UNIVERSITATEA DE ŞTIINŢE AGRICOLE ŞI MEDICINĂ VETERINARĂ CLUJ-NAPOCA
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No._____of _____ **USAMV form CN-0701020218**

SUBJECT OUTLINE

1. Information on the programme

1.1. Higher education institution	University of Agricultural Sciences and Veterinary Medicine of Cluj-Napoca
1.2. Faculty	Food Science and Technology
1.3. Department	Food Science
1.4. Field of study	Food Engineering
1.5.Education level	Bachelor
1.6.Specialization/ Study programme	Technology of agricultural products processing (TPPA)
1.7. Form of education	Full time

2. Information on the discipline

2.1. Name of the discipline	Principles of Human Nutrition							
2.2. Course coordinator				Prof dr Ramona Suharoschi				
2.3. Seminar/ laboratory/ project coordinator				Lecturer dr Oana Lelia Pop				
2.4. Year of study	II	2.5. Semester	**III**	2.6. Type of evaluation	continuous	2.7. Discipline status	Content[2]	DD
							Compulsoriness[3]	DO

3. Total estimated time (teaching hours per semester)

3.1. Hours per week – full time programme	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	28

Distribution of the time allotted	hours
3.4.1. Study based on book, textbook, bibliography and notes	8
3.4.2. Additional documentation in the library, specialized electronic platforms and field	8
3.4.3. Preparing seminars/ laboratories/ projects, subjects, reports, portfolios and essays	5
3.4.4.Tutorials	8
3.4.5.Examinations	5
3.4.6. Other activities	0

3.7. Total hours of individual study	34
3.8. Total hours per semester	90
3.9. Number of credits[4]	3

4. Prerequisites (is applicable)

4.1. curriculum-related	Organic Chemistry, Food Chemistry, Bio Chemistry, Mathematics and Statistics
4.2. skills-related	. The student must have knowledge of the chemical and biochemical characteristics of compounds specific to living matter; operating IT; office use (xls); Internet browsing; qualities of individual work and participation in professional development

5. Conditions (if applicable)

5.1. for the lecture	The course is interactive; students can ask questions regarding the content of lecture. Academic discipline requires compliance with the start and end of the course. We do not allow any other activities during the lecture, mobile phones will be turned off.

5.2. for the seminar/ laboratory/ project	During practical works, each student will develop an individual activity with laboratory materials (made available in the book that describes the laboratory work). Academic discipline is imposed throughout the course of practical works.

6. Specific competences acquired

Professional competences	C1.1. Description and use of basic concepts, theories and methods in food science (defined in multidisciplinary terms), regarding the structure, properties and transformations of food components and contaminants during the agri-food chain. C3 -Supervision, management, analysis and design of a nutritional study. C3.4 - Evaluation according to the existing standards of the applied nutrition performances. C4.1 - Interpretation of legislation in the field of food industry as well as the basic notions of management and marketing, in strict compliance with the principles of human nutrition and regulations in force on food additives; C5.2. Identify institutional responsibilities related to food safety and consumer protection
Transversal competences	-CT2. - Applying interrelationship techniques within a team; amplifying and refining the empathic capacities of interpersonal communication and assuming specific attributions in carrying out group activities in order to resolve individual / group conflicts, as well as optimal time management.

7. Course objectives (based on the list of competences acquired)

7.1. Overall course objective	To know the basic principles of human nutrition; to know and understand the role of macronutrients in public health; to know and understand the role of micronutrients in public health.
7.2. Specific objectives	Highlighting the factors that influence food choice, factors that have a decisive role in generating food policies. To be able to interpret the results of market studies and to make recommendations regarding market trends and consumer preferences.

8. Content

8.1.LECTURE **Number of hours – 28**	Teaching methods Lecture	Notes 1 lecture = 2 hours
The relationship between man and food	Lecture, explanation and debates	2 hours
Eating Physiology - Eating Disorders	Lecture, explanation and debates	2 hours
Digestion and absorption	Lecture, explanation and debates	2 hours
Food macronutrients: Carbohydrates: simple and complex;	Lecture, explanation and debates	2 hours
Food macronutrients: Fats	Lecture, explanation and debates	2 hours
Food macronutrients: Proteins	Lecture, explanation and debates	1 hour
Food micronutrients: Vitamins and Minerals	Lecture, explanation and debates	1 hour
Energy metabolism - Weight control	Lecture, explanation and debates	2 hours
Healthy eating pyramid; Eating habits	Lecture, explanation and debates	2 hours
Lifelong nutrition (personalized diets)	Lecture, explanation and debates	2 hours
Healthy eating programs	Lecture, explanation and debates	2 hours
Linking nutrients and genes (Nutrigenomics-fundamentals)	Lecture, explanation and debates	2 hours
The nutritional value of the main food groups.	Lecture, explanation and debates	1 hour
Digestive utilization coefficient of calorific trophins (proteins, lipids, carbohydrates, etc.); Special foods: SMART food, MOOD food	Application course	1 hour 6 hours
APPLIED NUTRITION PROJECT - case study - regional diet		

