Nr._____din _____ **Formular USAMV–CN-0708010108**

SUBJECT OUTLINE

1. Date despre 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. Field of study	**Food Engineering**
1.5. Study cycle 1)	**Master**
1.6. **Specialization/ Study Programme**	Gastronomy, Nutrition and Food Dietetics
1.7. Form of education	IF (învăţământ cu frecvenţă)

2. Date despre disciplină

2.1. Name of discipline	**Human Nutrition Physiology**							
2.2. Holder of course activities	**Lecturer, Alexandra Sevastre- Berghian MD, PhD**							
2.3. Holder of seminar/laboratory/project activities	**Lecturer Dr. Alexandra Sevastre- Berghian MD, PhD**							
2.4. Year of study	I	2.5.Semester	1	2.6. Type of assessment	Ccontinuous assessment	2.7. Discipline status	Content [2]	DS
							Compulsorines[3]	DI

3. Total estimated time (teaching hours per semester)

3.1. Hours per week – full time programme	2	of which : 3.2. curs	1	3.3. laboratory	1
3.4. Total number of hours in the curriculum	28	of which: 3.5. curs	14	3.6. laboratory	14
Distribution of the allotted time					hours
3.4.1. Study based on book, textbook, bibliography and notes					23
3.4.2. Additional documentation in the library, specialized electronic platforms and field					30
3.4.3. Preparing seminars/ laboratories/ projects, subjects, reports, portfolios and essays					10
3.4.4. Tutorials					10
3.4.5. Examinations					10
3.4.6. Other activities					

3.7. Total hours of individual study	83
3.8. Total hours per semester	111
3.9. Number of credits	5

4. Prerequisites (if applicable)

4.1. curriculum-related	.....
4.2. skills-related	.....

5. Conditions (where applicable)

5.1. For the lecture	The course is taught in power point system, in an interactive manner, in which dialogue on discussed topics is stimulated, with students being encouraged to ask and answer to the questions based on the content of the presentation. The university discipline requires a presence of students at min. 50% of the course, respecting the start and end time of the course, appropriate attire and behavior from both teachers and students, in the conditions of a real partnership between student and teacher. No other activities are tolerated during the lecture.
5.2. for the seminar/	The practical works and the project are carried out on the basis of the related theme, in correlation with the information included in the course, stimulating the independent thinking and the individual

laboratory/ project	activity of the students. It is necessary to respect the academic discipline, and the learning results are explained and discussed with the students from the perspective of their relevance for the formation of specific, professional and transversal competences.

6. Specific competences acquired

Professional skills	The acquired professional competencies must ensure the cognitive dimension and the basic structural elements of knowledge and skills, expressed through information, synthesis, appropriate use of discipline-specific language, measurement skills, statistical interpretation, critical and constructive reflection, creativity and innovation. Explaining and interpreting the concepts, processes, mechanisms underlying the transformation of food principles in the digestive system and their distribution and metabolism in the human body Analysis of aspects related to nutrition physiology, with the application of accumulated knowledge Ability to characterize the nutritional content of foods Knowing the recommendations for healthy nutrition. Their translation into quantities and types of food. Preparation and evaluation of a food ration in terms of quantity and quality, the ability to make changes to meet healthy eating standards. Description and evaluation of the importance of food for health.
Transversal competences	Stimulating analytical and synthetic thinking, efficiency in learning notions, perseverance, through rigor and responsibility for the results of personal activity, creativity, common sense. Respect for the principles, norms and values of the code of professional ethics in the agro-food field. Applying inter-relationship techniques within the team: stimulating interpersonal communication, teamwork, based on specific tasks, with optimal management of time and invested effort. Searching and classifying information obtained from scientific articles, electronic sources, media. Ability to discuss, orally and in writing, the results of research in the field and to formulate conclusions based on scientific data. Ability to evaluate complex situations.

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

7.1. Overall course objective	The course "Human Nutrition Physiology" is adapted to the specific training needs of master students in Gastronomy, Nutrition and Food Dietetics and provides fundamental and evidence-based information on nutrition and metabolism, focusing on how nutritional components influence the functions of the human body. The practical works aim at clarifying and understanding some biological phenomena of high difficulty and complexity, explaining the methods of functional exploration of the digestive system, metabolism and endocrine system. The individual project is chosen by students from the related topic of the course and is limited to the mentioned objectives; it aims to stimulate individual thinking, study and personalized presentation of data. Project preparation involves the correct identification of problems, the critical formulation of personal opinions, autonomy and creativity.
7.2. Specific objectives	The specific objectives of the discipline refer to the description of the phenomena and physiological mechanisms of mechanical and chemical processing of food in the digestive tract; explaining the mechanisms for regulating food and water intake; explaining the factors that condition the sensation of taste and smell; description of the sources and functions of the essential components of the diet and the effects of deficits or excess of the essential components of the diet on the human body The student acquires competencies related to the description and evaluation of the importance of food for human health in the long term.

