UNIVERSITY OF SARAJEVO

SPECIALIST STUDY PROGRAMME IN NUTRITION: FEASIBILITY STUDY

Sarajevo, March, 2019

1. INTRODUCTION

The feasibility study of the one-year specialist study programme "Nutrition" was created in accordance with the Rules and Regulations for the Proposal, Evaluation and Adoption of New Programmes and the Modification of Existing Programmes and Curricula at the University of Sarajevo, ratified at the University Senate's Twenty-Sixth Regular Session, held on December 19th 2018, and pursuant to the Article 50 Section 3; Article 130, Section 2d of the Law on Higher Education (Official Gazette of the Sarajevo Canton, No. 33/17) and the Article 138 of the Statutes of the University of Sarajevo.
The feasibility study contains all the elements listed in the Rules, Article 2 (Proponent of the Programme), Article 3 (Necessary Documents) and Article 4 (Contents of the Feasibility Study). Additionally, it contains the elements listed in Article 5 (Documents on human resource conditions), Article 6 (Documents on the spatial conditions and equipment), Article 7 (Documents on the finances required for the implementation of the study programme) and Article 8 (Contents of the quality assurance plan), with all required additional documents.

1.1. About the Institution Proposing the Programme (Mission, Vision, Strategy and the Institutional Framework)

The Center for Interdisciplinary Studies was founded in 1995, as a part of the University of Sarajevo, with an aim to promote interdisciplinary approaches in the area of higher education and to develop educational and research programmes that transcend the limitations of separate fields. At their core, the contemporary trends in higher education, scientific research and lifelong learning are connected with the interdisciplinary approach, which is perceived as the integration and synthesis of the different areas' perspectives, forming the key concept for the improvement of the curricula. Both the labour market and the academic community have high demands for transcending the limits of traditional disciplines and professions, whose inevitable limitations do not correspond with the deep and thorough research and teaching within the ever-growing complexity of the social and natural phenomena. CIS focuses on the interdisciplinary education of new generations of local experts from Bosnia and Herzegovina and Southeast Europe. Therefore, CIS represents a focal meeting point for more than a hundred prominent experts (both local and international) from various academic and professional fields who work jointly on various educational, research and development programs and projects. CIS is situated at the University of Sarajevo and it represents an innovative incubator for interdisciplinary programs and projects.

CIS focuses on three areas:

1. Interdisciplinary education through master and doctoral programmes
2. Interdisciplinary education through lifelong learning programmes
3. Academic research and market-oriented interdisciplinary projects

Vision: Interdisciplinary approach as the core designation of the education system and public policies in Bosnia and Herzegovina.

Mission: The Center for Interdisciplinary Studies aims to become recognizable in the academic, social and business community as an incubator for interdisciplinary education and interdisciplinary projects. CIS is therefore engaged in its mission to promote interdisciplinarity in education, science and public policies, thus contributing to spreading

basic knowledge, critical thinking and natural phenomena, as well as preparation and implementation of academic-based and professional public policies and measures.

Taking into consideration the previously defined vision and mission of the Center and the three areas of its work, CIS is focused on completion of the following goals until 2022:

1. Development and maintenance of the unique interdisciplinary educational platform intended for the development of human potential necessary for the processes of democratic consolidation and European integrations in Bosnia and Herzegovina and Southeast Europe.
2. Interdisciplinary education of the young generation of experts for academic and professional positions, from the local think-tank base to professional public administration and new political leadership, in accordance with the ground requirements of the democratization and EU integration (political and economic alike).
3. Contribution to the educational reform process in Bosnia and Herzegovina through the implementation of the interdisciplinary master and doctoral programmes, based on the principles of the European higher education space and scientific research.
4. Development of interdisciplinary and multidisciplinary lifelong learning programmes, as well as additional specialist education intended for coordination with the labour market's needs.
5. Contribution to the development of the society of knowledge in Bosnia and Herzegovina through implementation and promotion of academic research, based on the integration and synthesis between scientific fields and discovery of specific scientific areas requiring interdisciplinary approach.

1.2. The Reason for Starting the Specialist Study Programme

The University of Sarajevo, as the oldest, most prestigious university in Bosnia and Herzegovina has been proved to follow the contemporary developments in science, as demonstrated by establishment of the interdisciplinary master programme "Nutrition" in the 2017/2018 academic year.

Nutrition is an applied science on human diet and the impact of food on the human organism, growth, development, functions, concentration and efficiency through all phases of the circle of life. Nutritionists are significant as mediators of scientific discoveries in the area of human diet to the general and target population in order to maintain and improve the health and general status of the organism.

With the establishment of the MA programme "Nutrition" (two-year programme, started in the 2017/2018 academic year), as an interdisciplinary MA programme at the University of Sarajevo, the University, was enriched with a modern, pioneering study programme in Bosnia and Herzegovina. The engagement of highly-qualified professors from various faculties of the University of Sarajevo (along with the engagement of the highly-qualified instructors from abroad) has enabled the necessary quality in teaching, which demands the engagement of experts of various profiles, due to its interdisciplinary nature. The high quality in education and training is achieved through the far-reaching integration of formal and informal measures of qualification required for the nutrition/food education sector into the National Qualification

Framework and through the development of adequate professional standards and standards of competence.
Taking into consideration the fast development of science and technology, as well as the experience gained through the implementation of the two-year master programme, there was a need to develop a one-year specialist study programme, compatible with the concept of lifelong learning.

1.3. Estimated Significance of the Programme with Regards to the Market Needs in Public and Private Sectors

The life quality, as well the capacity for the society and economy's development, is mostly shaped by the individual's health status, which primarily depends on the dietary habits of the individual, their approach to food and the level of information and knowledge of each individual in terms of the nutritive characteristics of food and the means of using the food. Therefore, a new paradigm has been accepted at the global level, that the quality of life or the population's health is best preserved through prevention or through raising the level of knowledge about food and diet, as well as the healthy lifestyles. That is the reason for change in classical approaches in public policies; in other words, prevention and raising population's awareness are being put into focus, so it is not surprising that the traditional ministries of agriculture are being replaced by the ministries of food, nutrition and consumers' protection in modern societies (e.g. Germany). Therefore, it is very important that the experts working in all fields important for prevention and promotion of healthy lifestyle (Food Technology, Medicine, Pharmacy, Health Studies, Biochemistry, Biology, Sports) are equipped with the adequate knowledge, skills and competences in the field of nutrition. The knowledge in this area, particularly in terms of what is learned in the interdisciplinary study programme, shall enable the students to prepare for the future, since the global changes (technical, technological and environmental), and particularly environmental changes, will require the individuals to adjust their habits, especially in terms of diet, food preparation and storage, in order to deal with the increasing "pressures" from the environment. This kind of approach guarantees a high level of employability of the students. It is the expected diversity among the students, in terms of their previous knowledge and level of education that will enable the higher level of interdisciplinarity. Various industries and institutions have shown interest in this type of experts: food industry (new product development, communication in terms of consumers' education, product quality control); institutions which offer organised production and distribution of food for certain groups (schools and preschools, student dormitories, army barracks, retirement homes, hospitals); restaurants, hotels, health resorts, spa centres; professional and amateur sports organizations; research institutes (working in the areas of food and pharmaceutical industry), public health institutions and departments; ministries; centres for promotion of certain dietary regimes (vegetarian, macrobiotics, halal, kosher etc.), as well as the social workers and the non-government sector working in the areas of rural development, organic agriculture, and especially tourism and catering, as the areas which can also benefit from this kind of knowledge. This kind of students' diversity strengthens the interdisciplinarity or co-creation of knowledge which forms the basis for the modern higher education system. This kind of approach raises the level of inclusiveness of this study programme as well as the entire University of Sarajevo.

1.4. The Programme's Compliance with the University's Mission, the Study Programme Proponent's Strategy and the Current Strategic Document of the University

The master's programme started in 2017, as well as its promotion, has shown the need for development of a specialist study programme, as the answer to the society's demand for lifelong education of experts in highly important areas, thus improving their skills and competences.

The starting of the specialist study programme is in accordance with the University of Sarajevo's vision (quoted from the University's website): *to enable the University's capacities in research and development to create a basis for establishing the ambiance and awareness that would benefit the creation of conditions for stimulation of the general prosperity and development of science, art and research in Bosnian-Herzegovinian society. The activities in the area of scientific research/artistic research at the University of Sarajevo ought to contribute to the development of the society through excellence in science, arts and research.*
Through the synergy between the higher education and economy and culture, scientific/artistic research should become the carrier of the economic and cultural development of the society. The University's vision in terms of development of scientific/artistic research: Raising the scientific/artistic research at the University to a higher level, in order to reach the level in the surrounding countries and the European Union.
The University's mission in terms of development of scientific/artistic research: The results of the scientific/artistic research should become comparable qualitatively (through excellence) and quantitatively (through productivity) with the results in the middle developed countries of the European Union. The University of Sarajevo would thus become an equal participant in international research projects and one of the initiators and carriers of the development of the society in Bosnia and Herzegovina.

