



No. _____ from _____

Form code USAMV–CN 0702030104

COURSE DESCRIPTION

1. Information on the program

1.1. Higher Education Institution	University of Agricultural Sciences and Veterinary-Medicine Cluj-Napoca
1.2. Faculty	Food Science and Technology
1.3. Department	Food Science
1.4. Study field	Food Engineering
1.5. Level field ¹⁾	Bachelor
1.6. Specialization/ Study Program	Control and expertise of food products / CEPA
1.7. Form of education	Regular studies

2. Information on the discipline

2.1. Name of the course	Food adulteration and authentication 1							
2.2. Course leader	Prof. PhD Sonia Ancuța Socaci							
2.3. Coordinator of seminary/laboratory activity/project	Lecturer PhD Anca Corina Fărcaș							
2.4. Year of study	III	2.5. Semester	V	2.6. Type of evaluation	Continue	2.7. Course regime	Content ²	DS
							Level of compulsory ³	DI

3. Total estimated time (teaching hours per semester)

3.1. Number of hours/week – frequency form	4	Of which: 3.2. course	2	3.3. seminary/ laboratory/ project	2
3.4. Total hours in the curricula	56	din care: 3.5.curs	28	3.6.seminar/laborator	28
Distribution of time					hours
3.4.1. Study based on handbook, notes, bibliography					15
3.4.2. Extra documentation in the library, on specific electronic platforms and on field					14
3.4.3. Preparation of the seminars/ laboratories / projects, themes, papers, portfolios and essays					5
3.4.4. Tutorial					5
3.4.5. Examination					3
3.4.6. Other activities					2
3.7. Total hours individual study	44				
3.8. Total hours per semester	100				
3.9. Number of ECTS ⁴	4				

4. Pre-conditions (if applicable)

4.1. of curriculum	Physical and colloidal chemistry, Biochemistry, Food chemistry
4.2. of competences	Identification, description and appropriate use of specific concepts of food science and food safety

5. Condition (if applicable)

5.1. of course development	Projector, ppt presentation
5.2. of seminary/laboratory/ project development	Laboratory with appropriate analytical equipment, glassware, consumables

6. Specific competences acquired

Professional competences	<p>C4.1. Interpretation of the legislation in the field of the food industry, for the strict observance of the principles and regulations in force regarding the authentication of food products</p> <p>C1.2. Explanation and interpretation of concepts, processes, models and methods in food science, using basic knowledge of the composition, structure, properties and transformations of food components and their interaction with other systems throughout the agri-food chain</p> <p>C1.3. Application of basic principles and methods in food science to address food authenticity issues, including those related to food safety</p>
Transversal competences	<p>CT1 Applying strategies of perseverance, rigor, efficiency and responsibility in work, punctuality and taking responsibility for the results of personal activity, creativity, common sense, analytical and critical thinking, problem solving, etc., based on the principles, norms and values of the code of professional ethics in the food field.</p> <p>CT3 Efficient use of various learning paths and techniques - training for the acquisition of bibliographic and electronic database information both in Romanian and in an international language, as well as assessing the need and usefulness of extrinsic and intrinsic motivations of continuing education.</p>

7. Subject objectives (as a result of the specific acquired competences)

7.1. Subject general objectives	Rationalizing new trends in authentication of food products and in the analytical techniques used for their analysis
7.2. Specific objectives	<p>The European legislative framework on food authentication</p> <p>Identification of marker compounds used in food authentication (geographical origin, origin botanical species / variety, technology of age)</p> <p>Advanced techniques for analyzing of food composition</p>

