Intelligent Investor, Publishing house: HarperCollins, 2003. 2. Richard Rumelt - Good Strategy Bad Strategy, Publishing house: Profile Books, 2017. 3. Emilia Calefariu - Managementul strategic al finanțării investițiilor, Publishing house: Lux Libris, 2016. 4. Michael E. Porter - <i>Competitive</i> Strategy, Publishing house: Simon & Schuster, 2004. 5. Napoleon Hill - De la idee la bani, Publishing house: Curtea Veche Publishing, 2018.			
8.2 Seminar/ laboratory/ project	Teaching-learning methods	Number of hours	Remarks
1. Market analysis and identification of an entrepreneurial opportunity	Case study / Debates and guided discussions / Project-based learning	4 hours	
2. Defining the vision, mission and strategic objectives of the business	Case study / Debates and guided discussions / Project-based learning	4 hours	
3. Formulating the market entry strategy	Case study / Debates and guided discussions / Project-based learning	4 hours	
4. Creating a detailed business plan	Case study / Debates and guided discussions / Project-based learning	4 hours	
5. Planning and analyzing the resources needed to implement the strategy and assessing risks	Case study / Debates and guided discussions / Project-based learning	4 hours	
6. Creating the Gantt diagram	Case study / Debates and guided discussions / Project-based learning	4 hours	
7. Establishing methods for evaluating business performance	Case study / Debates and guided discussions / Project-based learning	4 hours	
Bibliography			
1. Benjamin Graham - The Intelligent Investor, Publishing house: HarperCollins, 2003. 2. Richard Rumelt - Good Strategy Bad Strategy, Publishing house: Profile Books, 2017. 3. Emilia Calefariu - Managementul strategic al finanțării investițiilor, Publishing house: Lux Libris, 2016. 4. Michael E. Porter - <i>Competitive</i> Strategy, Publishing house: Simon & Schuster, 2004. 5. Napoleon Hill - De la idee la bani, Publishing house: Curtea Veche Publishing, 2018. 6. Bradford D. Jordan, Thomas W. Miller Jr., Steven D. Dolvin - Fundamentals of Investments: Valuation and Management, Publishing house: McGraw-Hill, 2024.			

9. Correlation of course content with the demands of the labour market (epistemic communities, professional associations, potential employers in the field of study)

The content of the discipline follows current academic trends and ensures a high relevance of the skills transmitted to students. The content reflects the methods and theories accepted by the scientific community and is in line with the actual approaches, allowing students to form a solid and up-to-date scientific foundation. Also, the topics and themes addressed in the course and the applied activities provide students with a framework for further research in the field.

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of the final grade
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10.4 Course	Continuous activity and participation in the course ■ active presence and reasoned interventions; ■ integration of theoretical knowledge into discussions; demonstration of reflective thinking on the theories discussed.	Ongoing evaluation	15%
	Written test ■ ability to analyze various investment strategy elements; ■ application of knowledge in solving a problematic investment situation; ■ clarity, argumentative coherence in organizing the answer.	Written assessment	45%
10.5 Seminar/ laboratory/ project	Correctly drafting all project requirements and presenting them coherently.	Written project	40%
10.6 Minimal performance standard			
The student demonstrates an understanding of the basic concepts and the ability to apply them coherently. The grades obtained for promotion in the discipline Business Strategy and Entrepreneurship must be at least 5, both for the course and for the project			
Evaluation grid by performance levels			
Performance level	General description	Characteristics	
Excellent (10–9)	Fully masters the concepts; analyses are innovative and precise	Perfect terminology, logical structure, autonomy, critical thinking	
Very good (8)	Demonstrates solid understanding and correct application	Minor errors, but conceptual and practical coherence	
Good (7)	Understands basic concepts, but application is partial	Terminology sometimes inaccurate, incomplete explanations	
Satisfactory (6)	Mechanical application of notions, without real reflection	Partially correct answers, logical gaps	
Insufficient (<5)	Does not demonstrate understanding of fundamental concepts	Theoretical confusion, incorrect applications, lack of argumentation	

This course outline was certified in the Department Board meeting on 12/09/2025 and approved in the Faculty Board meeting on 12/09/2025.

Prof.PhD. Eng. Vasile PĂDUREANU	Prof.PhD. Eng. Cristina Maria CANJA
Dean	Head of Department
Dr.ec. Emilia GIOL Course holder	Dr.ec. Emilia GIOL Holder of seminar/ laboratory/ project

Note:

⁹⁾ One credit is the equivalent of 30 study hours (teaching activities and individual study).