1.5. Comparison of the Study Programme with Similar, Accredited Study Programmes in Bosnia and Herzegovina and the Countries of the European Union

This specialist study programme can be compared with:

- **Josip Juraj Strossmayer University Of Osijek**
  Faculty of Food Technology
  Postgraduate Specialist Programme in Nutrition
  (one-year study programme, 60 ECTS credits; title: MA (the title awarded at the graduate study level) University Specialist in Nutrition)

- **Wageningen University, Holland**
  Department of Agrotechnology and Food Sciences
  Division of Human Nutrition and Health
  MSc Programme: Nutrition and Health (two-year programme; students can choose their specialisation within the programme):
  A. Epidemiology and Public Health
  B. Nutritional Physiology and Health Status
  C. Molecular Nutrition and Toxicology
  D. Sensory Science
  E. Nutritional Epidemiology and Public Health (online master's specialisation, available from September 2015)

- **University of Ljubljana**
  Biotechnical Faculty
  Graduate Studies: Food Science
  (two-year programme; 120 ECTS credits; title: Master Engineer of Food Science)

1.6. Student Mobility in the Local and International Higher Education Areas

The University of Sarajevo has signed over 200 contracts with the most prestigious higher education institutions (universities, centres and hospitals) around the world. The special emphasis can be put on the contracts signed under the framework of the programme ERASMUS+ KA 107 (student mobility; teaching staff mobility and non-teaching staff mobility), as well as the highly active CEEPUS networks.

During the studies, a student has the right to spend a certain amount of time at the similar higher education institution in the country or abroad (attending courses, doing research and/or working on the final thesis at prestigious universities), through the international student mobility programmes, in accordance with the University's bilateral agreements and the mandatory learning agreement between the host and the recipient higher education institution/faculty. That means that students and professors involved in this study programme can make use of the aforementioned contracts and visit prestigious institutions (including the very prestigious Heidelberg University in Germany).

This study programme will be included in the programme entitled Diaspora for Development-D4D (Dijaspora za Razvoj), which enables the invitation of prestigious professionals from different areas to visit the University of Sarajevo and participate in workshops, intended to gather the students as well as the broader interested population.

The participation of lecturers with different experiences and knowledge and who come from various universities abroad contributes to the quality and interdisciplinarity of the study programme, while simultaneously improving the programme's visibility and the populations' awareness level, in terms of the importance and relevance of the study programme's themes.

Student mobility is regulated by the University of Sarajevo's Statutes.

1.7. The Programme's Compliance with the Requirements of the Professional Associations

The Founding meeting of the Association of Nutritionists in Bosnia in Herzegovina was held on 10th December 2018, when the Assembly adopted the Association's Statutes. Taking into consideration the Association's goals, the new specialist study programme is in accordance with the following:

- Organization of counselling, lectures, seminars, public lectures and other professional and promotional meetings in the area of nutrition;
- Encouraging of the professional and scientific work in the area of nutrition;
- Enabling the education and constant specialisation of nutritionist;
- Cooperation with health departments and organizations and other organizations in Bosnia and Herzegovina;

- Educating the public about the importance of regular diet, in accordance with the campaigns organised by the health departments and organizations – as well as the organizations in non-health sector – in Bosnia and Herzegovina, Europe and the world;
- Informing the public and publishing of the expert opinions for the public in the area of nutrition;
- Education on healthy living and the human health improvement;
- Promotion of activities in the fields of sport and recreation, combined with the active lifestyle as well as the education on the aforementioned notions;
- Education and organization of lectures and courses about the healthy living;
- Physical and mental health improvement;
- Promotion of psychophysical recreation;
- Cooperation with other organizations and professional institutions in Bosnia and Herzegovina, in order to promote the Association's goals;
- Publication of reports, analyses and publications related to the goals and activities of the Association, as well as the production of promotional, publicist and audio-video materials;
- Maintaining contact with the media, in order to promote nutrition, healthy lifestyle, sports and recreation;
- Publishing of brochures, plans, books and other publications in order to achieve the Association's goals.

1.8. Potential Partners outside the Higher Education System

Potential partners of the programme outside the higher education system can be:

- Hospitals (at the level of the state and/or the canton),
- Private polyclinics and clinics,
- Student Health Department,
- Agency for Food Safety,
- Ministries of Agriculture,
- Ministries of Health,
- Public Health Departments,
- Institutes and departments oriented to people's health and diet,
- Preschools and schools,
- Student dormitories,
- Army barracks,
- Homes for the third age
- Hotels, health resorts, fitness and spa centres
- Food and pharmaceutical industry

2. GENERAL INFORMATION

2.1. The Title, Implementation Institution, Level and Aim of the Programme

The title of the specialist study programme is Nutrition.

The programme is implemented by the University of Sarajevo. The University of Sarajevo delegates the organization of the programme to the Center for Interdisciplinary Studies and also delegates the teaching to professors and assistants from several faculties of the University of Sarajevo.

The level of study programme is specialist programme.

The aim of the study programme is to educate experts in the field of nutrition, due to the common appearance of illnesses connected with diet and rising awareness of the significance of diet. The students are required to have previously completed at least the second cycle studies, the integrated graduate studies or undergraduate studies in the pre-Bologna system (the degree is recognized as the second cycle degree following the designated recognition process), or the integrated graduate studies in biotechnical and natural sciences, medicine and social sciences (Food Technology, Medicine, Pharmacy, Health Studies, Biochemistry, Biology, Sports).

2.2. Scientific/Artistic Areas the Study Programme Belongs to

The specialist study programme "Nutrition" is an interdisciplinary study programme which incorporates the scientific areas of biotechnical and natural sciences, medicine and social sciences and therefore, the professors responsible for the courses come from the faculties of the University of Sarajevo which correspond with these areas. Along with the responsible professors, there are other instructors involved in the teaching process and they come from the University of Sarajevo or appear as guest lecturers from universities in the region and broader.

2.3. Organization and Duration of the Study Programme and the Minimal Amount of ECTS Credits Required to Complete the Studies

The specialist study programme is organized as a one-year (two semesters) programme, with the total amount of 60 ECTS credits.
The students have to finish the studies within two years. The student who fails to finish the studies in the allotted time period shall be treated in accordance with the guidelines prescribed by the Law.

The classes are organized as lectures, theoretical, laboratory and practical classes, seminar papers, seminars, office hours, for two semesters.

Some classes are also organized as workshops, each lasting for up to two days. They are obligatory, but without ECTS credits. The workshops are organized within one module and they are taught by at least two lecturers per workshop, in coordination with partners outside the higher education system. This represents a novelty at the University of Sarajevo and it increases interdisciplinarity, attractiveness and the relevance of the study programme.

In accordance with the European Credit Transfer and Accumulation System, the programme is valued with 60 ECTS credits per year, or 30 ECTS credits per semester. The number of credits for each individual course is determined in accordance with the assigned workload (theoretical and/or practical classes, seminars etc.), the time students spend doing individual assignments (homework, projects, seminar papers etc.) and the time required for exam preparation (tests, final exam).

The specialist thesis is valued with 15 ECTS credits.

2.4. Language of Instruction

The language of instruction is Bosnian/Croatian/Serbian.

2.5. The Adequate and Transparent Selection Process for the Enrolment

The candidates get the student status by enrolling in the study programme implemented by the Center for Interdisciplinary Studies of the University of Sarajevo, following the public Call for Applications, issued by the University, in accordance with the Senate's decision.

The entrance exams are conducted in accordance with the Law, the Statutes, this set of Rules and the final results of the Call for Applications.

The notification about the Call for Applications is issued by the University of Sarajevo and published in at least three different newspapers in Bosnia and Herzegovina.
The Call for Applications is published on the websites and notice boards of the University of Sarajevo and the Center for Interdisciplinary Studies, after it has been approved by the Ministry.

The local and international candidates who can apply for the specialist study programme need to have:

- Second cycle degree
- Undergraduate four-year degree in the pre-Bologna system (the degree is recognized as the second cycle degree following the designated recognition process)
- A degree in integrated undergraduate and graduate studies, lasting for five or six years;
- A degree in biotechnical and natural sciences, medicine and social sciences, specializing in: Food technology, Biochemistry, Biology, Medicine, Pharmacy, Health Studies, Sports, Tourism.

All applicants will be ranked according to the second cycle degree, undergraduate four-year degree in the pre-Bologna system and integrated undergraduate and graduate studies and the grade point average during the studies.
The preliminary ranking of all accepted applicants will be published on the websites and notice boards of the University of Sarajevo and the Center for Interdisciplinary Studies, after the approval and at the latest two days after the last day of the entrance exam or two days after the application deadline.

The applicants can make a complaint within three days following the publication of the preliminary ranking. The governing body of the Center for Interdisciplinary Studies of the University of Sarajevo must make a decision based on the complaint within three days. The decision of the Centre's Council is final (Rules for the First and the Second Cycle, the Integrated Study Programmes, Professional and Specialist Study Programmes at the University of Sarajevo, Article 7). The Enrolment Committee will deliver the final report with the results and the ranking to the Study Programme's Council. The Council will then formally approve the ranking.

2.6. Qualification upon Completion of the Studies

After passing all the exams listed in the Curricula and defending the Specialist Thesis; after acquiring the full, required number of ECTS credits and after finishing the studies, the student gets the academic title of Specialist of Nutrition, with the abbreviation *spec. nutr.* after their first and last name.