8.2. PRACTICAL WORK **Number of hours – 28**	Theoretical presentation of practical works	1 lab work (2 hours / work)
Individual Nutritional Study - Food diary / 24 hours	explanation, debate, problematization, case study	2 hours
SMART Nutritional Objectives Design	explanation, debate, problematization, case study	2 hours
Calculating the Energy Value of Consumed Foods, Energy Intake / Daily Calorie Intake	explanation, debate, problematization, case study	2 hours
Evaluation of the Nutritional Value of foods consumed: cholesterol, fats, saturated fats, trans fats, vitamin A, vitamin C, vitamin D, Ca, Mg, Fe, Na	explanation, debate, problematization, case study	2 hours 2 hours
Evaluation of the Glycaemic Index of food consumed	explanation, debate, problematization, case study	2 hours
Evaluation of the Inflammatory Factor of consumed foods	explanation, debate, problematization, case study	2 hours
BMI Assessment, Basal Energy Expenditure, Ideal Weight	explanation, debate, problematization, case study	2 hours
Energy Calculator - evaluation of the necessary energy contribution depending on the distribution of physical effort / 24h	explanation, debate, problematization, case study	2 hours
Total Energy Required calculated according to the Level of Physical Activity - Calculator for nutrients and energy from food-Calculator Calories burned by physical exertion	explanation, debate, problematization, case study	2 hours
Nutrition assessment tools: FFQ (Food Frequency Questionnaire) - assessment of fat consumption (saturated / trans) - risk factor	explanation, debate, problematization, case study	2 hours
Nutrition assessment tools: FFQ (Food Frequency Questionnaire) - assessment of vegetables and fruits - risk factor	explanation, debate, problematization, case study	2 hours
Analysis of the Nutritional Value of food - in silico	explanation, debate, problematization, case study	2 hours
Personalized Nutritional Plan Design (Personalized Nutrition) - Implementation of SMART Nutritional Objectives	explanation, debate, problematization, case study	2 hours

Compulsory bibliography:

1. *Ares G, Giménez A, Deliza R. Chapter 8 - Methodological Approaches for Measuring Consumer-Perceived Well-Being in a Food-Related Context. In: Ares G, Varela P, editors. Methods in Consumer Research, Volume 2: Woodhead Publishing; 2018.*
2. *Gere A, Radványi D, Moskowitz H. Chapter 3 - Consumer Perspectives About Innovations in Traditional Foods. In: Galanakis CM, editor. Innovations in Traditional Foods: Woodhead Publishing; 2019.*
3. *Giboreau A. Sensory and consumer research in culinary approaches to food. Current Opinion in Food Science. 2017.*
4. *Jacoby J, Morrin M. Consumer Psychology. In: Wright JD, editor. International Encyclopedia of the Social & Behavioral Sciences (Second Edition). Oxford: Elsevier; 2015.*
5. *Rivaroli S, Baldi B, Spadoni R. Consumers' perception of food product craftsmanship: A review of evidence. Food Quality and Preference. 2020.*
6. *van Liere MJ, Shulman S. Chapter 10 - Creating Consumer Demand and Driving Appropriate Utilization of Fortified Foods. In: Mannar MGV, Hurrell RF, editors. Food Fortification in a Globalized World: Academic Press; 2018*

Optional bibliography: -

9. Corroborating the course content with the expectations of the epistemic community representatives, of the professional associations and of the relevant stakeholders in the corresponding field

The knowledge taught in the course is necessary to know and understand the role of factors influencing the choice of a healthy diet based on the principles of a balanced diet in ensuring health and the role of the food industry specialist in developing safe, attractive and high nutritional value food products.

10. Assessment

Type of activity	10.1. Assessment criteria	10.2. Assessment methods	10.3. Percentage of the final grade
10.4. Lecture	periodic or partial tests	Verification along semester - a number of 4 verifications are scheduled	35%
	participation in scientific circles and / or professional competitions	Practical and theoretical skills	5%
10.5. Seminar/Laboratory	Evaluation during the semester	Assignments	20%
	Final evaluation (the scheduled assignments)	Written exam	40%
10.6. Minimum performance standards			
• Solving a concrete food science problem based on a given algorithm • Carrying out a literature study (nutrition and health).			

[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).

Course coordinator
Prof. SUHAROSCHI Ramona, PhD

Laboratory work/seminar coordinator
Lecturer. dr. POP Oana Lelia

Filled in on
08.09.2021

Şef lucr dr.POP Oana Lelia

Subject coordinator
Prof. SUHAROSCHI Ramona, PhD

Approved by the Department on
22.09.2021

Head of the Department
Prof. SUHAROSCHI Ramona, PhD

Approved by the Faculty Council on
28.09.2021

Dean
Prof. MUDURA Elena, PhD