COURSE OUTLINE

1. Data about the study programme

1.1 Higher education institution	Transilvania University of Brasov
1.2 Faculty	Food and tourism
1.3 Department	Food and tourism engineering and management
1.4 Field of study	Engineering of food products
1.5 Study level	Master
1.6 Study programme/ Qualification	Gastronomic Engineering (in English)

2. Data about the course

2.1 Name of course	Investment and Project Analysis							
2.2 Course convenor	Dr.ec. Emilia GIOL							
2.3 Seminar/ laboratory/ project convenor	Dr.ec. Emilia GIOL							
2.4 Study year	II	2.5 Semester	I	2.6 Evaluation type	E	2.7 Course status	Content	DC
							Attendance type	DO

3. Total estimated time (hours of teaching activities per semester)

3.1 Number of hours per week	4	out of which: 3.2 lecture	2	3.3 seminar/ laboratory/ project	0/0/2
3.4 Total number of hours in the curriculum	56	out of which: 3.5 lecture	28	3.6 seminar/ laboratory/ project	0/0/28
Time allocation					hours
Study of textbooks, course support, bibliography and notes					50
Additional documentation in libraries, specialized electronic platforms, and field research					35
Preparation of seminars/ laboratories/ projects, homework, papers, portfolios, and essays					35
Tutorial					
Examinations					4
Other activities.....					
3.7 Total number of hours of student activity		124			
3.8 Total number per semester		180			
3.9 Number of credits ¹⁾		6			

4. Prerequisites (if applicable)

4.1 curriculum-related	Basics of Economics; Basics of Accounting; Basics of Management; Investment Management
4.2 competences-related	Explanatory theories and fundamental engineering, economic and legal notions; Project implementation and management and teamwork

5. Conditions (if applicable)

5.1 for course development	Room equipped with video projector
5.2 for seminar/ laboratory/ project development	

6. Competences and learning outcomes

Competences and learning outcomes	P.C.3 Develop processes and techniques for food production or food preservation. Involved in the design, development, construction and operation of industrial processes and techniques for food production. Upon completion of the master's program, the graduate will be able to: Knowledge L.O. 3.1 Know the principles and innovative technologies applicable to the production of high-quality food for the gastronomic industry; L.O. 3.4 Know the principles of design and optimization of workflows in gastronomic units; L.O. 3.6 Develop and implement innovative processes and techniques for obtaining gastronomic products, ensuring their efficiency and coherence; L.O. 3.8 Design and manage food production systems based on sustainable sourcing and waste reduction; L.O. 3.12 Organize and coordinate the design, implementation and evaluation activities of preservation and production techniques; L.O. 3.13 Assume responsibility for the creation of gastronomic concepts and innovative serving spaces that combine quality, sustainability and exclusivity

7. Course objectives

7.1 General course objective	The discipline ensures the training of students in the complex issues of decision-making mechanisms in the field of economic activities management, providing them with the knowledge and skills necessary to develop, implement and evaluate effective strategies for business growth and sustainability, in a micro and macroeconomic context.
7.2 Specific objectives	The specific objectives aim to analyze the market and the organization's external environment, formulate a business strategy based on the organization's internal and external analysis, identify market opportunities, draw up a sustainable business plan and monitor strategic performance, in the context of strategic risk management.

8. Content

8.1 Course	Teaching methods	Number of hours	Remarks
1. Introduction to strategy and entrepreneurship	Slide-based lectures / E-Learning Platform	2 hours	
2. Business environment analysis	Slide-based lectures / E-Learning Platform	4 hours	
3. Internal business analysis	Slide-based lectures / E-Learning Platform	2 hours	
4. Formulation of business strategies	Slide-based lectures / E-Learning Platform	2 hours	
5. Business strategy and innovation	Slide-based lectures / E-Learning Platform	2 hours	
6. Models and tools for strategic analysis	Slide-based lectures / E-Learning Platform	2 hours	
7. Strategic planning, setting SMART goals	Slide-based lectures / E-Learning Platform	4 hours	
8. Developing strategic leadership skills for project analysis	Slide-based lectures / E-Learning Platform	4 hours	
9. Creating a business plan	Slide-based lectures / E-Learning Platform	4 hours	
10. Evaluating and adjusting strategies	Slide-based lectures / E-Learning Platform	2 hours	