2.7. The Analysis of the Graduate Students' Employability

The specialists of nutrition have gained competencies to work in:

- Administration units at the level of the state/entity, which create public policies in the fields of education, economy, customer protection, health, sports and culture,
- Advisory centres for food and diet,
- Associations for consumer protection, diet, health and sports,
- Food and pharmacy industries,
- Institutes and departments oriented to human health and diet,
- Collective-nutrition institutions: preschools, schools, student dormitories, army barracks, homes for the third age,
- Hotels and health resorts,
- Fitness and spa centres.

2.8. Grading and the Grading Scale

Each individual course syllabus contains the grading scale, in accordance with the goals and outcomes of the course.

2.9. Quality Assurance: the Means of Quality Assessment and the Programme's Success

The study programme's quality and success will be assessed through internal and external observation and assessment by an official committee and the students. More information about this system can be found at the end of the document.

3. DESCRIPTION OF THE STUDY PROGRAMME

3.1. Learning Outcomes at the Study-Programme Level

The learning outcomes at the study-programme level are defined in accordance with the requirements of the professional associations as well as the labour market, the possibilities for continuous education, general social needs and standards of the qualification frame.
Upon completion of the specialist study programme, the students will be acquainted with the methods for assessment of the nutritive status, energetic and nutritive needs of the healthy population and the population with illnesses caused by irregular diet, determine the prevention and intervention, learn how to choose specific activities and be capable of doing jobs related to the food quality assessment and counselling aimed at dietary improvement, finally aiming to maintain health and prevent or treat illnesses.

3.2. The List of Obligatory and Elective Courses

The table 1 contains the list of courses with ECTS credits and number of hour. The syllabi (SP2 Form) are shown in Annex 1 at the end of the Feasibility Study.

Table 1: The Specialist Study Programme "Nutrition" – Curriculum

Year/Semester	Name of the Course	Number of ECTS	Total Number of Hours
1/I			
1	Food Physiology	5	30
2	Chemistry and Biochemistry of Food	6	30
3	Nutritive Aspects of Food	6	30
4	Nutrition through the Lifecycle	5	30
5	Elective Course 1	4	20
6	Elective Course 2	4	20
Total		*30*	*160*
1/II			
7	Epidemiological Principles in Food Safety	5	30
8	Nutrigenetics	4	30
9	Elective Course 3	4	20
10	Interdisciplinary Workshops (2 Workshops)	2	20

Total		*15*	*100*
	Final Specialist Thesis	*15*	
Total			
Total Number of Contact Hours		*60*	*260*
	Elective Courses		
1	Nutrition Psychology	4	20
2	Biotechnological and New Food	4	20
3	Scientific Research Methodologies	4	20
4	Traditional Nutrition Methods	4	20
5	Dietary Food	4	20
6	Nutrition for Preschool Children and School Children	4	20
7	Sports Nutrition	4	20
8	Obesity	4	20
9	Functional Food	4	20
10	Food Packaging	4	20
	Interdisciplinary Workshops		
1	Communication Skills	1	10
2	The Wine Culture Phenomenon and Nutrition Patterns	1	10
3	Food Policies in Urban Environment	1	10
4	The Influences of Marketing on Child and Teenage Diet	1	10

3.3. Information about the Programme's Structure and the Requirements for Enrolment in the Next Semester

Application of the European Credit Transfer System (ECTS) framework to the specialist study programme "Nutrition" starts from the deal, accepted in the entire European higher education area, that the full workload in one academic year accounts to 60 ECTS credits. The organized classes are valued with 45 ECTS credits and the final specialist thesis is valued with 15 ECTS credits.

The specialist study programme consists of seven obligatory courses (one obligatory course contains the interdisciplinary workshops, whereby the students choose two out of four), three elective courses and the defence of the final specialist thesis.

The first semester includes four obligatory and two elective courses valued with 30 ECTS. The second semester includes three obligatory courses (one obligatory course contains the interdisciplinary workshops), with 15 ECTS credits and the final specialist thesis, with 15 ECTS credits.

3.4. The List of Elective Courses Offered at Other Study Programmes and the Requirements for their Selection

A student can choose an obligatory or elective course (the Curriculum lists obligatory courses with 5 or 6 ECTS credits and 30 hours; the course Interdisciplinary Workshops with 2 ECTS credits and 10 hours and elective courses with 4 ECTS credits and 20 hours) from another study programme, if the course's learning goals and outcomes correspond to the learning goals and outcomes of this study programme. The student is required to write a request and address it to the Study Programme's Council, attaching the additional documents, or the syllabus of the course they wish to choose/attend.

3.5. Completion of the Studies

The student will complete the studies by passing all the exams and writing the final thesis. The student chooses their thesis supervisor based on their interest and the instructor's research area. The thesis topic must be closely connected with the area of nutrition. The possible topics for final theses are suggested by the professors. However, the student can suggest their own thesis title to the professor they wish to work with.

The thesis supervisor can also be an instructor who has not been teaching at the specialist study, but the thesis topic is related to the programme's field. The suggested professor needs to possess adequate skills and competencies in order to be a thesis supervisor. The choice of the thesis supervisor is approved by the Academic Council of the Center for Interdisciplinary Studies.

The students submit their thesis applications on the prescribed form. After the application's approval by the Council, the Council forms the Thesis Defence Committee. The members of the Committee must be professors ranging from the assistant professor to full professor. The

Committee consists of the president and two members, or their substitutes. One of the members of the Committee is the thesis supervisor.

The student may change the topic of their thesis once, at the latest 30 days after the approval of their first topic.

The students defend their theses with the public presentation.

All the other issues pertaining to the organization of the classes and the study programme – the students' rights and obligations, application process and the enrolment – shall be regulated by the Law, the Statutes, the Rules for the First and the Second Cycle, the Integrated Study Programmes, Professional and Specialist Study Programmes at the University of Sarajevo.

3.6. Course Description

The information about each course are listed in the newest forms for syllabi and attached at the end of the Feasibility Study. The syllabi contain the following information: course title, level, ECTS credits, course length, status, year, semester, prerequisites (if there are any), course description, goals and expected learning outcomes (knowledge, skills, competencies), thematic units that will be studied, teaching methods, grading procedure, required and recommended materials).

4. THE PART OF THE FEASIBILITY STUDY REQUIRING ADDITIONAL DOCUMENTS – in accordance with the Rules and Regulations for the Proposal, Evaluation and Adoption of New Programmes and the Modification of Existing Programmes and Curricula at the University of Sarajevo

4.1. Professors – Article 5 (Documents on Human Resources)

The description of human resources contains:

a) The document confirming the instructor's academic title and the field of study, with the instructor's full name and the name of the faculty where they teach – attached in the annex with the instructors' updated CVs.
b) The optimal number of students who can enrol in the study programme is 20; or the number will be determined by the Study Programme's Council.

Table 2: Professors and Assistants Included in the Teaching Process

Number	Name and Surname of the Professor and Assistant	Name of the Faculty/Institution
1	Asst. Prof. Dr. Irzada Taljić	Faculty of Education
2	Full Prof. Dr. Enisa Omanovič-Mikličanin	Faculty of Agriculture and Food Science
3	Full Prof. Dr. Nihad Fejzić	Faculty of Veterinary Medicine
4	Asst. Prof. Dr. Sabina Šerić Haračić	Faculty of Veterinary Medicine
5	Full Prof. Dr. Muhamed Smajlović	Faculty of Veterinary Medicine
6	Full Prof. Dr. Almira Džuvo Hadžović	Policlinic Al-Tawil
7	Asst. Prof. Dr. Amina Valjevac	Faculty of Medicine
8	Assoc. Prof. Dr. Emina Kiseljaković	Faculty of Medicine
9	Full Prof. Dr. Nerma Spaho	Faculty of Agriculture and Food Science
10	Asst. Prof. Dr. Haris Memišević	Faculty of Education
11	Asst. Prof. Dr. Daniel Maleč	Faculty of Education
12	Assoc. Prof. Dr. Amel Mekić	Faculty of Sports and Physical Education
13	Full Prof. Dr. Zlatan Sarić	Faculty of Agriculture and Food Science
14	Assoc. Prof. Dr. Asima Akagić	Faculty of Agriculture and Food Science
15	Full Prof. Dr. Sanja Oručević Žuljević	Faculty of Agriculture and Food Science
16	Full Prof. Dr. Selma Čorbo	Faculty of Agriculture and Food Science
17	Assoc. Prof. Dr. Sabina Operta	Faculty of Agriculture and Food Science
18	Prof. Dr. Lejla Pojskić	Institute of Genetic Engineering and Biotechnology

19	Prof. Dr. Adaleta Durmić-Pašić	Institute of Genetic Engineering and Biotechnology
20	Asst. Prof. Dr. Anja Haverić	Institute of Genetic Engineering and Biotechnology
21	Mr. Sc. Maida Hadžić	Institute of Genetic Engineering and Biotechnology
22	Full Prof. Dr. Aida Hodžić	Faculty of Veterinary Medicine
23	Assoc. Prof. Dr. Dženana Husremović	Faculty of Philosophy
24	Full Prof. Dr. Melika Husić Mehmedović	School of Business and Economics
25	Full Prof. Dr. Milenko Blesić	Faculty of Agriculture and Food Science
26	Asst. Prof. Dr. Mirza Uzunović	Faculty of Agriculture and Food Science
27	Mr. Sc. Alen Mujčinović	Faculty of Agriculture and Food Science
28	Dr. Sc. Selma Gičević	Federal Department of Statistics

4.2. Place of Realization – Article 6 (Documents on Spatial Conditions and Equipment)

The programme is implemented by the University of Sarajevo. The University of Sarajevo delegates the organization of the programme to the Center for Interdisciplinary Studies (CIS) and CIS is required to provide the administrative and technical assistance and make their rooms available. CIS has: - two large conference rooms, with capacity for up to 80 people, with conference chairs and – two small conference rooms, with capacity for up to 40 people. The Center also has one interpreting cabin and equipment: a microphone, a projecting screen, three projectors and three laptops. The laboratory classes will be organized in the laboratories of the Faculty of Food and Agriculture.