8. Contents

8.1. COURSE Number of hours – 28	Methods of teaching	Notes (1 lecture = 2 hours)
Defining the terms: "authentic product", "authentication", "forgery". Criteria that define the authenticity of a food product	Lecture, heuristic conversation, debate, algorithmic, case study, directed observation	1
European and national legislation concerning authentication of foodstuffs (general and specific conditions)		1
Authentication of the wine and method for identifying counterfeit	Lecture, heuristic conversation, debate, algorithmic, case study, directed observation	3
Authentication of vinegar and methods for identifying counterfeits		2
Authentication oils and fats and methods for identifying counterfeit		3
Authentication of coffee and methods for identifying counterfeit	Lecture, heuristic conversation, debate, algorithmic, case study	2
Authentication of cocoa beans and products on the basis of cocoa, and methods for identifying counterfeits		1
Authentication of tea and spices and methods of identification of counterfeits		1
8.2. 8.2. PRACTICAL WORK Number of hours – 28		1 lab work (2 hours / work)
General labor protection measures in the food authentication laboratory	Conversation, argumentation, debate	1
Steps in evaluating the authenticity of a food product. Case Study		1
Determination of foodstuffs ages - Dating with 14C. Case study	Debate, algorithmic, case study, heuristic conversation	1
Detection of the wine adulterations	Learning by discovery, debate, case study, conversation, argumentation	2
Authentication of extra virgin olive oil - EC Directive 2568/1999		2



Detection of the coffee adulteration – determination of caffeine content	1
Detection of the coffee adulteration – identification of kahweol content	2
Authentication of cocoa beans and products on the basis of cocoa	1
Authentication of tea and spices	2
Knowledge verification.	1
Compulsory Bibliography: 1. Bulancea, M., Răpeanu, G., <i>Autentificarea și identificarea falsificărilor produselor alimentare</i> , 2009, Ed. Didactică și Pedagogică, București.	
Facultative Bibliography: 1. Lees, M., Food authenticity and traceability, 2009, CRC Press, Washington, DC 2. Răpeanu, G., Controlul falsificărilor produselor alimentare, 2010, Ed. Didactică și Pedagogică, București 3. Da-Wen Sun (ed.), Moderns Techniques for Food Authentication, 2008, Academic Press	

9. Correlations between the subject against the expectations of the epistemic community representatives, of the professional associations and employers' representatives in the domain

Course content is congruent with the applications of professional national specific companies.
 In order to identify ways of modernization and continuous improvement of teaching and course content with the current issues and practical problems, teachers attend the different conferences/workshops/seminars/round tables, where they meet with specialists from the private sector of food industry and with teachers from other higher education institutions in the country. Meetings aimed identifying the needs and expectations of employers in the field and to coordinate the curricula with similar programs in other higher education institutions.

10. Evaluation

Type of activity	10.1. Evaluation criteria	10.2. Evaluation methods	10.3. Percent of the final grade
10.4. Course	Application logic, consistency and correct concepts complaints Knowledge of criteria used in food authentication	Continuous assessment (Evaluation of the answers given to the topics on the exam)	65%
10.5. Seminary/Laboratory	Ability to perform physico-chemical analyzes and interpreting appropriate the result obtained	1 continuous assessment (Practical assessment of professional skills)	35%
10.6. Minimal standard of performance			
Solving a concrete problem / case study regarding the authentication / falsification of food products including the argumentation of the applied methods, techniques, procedures and / or instruments. Carrying out an individual project by efficiently using relevant and current documentation sources and resources (including internet, databases, online courses, etc.). Obtaining the pass mark at the knowledge verification at the end of the laboratory works is a condition of graduation			

¹ Level of study- to be chosen one of the following - Bachelor/Post graduate/Doctoral

² Course regime (content) – for bachelor level it will be chosen one of the following - **DF** (fundamental subject), **DD** (subject in the domain), **DS** (specific subject), **DC** (complementary subject).

³ Course regime (compulsory level) - to be chosen one of the following - **DI** (compulsory subject), **DO** (optional subject), **DFac** (facultative subject)

⁴ One ECTS is equivalent with 25-30 de hours of study (didactical and individual study).



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Filled in on
10.09.2021

Course coordinator
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Socaci Sonia

Laboratory work/seminar coordinator
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Farcas

Subject coordinator
Prof. PhD Sonia Socaci

Socaci Sonia

**Approved by the
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22.09.2021

Head of the Department
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R. Suharoschi

**Approved by the Faculty
Council on**
28.09.2021

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Prof. PhD Elena Mudura

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