Bibliography			
6. Benjamin Graham - The Intelligent Investor, Publishing house: HarperCollins, 2003.			
7. Richard Rumelt - Good Strategy Bad Strategy, Publishing house: Profile Books, 2017.			
8. Emilia Calefariu - Managementul strategic al finanțării investițiilor, Publishing house: Lux Libris, 2016.			
9. Michael E. Porter - <i>Competitive</i> Strategy, Publishing house: Simon & Schuster, 2004.			
10. Napoleon Hill – De la idee la bani, Publishing house: Curtea Veche Publishing, 2018.			
8.2 Seminar/ laboratory/ project	Teaching-learning methods	Number of hours	Remarks
1. Market analysis and identification of an entrepreneurial opportunity	Case study / Debates and guided discussions / Project-based learning	4 hours	
2. Defining the vision, mission and strategic objectives of the business	Case study / Debates and guided discussions / Project-based learning	4 hours	
3. Formulating the market strategy	Case study / Debates and guided discussions / Project-based learning	4 hours	
4. Creating a structured business plan	Case study / Debates and guided discussions / Project-based learning	4 hours	
5. Planning and analyzing the resources and the strategy for assessing risks	Case study / Debates and guided discussions / Project-based learning	4 hours	
6. Creating the Gantt diagram	Case study / Debates and guided discussions / Project-based learning	4 hours	
7. Establishing methods for evaluating business performance	Case study / Debates and guided discussions / Project-based learning	4 hours	
Bibliography			
7. Benjamin Graham - The Intelligent Investor, Publishing house: HarperCollins, 2003.			
8. Richard Rumelt - Good Strategy Bad Strategy, Publishing house: Profile Books, 2017.			
9. Emilia Calefariu - Managementul strategic al finanțării investițiilor, Publishing house: Lux Libris, 2016.			
10. Michael E. Porter - <i>Competitive</i> Strategy, Publishing house: Simon & Schuster, 2004.			
11. Napoleon Hill – De la idee la bani, Publishing house: Curtea Veche Publishing, 2018.			
12. Bradford D. Jordan, Thomas W. Miller Jr., Steven D. Dolvin - Fundamentals of Investments: Valuation and Management, Publishing house: McGraw-Hill, 2024.			

9. Correlation of course content with the demands of the labour market (epistemic communities, professional associations, potential employers in the field of study)

The content of the discipline follows current academic trends and ensures a high relevance of the skills transmitted to students. The content reflects the methods and theories accepted by the scientific community and is in line with the actual approaches, allowing students to form a solid and up-to-date scientific foundation. Also, the topics and themes addressed in the course and the applied activities provide students with a framework for further research in the field.

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of the final grade
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10.4 Course	Continuous activity and participation in the course ■ active presence and reasoned interventions; ■ integration of theoretical knowledge into discussions; demonstration of reflective thinking on the theories discussed.	Ongoing evaluation	15%
	Written test ■ ability to analyze various investment strategy elements; ■ application of knowledge in solving a problematic investment situation; ■ clarity, argumentative coherence in organizing the answer.	Written assessment	45%
10.5 Seminar/ laboratory/ project	Correctly drafting all project requirements and presenting them coherently.	Written project	40%

10.6 Minimal performance standard

- The student demonstrates an understanding of the basic concepts and the ability to apply them coherently. The grades obtained for promotion in the discipline Business Strategy and Entrepreneurship must be at least 5, both for the course and for the project

Evaluation grid by performance levels

Performance level	General description	Characteristics
Excellent (10–9)	Fully masters the concepts; analyses are innovative and precise	Perfect terminology, logical structure, autonomy, critical thinking
Very good (8)	Demonstrates solid understanding and correct application	Minor errors, but conceptual and practical coherence
Good (7)	Understands basic concepts, but application is partial	Terminology sometimes inaccurate, incomplete explanations
Satisfactory (6)	Mechanical application of notions, without real reflection	Partially correct answers, logical gaps
Insufficient (<5)	Does not demonstrate understanding of fundamental concepts	Theoretical confusion, incorrect applications, lack of argumentation

This course outline was certified in the Department Board meeting on 12/09/2025 and approved in the Faculty Board meeting on 12/09/2025.

Prof.PhD. Eng. Vasile PĂDUREANU	Prof.PhD. Eng. Cristina Maria CANJA
Dean	Head of Department
Dr.ec. Emilia GIOL Course holder	Dr.ec. Emilia GIOL Holder of seminar/ laboratory/ project

Note:

10) One credit is the equivalent of 30 study hours (teaching activities and individual study)