Table 3: Information on the Place of Realization

Address	Zmaja od Bosne 8, University Campus
Surface Area	700 m^2
Conference Rooms/Lecture Halls	4 (surface area 279 m2)
Offices	12 (surface area 178 m2)
Library	1 (65 m2)
Reading Room	1
Other Facilities	Hall, kitchen (1), toilets (6), archives (1),

	(surface area 243 m2)
Technical Equipment and Teaching Aids	Server (1), computers (20), smart board (2), laptops (5), projectors (4), printer (6)

4.3. Quality Assurance – Article 8 (Contents of the Quality Assurance Plan)

In accordance with the Standards and Guidelines for Quality Assurance in the European Higher Education Area[1], which provide the basis for the University's adoption of processes for quality improvement and management, the Center is required to create a plan for the procedure of quality assurance of the study programme. The quality and success of the specialist study programme is assessed throughout the duration of the study programme and it is under the jurisdiction of the Center's Council and the Study Programme's Council. The teaching is continually evaluated in accordance with the procedure implemented on both cycles of the studies.

• The documents which the quality assurance system is based on

Quality assurance and internal control of the higher education institutions' work and implementation of the study programmes are regulated by the Law of Higher Education of the Sarajevo Canton, the University of Sarajevo's Statutes and other relevant legal documents of the University, which implements the study programme.

• In the course of realization of the master programme, the following tools for quality assurance and improvement are planned:

- Evaluation of the contents and the means of implementation of the programme

- Student evaluation of teaching;

- Teacher evaluation of the syllabi and the curriculum

- Consideration of the success and the critical elements after the graduation of the first generation of students;

- Analysis of the exam passage rate;

- Analysis of the successful completion of studies;

- Analysis/evaluation of the resources required for the teaching and learning process

• Student evaluation of the teaching process and instructors

[1] Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG) http://www.hea.gov.ba/Dokumenti/Bolonja/?id=6150

The aim of the student evaluation of the teaching process and instructors is to provide an insight into the quality of teaching and the work of each individual instructor and determine the means for improvement of the teaching process based on the student evaluations. Student evaluation of the teaching process and instructors will be conducted in accordance with the Rules of Student Evaluation of the Academic Staff's Work and the Success of Realization of the Curricula at the University of Sarajevo[2].

The evaluation of the academic staff's work will be conducted once per semester in accordance with the Law, the Statutes of the University and the Rules.

• Keeping track of the knowledge assessment and the exam passage rate in the study programme

The criteria and the procedures for student assessment are clearly defined and transparent, in accordance with the Law, the Statutes of the University and the Rules for the First and the Second Cycle, the Integrated Study Programmes, Professional and Specialist Study Programmes at the University of Sarajevo[3]/Rules for the Second Cycle of Studies at the University of Sarajevo[4]. The continuous collection of data through the information system will enable the analysis of the students' success, exam passage rate and the students' advancement.

• Evaluation of the availability of the teaching and learning resources

- Periodical evaluation of the material-technical resources, library collection etc.

- Planning of financial investment into the resources, in order to improve the work efficiency

• Description of the public information processes about the study programme:

Informing the public about the study programme is realized through:

- Information package about the study programme (the curriculum, learning outcomes etc);

- Public examination process;

- Public defences (theses, seminar papers, final thesis project, and final thesis draft);

- Public defence of the final specialist thesis.

[2] http://www.unsa.ba/sites/default/files/dodatak/2018-12/Pravilnik%20evaluacija%20ak.%20osoblja.pdf
[3] http://www.unsa.ba/sites/default/files/dodatak/2018-11/Pravila%20studiranja%20UNSA.pdf
[4] http://www.unsa.ba/sites/default/files/dodatak/2018-12/Pravila%20III%20ciklus%20studija.pdf

4.4. Estimated Study Costs per Student – Article 7 (Documents on the Finances Required for the Implementation of the Study Programme)

The suggested tuition fee for the specialist programme is 4,000.00 KM (convertible marks) per student. The tuition fee is determined in accordance with the Decision of the Cantonal Government on Tuition Fees for the Studies at the University of Sarajevo, as well as the characteristics of the study, interdisciplinarity, quality and the involvement of instructors from various faculties, along with guest lecturers from abroad, in the teaching process, and the Center for Interdisciplinary Studies as the organizing institution.

The tuition fee amounts to 2,000.00 KM per semester.

The elements of the price calculation are determined per total number of teaching hours and the price for each hour in KM, in accordance with the minimal and maximum amounts, as determined by the Cantonal Government's Decision. Therefore, the price is calculated on the bases of total number of teaching hours in all semesters. For the semesters where the study programme is not shown through the number of hours (III-IV), the working hour number will be suggested.

1. In accordance with the previously stated, the price calculation is suggested as follows:

SEMESTER I: 4 courses x 30 hours = 120 hours

2 courses x 20 hours = 40 hours

SEMESTER II: 2 courses x 30 hours = 60 hours

1 course (2 workshops) = 20 hours

1 course x 20 hours = 20 hours

Writing and defence of the final specialist thesis

Total number of teaching hours for the study programme = 260 hours

Annex 1: Syllabi

UNIVERSITY OF SARAJEVO – CENTER FOR INTERDISCIPLINARY STUDIES COURSE DESCRIPTION

Code: SNFIZIS101	**Name:** Food Physiology		
Cycle: specialist study programme	**Year: I**	**Semester: I**	**Number of ECTS:** 5
Status: obligatory		**Total Number of Hours: 30** Lectures: 20 Practical classes: 10	

Instructors:	Full Prof. Dr. Almira Džuvo Hadžović
Enrolment preconditions:	none
Course Goal(s):	Introducing the students with the functional characteristics of the digestive system, energetic aspects of the metabolic process; different sorts of physiological mechanisms involved in maintaining the body mass and their characteristics.
Course Outline/Topics:	- Ingestion - Motor functions of the gastrointestinal tract - Secretions in the digestive system - Contents, roles and regulations of secretion of the digestive juices - Digestion and absorption of the proteins, fats and carbon hydrates - Physiological roles of the liver - Kidney mechanisms for regulation of blood volume and osmolarity in the extracellular space. The role of thirst. - Energy and the intensity of the metabolism. Thermoregulation. - Functional organization of the endocrine system. Hormones, characteristics and the mechanisms. Hypothalamus and the pituitary gland. - Principles and mechanisms of the control of the hormonal secretion - Hypothalamus and its role in food and drinks consumption - The role of the thyroid gland, adrenal gland and pancreas in the

	homeostasis of the proteins, fats and carbon hydrates. - The metabolism of calcium, phosphates and vitamin D - The balanced intake of food, starvation and obesity
Learning Outcomes:	Knowledge: - Be acquainted with the function of the gastrointestinal system; - Be acquainted with the regulatory mechanisms which control the gastrointestinal system; - Be acquainted with the physiological mechanisms of food and drinks consumption control; - Be acquainted with the role of the central nervous system and kidneys in food and drinks control Skills: - Define the factors which affect the intensity of the metabolism and the means of quantification of metabolism's intensity - Recognize the physiological changes and nutritive needs under stress; physical activity and obesity Competencies: • Apply various theoretical and practical aspects of the energetic balance and the assessed body structure
Learning Methods:	Lectures, seminars
Knowledge assessment (if any): [5]:	Continuous assessment through active participation on the seminar classes will amount to 60% (60 points) of the final grade, while the final exam, in the form of the MCQ test amounts to 40% (40 points) of the final grade. A student can collect the total amount of 100 points.
Literature[6]:	Obligatory: 1.Guyton A.C., Hall J.E. Medicinska fiziologija, Medicinska naklada Zagreb 2012. 2.Hadžović-Džuvo A i sur. Gojaznost: fiziološki, patofiziološki i terapijski aspekti. Medicinski fakultet Sarajevo, 2016. Recommended: 1.Ganong W.F.: Review of Medical Physiology. Lange Medical Publications, Los Altos 2003. 2.Boron W.F.: Boulpaep E.L. Medical physiology, Elsevier Saunders 2005

[5] The assessment structure and criteria for each course is determined by the institution's council before the beginning of the study year, pursuant to the Article 64, Section 6 of the Law of Higher Education of the Sarajevo Canton.
[6] The University Senate or the institution's council adopts the list of the obligatory and Recommended literature as well as other recommended literature which the student uses to study for the exam. The list is determined pursuant to the Article 56, Section 3 of the Law of Higher Education of the Sarajevo Canton.