8. Content

8.1. LECTURE **Number of hours – 14**		Teaching methods : intercative lecture	Remarks	
	Nr. cap.	**CONTENT** (Topics)	Nr of hours / % out of total	Week
	1	Introduction. Homeostasis of the human body. Nervous and humoral regulation mechanisms. Digestion physiology. General characteristics of secretory and motor digestive functions.	2 (14,3%)	1-2

	2	Chemical digestion. Optimal working conditions for digestive enzymes. Adjustment mechanisms. Motor function of the food tract: mechanisms, stages, general and local regulation mechanisms.	2 (14,3%)	3-4
	3	Intestinal absorption: small intestine as a preferred site; morpho-functional specializations; principles of functional exploration; malabsorption. Liver functions.	2 (14,3%)	5-6
	4	Physiology of taste. Physiology of smell.	2 (14,3%)	7-8
	5	Regulation of food and water intake. Hunger and thirst. General principles of physiological nutrition.	2 (14,3%)	9-10
	6	Introduction in endocrine physiology. Hormones: classification; general mechanisms of synthesis, secretion, activation, inactivation, excretion and mechanisms of action; general adjustment mechanisms; biorhythms. Physiology of growth. Somatotropic hormone (STH). The effects of thyroid hormones.	2 (14,3%)	11-12
	7	Phospho-calcium homeostasis. The importance of calcium in the human body. Sources of calcium. Calcium absorption. Vitamin D metabolites. Parathyroid hormone. Calcitonin. Carbohydrate homeostasis. Glucose sources. Regulation of carbohydrate metabolism. Insulin. Carbohydrate metabolism disorders.	2 (14,3%)	13-14
		Total LECTURE	**14 (100%)**	**14**

8.2. PRACTICAL ACTIVITY **Number of hours – 14**	Teaching method: interactive, combining lecture with case study, and solving concrete problems	Remarks	
Nr	**CONTENT** (Topics)	Nr of hours / % out of total	Week
1	Functional exploration of the digestive system.	2 (14,3%)	1-2
2	Nutrition ration (I). Energy needs. Body mass index.	2 (14,3%)	3-4
3	Determination of basal metabolism. Variable energy expenditure	2 (14,3%)	5-6
4	Food ration (II). Food principles. Thebalanced dietary intake.	2 (14,3%)	7-8
5	Glucose tolerance test	2 (14,3%)	9-10
6	Hypocalcemic tetany.	2 (14,3%)	11-12
7	Evaluation	2 (14,3%)	13-14
	Total Practical activity	**14 (100%)**	**14**

9. Corroborating the content of the discipline with the expectations of representatives of the epistemic communities, professional associations and representative employers in the field of the programme

The course and practical activity provide the necessary and sufficient information to be applied in research laboratories

10. Evaluare

Activity Type	10.1. Assessment criteria	10.2. Assessment methods	10.3. Percentage of the final grade
10.4. Lecture	- in agreement with educational objectives, -general evaluation criteria (correct accumulated knowledge, logical coherent, fluent expression) -ability to understand fundamental issues	- summative written exam, scris, open and MCQs questions	50%

10.5.Seminar/ Laboratory	- in agreement with the educational objectives of the practical works	- written essay on a topic related to the presented themes	50%
10.6. Minimum performance standards			
The evaluation of the knowledge and abililties acquired by students is performed according to article 144 para. (3) of the National Education Law, by full marks from 10 to 1, grade 5 certifying the acquisition of minimum competencies related to the discipline and passing the exam. Obtaining the passing grade at the verification colloquium is a mandatory condition for the presentation at the final exam (summative), respectively a preliminary condition on which the passability depends.			

[1] Ciclul de studii: se alege una din variantele - Licenţă/Master/Doctorat.
[2] Regimul disciplinei (conţinut): pentru nivelul de licenţă se alege una din variantele: **DF** (disciplină fundamentală); **DD** (disciplină din domeniu); **DS** (disciplină de specialitate); **DC** (disciplină complementară). La master: **CA** (cunoaştere avansată); **PC** (pregătire complementară); **A** (aprofundare); **S** (sinteză).
[3] Regimul disciplinei (obligativitate): se alege una din variantele - **DI** (disciplină obligatorie); **DO** (disciplina opţională); **DFac** (disciplină facultativă).
[4] Un credit este echivalent cu 25-30 de ore de studiu (activităţi didactice şi studiu individual).

Titular curs
Şef Lucrări Dr. Alexandra Sevastre-Berghian

Titular lucrari laborator/seminarii
Şef Lucrări Dr. Alexandra Sevastre-Berghian

Data completării
08.09.2021

Coordonator disciplină
Prof dr Ramona Suharoschi

Data avizării în departament

Director de departament
Prof dr Ramona Suharoschi

Data avizării în Consiliul Facultăţii

Decan
Prof dr Elena Mudura