UNIVERSITY OF SARAJEVO – CENTER FOR INTERDISCIPLINARY STUDIES COURSE DESCRIPTION

Code: SNHEBIH102	**Name:** Chemistry and Biochemistry of Food		
Cycle: specialist study programme	**Year: I**	**Semester: I**	**Number of ECTS:** 6
Status: obligatory		**Total Number of Hours: 30** Lectures: 20 Seminars: 10	

Instructors:	Full Prof. Dr. Enisa Omanović-Mikličanin Assoc. Prof. Dr. Emina Kiseljaković
Enrolment preconditions:	The students are required to be equipped with basic knowledge in Chemistry, Organic chemistry and Biochemistry
Course Goal(s):	• Introduce the students to the basic components of food, chemical processes and changes which take place in food processing and preparation • Gain knowledge on the dynamical relations between macro- and micro- food constituents with metabolic functions and the needs of the organism
Course Outline/Topics:	Introduction Water and water activity Carbohydrates: structure, divisions, physical and chemical characteristics. Representatives Reactions with amino-components. Maillard's reaction. Representatives. Digestion and metabolism of various carbohydrates, nutritive values. Proteins: structure, physical and chemical features. Representatives. Lipids – structure, division, physical and chemical features. Chemical and enzymatic reactions of the lipids of interest in food technology (oxidation of lipids) Lipids: texture and the organoleptic features of food Digestion and metabolism of the proteins and lipids, nutritive value Food minerals Biological activity of food minerals and vitamins in metabolism.

	The needs and roles of the nutritive matter in relation with the age, gender and different physiological and pathological states of organism. Eating disorders, diseases related to nutrition. Contaminating substances of food. Digestion and metabolism of various carbohydrates, nutritive value.
Learning Outcomes:	Knowledge: recognize and describe the role of the food components, define the interaction between food components and human organism; select adequate food, based on the types of nutrients, for different, specific needs of a human organism Skills: apply the knowledge of food components and their role in metabolism, with the aim to improve the nutritive value of diet Competencies: Recommend the adequate food choices in everyday diet.
Learning Methods:	Lectures, seminars
Knowledge assessment (if any): [7]:	Continuous assessment through tests and activities in seminar classes and attendance will amount to 60% of the final grade, (regular attendance 10, tests (2x10) 20, seminar 30; total 60 points), while the final exam will amount to 40% (40 points) of the final grade. A student can collect the total amount of 100 points.
Literature[8]:	Obligatory: Velagić-Habul Esma (2010): Hemijahrane. Univerzitet u Sarajevu Recommended: Damodaran, S., Parkin, K.L., O.R.Fennema (2008): Fennema'sFood Chemistry. Fourth edition. CRC Belitz, H,D; W.Grosch, P. Schieberle(2003): Food Chemistry. Springer Sanders T and Emery P, Molecular basis of human nutrition. CRC Press, 2003.

[7] The assessment structure and criteria for each course is determined by the institution's council before the beginning of the study year, pursuant to the Article 64, Section 6 of the Law of Higher Education of the Sarajevo Canton.

[8] The University Senate or the institution's council adopts the list of the obligatory and Recommended literature as well as other recommended literature which the student uses to study for the exam. The list is determined pursuant to the Article 56, Section 3 of the Law of Higher Education of the Sarajevo Canton.

UNIVERSITY OF SARAJEVO – CENTER FOR INTERDISCIPLINARY STUDIES COURSE DESCRIPTION

Code: SNNAPPR103	**Name:** Nutritive Aspects of Food		
Cycle: specialist study programme	**Year: I**	**Semester: I**	**Number of ECTS:** 5
Status: obligatory		**Total Number of Hours: 30** Lectures: 20 Factory visit: 6 Paper: 4	
Instructors:	Assoc. Prof. Dr. Asima Akagić		
Enrolment preconditions:	none		
Course Goal(s):	The course goal is to introduce the students to the basic information about the nutritive and non-nutritive components of the animal products and herbal products. The students will also get acquainted with the key phases of food processing, which propel the changes in these components, as well as the usage of additives and their influence on the consumers' health.		
Course Outline/Topics:	- Organization of the course. Additional information about the written paper and the defined chapters in the paper. - Nutritive aspects of fruits and vegetables. Changes in nutritive and non-nutritive components in the processing - Nutritive aspects of wheat and its derivates - Nutritive aspects of confection - Health aspects of the essential fatty acids in animal and herbal fat. Trans fatty acids in food. Nutritive aspects of animal and herbal fat. - Nutritive aspects of milk and its derivates - Nutritive aspects of meat, fish and eggs - Factory visit		

<table>
<tr><td>Learning Outcomes:</td><td>Knowledge: learning about the highly nutritive components of the animal and herbal products, as well as the key phases of food processing, which propel the changes in these components, as well as the usage of additives and their influence on the consumers' health.

Skills:

Recognize the high quality food (animal and herbal products).
"Read" the nutrition facts labels.
Recognize the additives which have been used.

Competencies:

Use high-quality and healthy food, knowing its nutritive components while creating a nutrition plan.</td></tr>
<tr><td>Learning Methods:</td><td>Lectures (PPT presentations of the instructors) – in class
Factory visit – discussion
Paper – result processing and gathering data; drafts – on-line consultations; presentation of the paper – in class</td></tr>
<tr><td>Knowledge assessment (if any): [9]:</td><td><table>
<tr><td></td><td>min</td><td>max</td></tr>
<tr><td>Attendance</td><td>8</td><td>10</td></tr>
<tr><td>Paper</td><td>23</td><td>50</td></tr>
<tr><td>Final exam</td><td>24
55</td><td>40
100</td></tr>
</table></td></tr>
<tr><td>Literature[10]:</td><td>Obligatory:

Akagić A., Oručević Žuljević S., Sarić Z., Operta S. (2016): Nastavni materijal za predmet Nutritivni aspekt prehrambenih proizvoda.
Čorbo S., Vujasinović V. (2015): Namjenske masti i margarin, Poljoprivredno-prehrambeni fakultet Univerzitet u Sarajevu, Sarajevo (cca.30)

Recommended:

Jongen W. (2002): Fruit and vegetable processing. CRC Woodhead Publishing Limited (str. 5 - 66).
Operta S. (2016): Prerada mesa, ribeijaja – Skripta, Poljoprivredno-prehrambeni fakultet Univerziteta u Sarajevu (str.42-53, 87-137 i 141).
Čorbo S. (2008): Tehnologija ulja i masti, Poljoprivredno-prehrambeni fakultet Univerzitet u Sarajevu, Sarajevo (str. 11-21; 233-240).
Miličević D., Oručević Žuljević S., Ademović Z. (2015): Od kakao zrna do čokolade. Univerzitet u Tuzli. Tuzla.
Oručević Žuljević S. (2016): Faktori kvaliteta pšeničnog brašna. Poljoprivredno-prehrambeni fakultet Univerziteta u Sarajevu. Sarajevo
Oručević S. (2010): Fermentacija u proizvodnji hljeba u Fermentirani</td></tr>
</table>

[9] The assessment structure and criteria for each course is determined by the institution's council before the beginning of the study year, pursuant to the Article 64, Section 6 of the Law of Higher Education of the Sarajevo Canton.

[10] The University Senate or the institution's council adopts the list of the obligatory and Recommended literature as well as other recommended literature which the student uses to study for the exam. The list is determined pursuant to the Article 56, Section 3 of the Law of Higher Education of the Sarajevo Canton.

	proizvodi (Uredila N. Spaho), Poljoprivredno-prehrambeni fakultet Univerzitet u Sarajevu (str.193-279). Hoseney, R. C. (1986): Principles of Cereal Science and Technology, AACC.

Code: SNISTŽC104	**Name:** Nutrition through the Lifecycle		
Cycle: specialist study programme	**Year: I**	**Semester: I**	**Number of ECTS:** 5
Status: obligatory		**Total Number of Hours: 30** Lectures: 10 Practical classes: 5 Seminar classes: 5	
Instructors:	Asst. Prof. Dr. Irzada Taljić		
Enrolment preconditions:	none		
Course Goal(s):	Introduce the students with the interdisciplinary science of food – nutrition and the significance of learning and nourishing the proper eating habits. The goal is to introduce the students with the diet's influence on a human organism during a certain lifecycle and the energetic and nutritive status of different categories of population (pregnant women, women who breastfeed their babies, babies, toddlers, preschoolers, schoolchildren, adolescents, students, working population, the third age) using the adequate means of assessment of the nutritive status and dietary habits.		
Course Outline/Topics:	Methods of assessment of the nutritive status and dietary habits; Basic principles of adequate nutrition; Guidelines in nutrition; Energetic and nutritive value of food; Assessment of the level of nutritive status; Malnutrition vs. obesity; Energetic and nutritive needs of the organism; Special reactions of the organism to food and food ingredients; Dietary plans, introduction to the software and programme for dietary-plan creation; Tables/databases of the nutritive value of food; Characteristics and planning of the dietary regime of the pregnant women and women who are currently breastfeeding; Characteristics and planning of the dietary regime of the preschool		

	children; Characteristics and planning of the dietary regime of the schoolchildren; Characteristics and planning of the dietary regime of the adolescents; Characteristics and planning of the dietary regime of the students; Characteristics and planning of the dietary regime of the working population; Characteristics and planning of the dietary regime of the third-age
Learning Outcomes:	Knowledge: Use the professional terminology; Describe the basic principles of adequate diet; Know how to promote the adequate diet; Define the macro and micronutrients; explain the consequences of excessive/insufficient consumption; Define and calculate the energetic and nutritive needs of different categories (the pregnant women, women who are currently breastfeeding, preschool children, schoolchildren, adolescents, students, the working population, the third-age. Skills: Use the adequate method to determine the nutrition status and dietary habits; Use the software and programme for dietary-plan creation, tables/databases of the nutritive value of food Define and calculate the energetic and nutritive needs of different categories (the pregnant women, women who are currently breastfeeding, preschool children, schoolchildren, adolescents, students, the working population, the third-age. Recognize the special reactions of the organism to food ingredients and eating disorders. Competencies: Qualitatively and quantitatively assess the influence of dietary habits on individual level; Assess the representation of different types of food in a meal, in accordance with the energetic and nutritive value; Create a dietary plan for different population groups.
Learning Methods:	ex-cathedra lectures, group discussions, case analyses, calculus and practical assignments, students' individual work, with consultations and writing of the seminar paper, Knowledge is assessed through the final exam, seminar papers and assignments.
Knowledge assessment (if	1. Class attendance: 5

any): [11]:	2. Active participation: 10 3. Assignments: 15 4. Seminar paper: 15 5. Final exam: 55 6. Total: 100
Literature[12]:	Obligatory: Bowman, B.A., Rusell, R.M. (2006) Present Knowledge in Nutrition, ninth Edition, Volume 1&2, ILSI, Washington, DC; Taljić, I. (2019) Ishrana školske djece i adolescenata, Univerzitet u Sarajevu, Grafičar promet; Eastwood, M. (2003) Principles of Human Nutrition, 2nd edt, Blackwell Science Ltd; Mandić, M.L. (2003) Znanost o prehrani, Prehrambeno tehnološki fakultet, Osijek; Hodžić, I. (2010) Nutricionizam, skriptaPoljoprivredno-prehrambeni fakultet Univerziteta u Sarajevu i WUS Austria; Grujić, R., Miletić, I., Stanković, I. (2007) Nauka o ishrani čovjeka, knjiga druga, Tehnološki fakultet Univerziteta u Banjaluci; Grujić, R., Miletić, I. (2006) Nauka o ishrani čovjeka, knjiga prva, drugo, dopunjeno izdanje, Tehnološki fakultet Univerziteta u Banjaluci; Recommended: Ignac Kulier (2013) Što i kako jedemo, Naklada Uliks; Van Straten, M., Griggs, B. (2006) Super foods for babies and children, Dorling Kindersley Ltd; Kažinić Kreho, L. (2009) Prehrana 21. stoljeća, Profil, Zagreb; Kažinić Kreho, L. (2010) Prehrana 21. stoljeća za žene, Profil, Zagreb; Kažinić Kreho, L. (2011) Prehrana 21. stoljeća za muškarce, Profil, Zagreb.

[11] The assessment structure and criteria for each course is determined by the institution's council before the beginning of the study year, pursuant to the Article 64, Section 6 of the Law of Higher Education of the Sarajevo Canton.

[12] The University Senate or the institution's council adopts the list of the obligatory and Recommended literature as well as other recommended literature which the student uses to study for the exam. The list is determined pursuant to the Article 56, Section 3 of the Law of Higher Education of the Sarajevo Canton.

UNIVERSITY OF SARAJEVO – CENTER FOR INTERDISCIPLINARY STUDIES COURSE DESCRIPTION

Code: SNEPPSH105	**Name:** Epidemiological Principles in Food Safety		
Cycle: specialist study programme	**Year: I**	**Semester: II**	**Number of ECTS:** 5
Status: obligatory		**Total Number of Hours: 30** **Lectures: 20** **Practical classes: 5** **Seminars: 5**	

Instructors:	Full Prof. Dr. Nihad Fejzić
Enrolment preconditions:	none
Course Goal(s):	This course unites the themes of epidemiological principles and methods in the context of research and analysis of foodborne diseases. The focus is on the understanding of the relations between the causes, host and the environment and the approach application and solutions which are derived from this concept. Furthermore, the course includes the structure and principles of "survey and surveillance" system and the development of the effective programs for control, through international institutional and regulatory framework (WTO, SPS, OIE, Codex allimentarius) and the risk analysis on international market. The cases of important zoonotic diseases will be presented and analyzed (Salmonella, E coli, zoonotic influenzas…), with the aim to introduce the students to the application of epidemiology in prevention of epidemics of foodborne diseases.
Course Outline/Topics:	Definitions, descriptive and analytical epidemiology, Measuring the disease frequency, the application of prevalence and incidence; Disease determinants, causes (association and causation); Design of the classic research studies, observation and experimental research, clinical studies, case studies – control, cohort and survey and surveillance systems; Diagnostic tests, interpretation and evaluation of the diagnostic tests; Epidemiology in health management, programs of surveillance and control of the disease and the guidelines for research of the focus of the disease; Modelling and simulation in epidemiology, connections between

<table>
<tr><td></td><td>epidemiology and economics of health;
Epidemiology in the context of globalization and the “One Health” concept;
International organizations and standards in food safety,
SPS agreement and risk analysis;
Case studies: Salmonella, E. coli, Listeria, Norovirus, antibiotics</td></tr>
<tr><td>Learning Outcomes:</td><td>Knowledge:

Recognize the role of epidemiology in creation of science-based food safety policies.

Skills:

Describe the application of basic epidemiologic tools in data analysis on the population health;
Interpret the results of the epidemiologic analysis in the context of disease control

Competencies:

Demonstrate the basic knowledge in application of the risk analysis in food safety;
Explain the framework for measures in accordance with the scientific principles in the context of the international standards and legislation;
Use the key components in research of the foodborne diseases focus, through critical analysis of individual cases.</td></tr>
<tr><td>Learning Methods:</td><td>The classes are organized as: ex-cathedra lectures, group discussions, case analyses, demonstrations and practical assignments for the students, individual work under the instructor's supervision and the writing of the seminar paper. Knowledge assessment includes final test, seminar papers and practical colloquiums.</td></tr>
<tr><td>Knowledge assessment (if any): [13]:</td><td>
<table>
<tr><td colspan="2">Criterion</td><td>max</td><td>min</td></tr>
<tr><td>1</td><td>Attendance (theory and practical classes)</td><td>5</td><td>0</td></tr>
<tr><td>2</td><td>Class participation</td><td>10</td><td>0</td></tr>
<tr><td>3</td><td>Knowledge assessment in practical classes</td><td>20</td><td>15</td></tr>
<tr><td>4</td><td>Seminar paper</td><td>15</td><td>10</td></tr>
<tr><td>5</td><td>Final exam</td><td>50</td><td>30</td></tr>
<tr><td colspan="2">Total</td><td>100</td><td>55</td></tr>
</table>
</td></tr>
<tr><td>Literature[14]:</td><td>Obligatory:

Osnove biostatistike i analitičke epidemiologije, Fejzić N., Šerić-Haračić S. 2010.</td></tr>
</table>

[13] The assessment structure and criteria for each course is determined by the institution’s council before the beginning of the study year, pursuant to the Article 64, Section 6 of the Law of Higher Education of the Sarajevo Canton.

[14] The University Senate or the institution’s council adopts the list of the obligatory and Recommended literature as well as other recommended literature which the student uses to study for the exam. The list is determined pursuant to the Article 56, Section 3 of the Law of Higher Education of the Sarajevo Canton.

	Veterinarska epidemiologija, Fejzić N., Šerić S., Alagić D., 2003. Uvod u veterinarsku epidemiologiju, Pfeiffer D.U. (prijevod Fejzić N., Bajrović T.), 2000. Recommended: /

Code: SNNUGEN106	**Name:** Nutrigenetics		
Cycle: specialist study programme	**Year: I**	**Semester: II**	**Number of ECTS:** 4
Status: obligatory		**Total Number of Hours: 30** **Lectures: 22** **Practical classes: 3** **Laboratory classes: 5**	

Instructors:	Prof. Dr. Lejla Pojskić
Enrolment preconditions:	Basics of biology and biochemistry
Course Goal(s):	Theoretic knowledge of the principles of genetics, structure and regulation of genes and their influence to the biological phenomena in nutrition; interactions between the genes and food, biological basis for the food's influence on health, and the personalized approach in diet, based on individual genotypes.
Course Outline/Topics:	Topics: lectures Basics of biological inheritance The flow of genetic information. Replication of the genomes, transcription and translation; Characteristics and types of inheritance; What is nutrigenetics and its application in nutrition; What is nutrigenomics and its application in nutrition; Genetic profiling in nutrition; The ideas of cytotoxicity and genotoxicity; The influence of food, dietary supplements and medications on genetic material; Practical classes and laboratory classes; Structure and regulation of the gene expression – practical class Genotypization of the selected genes Writing and interpretation of the results of genetic testing; Genomic profiling and selection of the informative loci (gene)

	Interpretation of the genomic profiling; Experiments in evaluation of cytotoxicity; Case studies
Learning Outcomes:	Knowledge: Understanding the concept of biological inheritance, the terms gene and genetics; hereditary predispositions of genetic testing; Skills: The principles of creation of the personalized dietary plan, based on individual genotypes. Competencies: Critically and scientifically founded approach to contemporary literature and trends in nutrition, based on individual genetic predispositions of the organism; The added value of genetic testing in the analysis of features connected with nutrition;
Learning Methods:	Interactive lectures, Practical classes, Individual work, Consulting the literature and written assignments
Knowledge assessment (if any): [15]:	Written assignment 1 -25% Written assignment 2 -25% Seminar paper -20% Project– 20% Class participation – 10%
Literature[16]:	Obligatory: -Grupa autora (Urednik Lejla Pojskić) (2016): Uvod u genetičko inženjerstvo i biotehnologiju, drugo izdanje, INGEB, Sarajevo. - Lynnette R. Ferguson (2014): Nutrigenomics and Nutrigenetics in Functional Foods and Personalized Nutrition. CRC Press Taylor & Francis Group. Recommended: recent publications from the field, in Bosnian and English

[15] The assessment structure and criteria for each course is determined by the institution's council before the beginning of the study year, pursuant to the Article 64, Section 6 of the Law of Higher Education of the Sarajevo Canton.
[16] The University Senate or the institution's council adopts the list of the obligatory and Recommended literature as well as other recommended literature which the student uses to study for the exam. The list is determined pursuant to the Article 56, Section 3 of the Law of Higher Education of the Sarajevo Canton.

UNIVERSITY OF SARAJEVO – CENTER FOR INTERDISCIPLINARY STUDIES COURSE DESCRIPTION

Code: SNPSIIS107	**Name:** Nutrition Psychology		
Cycle: specialist study programme	**Year: I**	**Semester:**	**Number of ECTS:** 4
Status: elective		**Total Number of Hours: 20** **Lectures: 15** **Seminars: 5**	
Instructors:	Asst. Prof. Dr. Daniel Maleč		
Enrolment preconditions:	none		
Course Goal(s):	Introducing the students to food psychology, in relation to the other similar disciplines. Knowledge acquisition in terms of the basic terminology related to food, dietary habits as a behavioural component and its determination by psychological and sociological factors, especially the personality factors and the culture, as well as the connection between nutrition and certain aspects of mental health. Acquisition of certain skills and knowledge in terms of recognizing the psychological factors in decision-making about the usage of certain food products and creation of dietary habits, with skills and knowledge to modify the dietary habits and the dietary style.		
Course Outline/Topics:	Definition of the food psychology and its connection with similar disciplines. Food psychology through history. Areas of application of food psychology. Methods of study of the psychological and sociological dietary factors. Sleep, thirst and hunger as motivational factors. Psychoanalysis and the notion of defence mechanisms in specific dietary habits. Food choice and food preferences. Personality and food choice. The connection between emotions and temperament in food selection process and the formation of dietary habits. Emotional needs and nutrition. Development models of food selection. Cognitive models of food selection. Psycho physiological models of food selection. The boundary model. Neophobia, neophilia and learned safety.		

	Associative learning and evaluative conditioning in food selection process. Theory of planned behaviour in food selection. Psycho-social models of feeding habits. Self-perception and dietary style. The factors of development, keeping and modification of dietary habits through learning and the environmental factors. The role of attitudes and persuasion in diet and the resistance in change of dietary habits. Metabolic model of food selection. The role of hormones, immune system and neurotransmitters in food selection and the formation of dietary habits. The nutritients in food and their effects to perception and behaviour. Food disorders. Bulimia. Anorexia. Diet and aggressiveness. Food disorders and children. The connection between food and anxiety and depression. Treatments in modification and correction of disorders and/or irregular food patterns. The factors which contribute to obesity and overeating. Sociological approach to the phenomenon of food and diet, gender roles and the question of relation to the body.
Learning Outcomes:	Knowledge: Possess knowledge about definitions, terminology, theories, models connected to the psychological aspects of food, as well as the general culture and information about the area; Information and knowledge about the results of the recent research in the area of food psychology; Knowledge of theory in advisory work with parents and teachers, in the analysis and modification of the psychological factors that form the dietary habits; Skills: The skills of presentation, explanation and transmission of knowledge related to certain psychological elements in diet; The skills of practical recognition and identification of the psychological factors of decision-making in food selection process and the formation of dietary habits, as well as the identification of the problems and disorders in nutrition, developed under the influence of the psychological factors; The ability to control the psychological resources and factors in formation of healthy dietary habits; The skills to recognize eating disorders in children in school environment. Competencies: Interdisciplinarity in the approach of identification and treatment of the psychological factors in nutrition; Independence, organization and scientific approach to research and treatment of the psychological factors in nutrition; Logical reasoning, teamwork and communication with other experts in

	the field of nutrition; Mentoring, counselling and leadership related to the different psychological factors in nutrition; Education and presentation, dissemination of information and knowledge in the segments of food psychology.
Learning Methods:	1. Lectures 2. Presentations 3. Group work 4. Discussions with students 5. Practical demonstrations
Knowledge assessment (if any): [17]:	1. Seminar paper and the project - 20% 2. Presentation - 30% 3. Exam - 50 %
Literature[18]:	Obligatory: 1. S. Mennell, A. Murcott, A.H. Van Otterloo (1998). Prehrana i kultura, Sociologija hrane, Naklada Jesenski i Turk, HSD, Zagreb; 2. D. Vidić (2003). Poremećaji ishrane.Žarko Albulj. ISBN: 86-902289-2-6. 3. Lichtenstein, I. Ortigues-Marty, P., Yaqoob & K. Younger (2006). The Psychology of Food choice. Richard Shepherd and Monique Raats; 4. J. Ogden (2010). The Psychology of Eating: From Healthy to Disordered Behavior. John Wiley & Sons, Ltd., Publication. Recommended: 1. D.A. Booth (1994). Psychology of nutrition. Taylor & Francis Group; 2. N. Kembel-MekBrajd (2010). Sindrom psihologije i creva. M. Selaković. ISBN:978-86-913257-0-1; 3. A. W. Logue (2004). The Psychology of Eating and Drinking. (3rd edition) Brunner-Routledge.

[17] The assessment structure and criteria for each course is determined by the institution's council before the beginning of the study year, pursuant to the Article 64, Section 6 of the Law of Higher Education of the Sarajevo Canton.

[18] The University Senate or the institution's council adopts the list of the obligatory and Recommended literature as well as other recommended literature which the student uses to study for the exam. The list is determined pursuant to the Article 56, Section 3 of the Law of Higher Education of the Sarajevo Canton.

UNIVERSITY OF SARAJEVO – CENTER FOR INTERDISCIPLINARY STUDIES COURSE DESCRIPTION

Code: SNBITNH108	**Name:** Biotechnological and New Food		
Cycle: specialist study programme	**Year: I**	**Semester:**	**Number of ECTS:** 4
Status: elective		**Total Number of Hours: 20** **Lectures: 15** **Seminars: 5**	

Instructors:	Prof. Dr. Adaleta Durmić-Pašić
Enrolment preconditions:	The knowledge of the basic terminology in the field of food biochemistry and the basic biological principles (metabolism and inheritance)
Course Goal(s):	Introduction to the basic terms and principles required for correct interpretation of the current information in the area of new and biotechnological food.
Course Outline/Topics:	Theory: 1. The possibilities that modern biotechnology offers, new food, new processes. Basic terms: new food, biotechnological food, transgene (2) 2. Genetic engineering in food biotechnology. Conventional and biotechnological approaches in primary food production. (4) 3. Biosecure/legal framework for GMO in Bosnia/EU/world; terms: conventional pair and specific transformative event (2) 4. Environmental risk assessment and health risk for the consumers: basic principles and guidelines. Safety aspects (2). 5. The production of GMO in the world- what can be found on the market (2) 6. Testing the food for GMO – a survey of methodology. Interpretation of the results, in the lights of the legal framework. (3) 7. Biological preservatives and additives. (2) 8. Databases. The role of the media and social networks in formation of views on the modern developments in food production and processing. Practical classes: 1. Guidelines and documents related to the safety assessment of the new and biotechnological food. (2) 2. Analysis of the presence of GMO in food. (4)

	3. Relevant databases. Critical and informed approach to interpretation of the data in the databases. (2) 4. Critical analysis of the information disseminated in the media. (2)
Learning Outcomes:	Knowledge: correct understanding of the terminology; realized potential of the biotechnology in primary production, processing and conservation of food; adequate interpretation of the (bio)secure/legal framework; health aspects and the risk assessment for health and environment Skills: recognize the differences between the conventional, biotechnological and organic production; independent research of the desired data and databases, critical interpretation of the information disseminated in the media. Competencies: differentiate between the biotechnological, conventional and organic production; differentiate between the science-based information disseminated in the media and the information that is not scientifically based, apply the appropriate legal framework in a given situation
Learning Methods:	Interactive lectures, Practical classes, Individual work, Consulting the literature and written assignments
Knowledge assessment (if any): [19]:	Written assignment 1 – 25% Final written assignment– 40% Seminar paper and presentation of the seminar paper – 25 % Class participation – 10%
Literature[20]:	Obligatory: 1. Grupa autora (Urednik Lejla Pojskić) (2014): Uvod u genetičko inženjerstvo i biotehnologiju, drugo izdanje, INGEB, Sarajevo. 2. Gaši F., Durmić-Pašić A. (2015): Konvencionalne metode i genetičke modifikacije u oplemenjivanju biljaka. OFF-SET d.o.o. Tuzla. Recommended: Primary publications, scientific reviews and material for particular chapters.

[19] The assessment structure and criteria for each course is determined by the institution's council before the beginning of the study year, pursuant to the Article 64, Section 6 of the Law of Higher Education of the Sarajevo Canton.
[20] The University Senate or the institution's council adopts the list of the obligatory and Recommended literature as well as other recommended literature which the student uses to study for the exam. The list is determined pursuant to the Article 56, Section 3 of the Law of Higher Education of the Sarajevo Canton.

UNIVERSITY OF SARAJEVO – CENTER FOR INTERDISCIPLINARY STUDIES COURSE DESCRIPTION

Code: SNMENIR109	**Name:** Scientific Research Methodologies		
Cycle: specialist study programme	**Year: I**	**Semester:**	**Number of ECTS:** 4
Status: elective		**Total Number of Hours: 20** **Lectures: 15** **Practical classes: 5**	

Instructors:	Asst. Prof. Dr. Haris Memišević
Enrolment preconditions:	none
Course Goal(s):	The goal of the course is to introduce the students to the basic principles of scientific research in biotechnical sciences/biomedicine. The students will individually set and define the subject of research, determine the aims and hypotheses of the research and use adequate statistic data in order to support the hypotheses.
Course Outline/Topics:	Science – asking the relevant questions, knowledge acquisition, beginnings of science, ethical principles; Basics of measurement – scales, measures and manipulation of the variables, reliability, validity; Types of research – observational, quasi-experimental and experimental; Quantitative and qualitative research methods; Statistic data analysis – organization of the data, descriptive and inferential statistics; Representation of data: tables and graphics; Parametrical and non-parametrical statistical techniques, Sampling – basic terms, representative sample and the sample size; Hypotheses in science: setting the hypothesis, hypothesis verification; Case study – case description, case study, report writing; Writing a scientific paper – why research? How did we conduct our research? Data bases: Google scholar, hrčak, sciindex etc. An example and the analysis of a scientific paper;

	Ethical implications in nutritionist research
Learning Outcomes:	Knowledge: - Define the aims of the scientific research in biotechnical sciences/biomedicine; - Describe different kinds of research Skills: - Choose the adequate type of research in accordance with the subject of the research - Apply adequate statistical methods in accordance with the goals of the research - Analyse a scientific paper - Find relevant scientific literature for the student's own research Competencies: - Sketch the student's own research, aiming to address a problem in the area of nutrition; - Criticise the deficiencies of a scientific work; - Explain and defend the draft of the student's scientific paper; - Generate hypotheses in the student's scientific paper
Learning Methods:	Lectures Practical Classes Learning methods: Interactive, theoretical and practical classes, small-group tasks, office hours, in-class continuous knowledge assessment
Knowledge assessment (if any): [21]:	1. Attendance 10% 2. Quality of seminar papers 20% 3. Midterm exam 20% 4. Final exam 50%
Literature[22]:	Obligatory: 1. Marušić M, i suradnici. Uvod u znanstveni rad u medicini. 3. izd.

[21] The assessment structure and criteria for each course is determined by the institution's council before the beginning of the study year, pursuant to the Article 64, Section 6 of the Law of Higher Education of the Sarajevo Canton.
[22] The University Senate or the institution's council adopts the list of the obligatory and Recommended literature as well as other recommended literature which the student uses to study for the exam. The list is determined pursuant to the Article 56, Section 3 of the Law of Higher Education of the Sarajevo Canton.

	Zagreb: Medicinska naklada; 2004. (Urednik i koautor dodiplomskog udžbenika.) 2. Rice, P. L., & Ezzy, D. (1999). *Qualitative research methods: A health focus*(Vol. 720). Melbourne. Recommended: 1. Patton, M. Q. (1990). *Qualitative evaluation and research methods* . SAGE Publications, inc. 2. Van Belle, G., Fisher, L. D., Heagerty, P. J., & Lumley, T. (2004).*Biostatistics: a methodology for the health sciences* (Vol. 519). John Wiley & Sons.

UNIVERSITY OF SARAJEVO – CENTER FOR INTERDISCIPLINARY STUDIES COURSE DESCRIPTION

Code: SNTRNIS110	**Name:** Traditional Nutrition Methods		
Cycle: specialist study programme	**Year: I**	**Semester:**	**Number of ECTS:** 4
Status: elective		**Total Number of Hours: 20** **Lectures: 10** **Fieldwork: 5** **Practical classes: 5**	

Instructors:	Asst. Prof. Dr. Irzada Taljić
Enrolment preconditions:	none
Course Goal(s):	Introduce the students to the traditional food in Bosnia and Herzegovina; examine how nutrition changed through history; how the meals and their tastes were adjusted to the Bosnian mentality and milieu.
Course Outline/Topics:	Glossary; Characteristics of the traditional Bosnian cuisine; Traditional gastronomy; Traditional food objects; Types of *jamek* and *zijafet*.
Learning Outcomes:	Knowledge: recognize the characteristic terms; be acquainted with the characteristics of the traditional Bosnian cuisine Skills: differentiate between the meals, in accordance with the historical events in Bosnia and Herzegovina; promote traditional cuisine Competencies:

<table>
<tr><td></td><td>identify the differences in nutrition and meals, or the adjustment of flavours during different historical periods in Bosnia and Herzegovina.</td></tr>
<tr><td>Learning Methods:</td><td>ex-cathedra lectures,
practical classes,
fieldwork,
seminar.
Knowledge is assessed through the seminar paper and a test.</td></tr>
<tr><td>Knowledge assessment (if any): [23]:</td><td>
<table>
<tr><td colspan="2">Criterion</td><td>max</td><td>min</td></tr>
<tr><td>1</td><td>Attendance (theory and practical classes)</td><td>5</td><td>0</td></tr>
<tr><td>2</td><td>Class participation</td><td>10</td><td>0</td></tr>
<tr><td>3</td><td>Seminar paper</td><td>30</td><td>20</td></tr>
<tr><td>4</td><td>Final exam</td><td>55</td><td>30</td></tr>
<tr><td colspan="2">Total</td><td>100</td><td>55</td></tr>
</table>
</td></tr>
<tr><td>Literature[24]:</td><td>Obligatory:

Materials from the lectures;

Lakišić, Alija, (1999). Bosanski kuhar, sedmo izdanje, Svjetlost, Sarajevo;

Hadžiosmanović, Lamija (2007). Bosanski kuhar, Sejtarija, Sarajevo.

Recommended: /</td></tr>
</table>

[23] The assessment structure and criteria for each course is determined by the institution's council before the beginning of the study year, pursuant to the Article 64, Section 6 of the Law of Higher Education of the Sarajevo Canton.

[24] The University Senate or the institution's council adopts the list of the obligatory and Recommended literature as well as other recommended literature which the student uses to study for the exam. The list is determined pursuant to the Article 56, Section 3 of the Law of Higher Education of the Sarajevo Canton.

Code: SNDIJIS111	**Name:** Dietary Food		
Cycle: specialist study programme	**Year: I**	**Semester:**	**Number of ECTS:** 4
Status: elective		**Total Number of Hours: 20** **Lectures: 15** **Practical classes: 5**	

Instructors:	Asst. Prof. Dr. Irzada Taljić Assoc. Prof. Dr. Emina Kiseljaković
Enrolment preconditions:	none
Course Goal(s):	Introduce the students to the dangers and risks of reduction diets, without consultation with the professional. Introduce the students to the authorized reduction diets (The Atkins Diet, on, Blood Type Diet, The Montignac Method...); Introduce the students to the no-name reduction diets (the ones currently in vogue and found on the internet, in the magazines etc.); Introduce the students to the elimination diets; Introduce the students with the detoxification regimes.
Course Outline/Topics:	Glossary; The dangers and risks of reduction diets; Authorized reduction diets (The Atkins Diet, on, Blood Type Diet, The Montignac Method...); No-name diets; Elimination diets; Detoxification regimes.
Learning Outcomes:	Knowledge: Know the principles on which the elimination and reduction diets are based;

<table>
<tr><td></td><td>Skills:

Differentiate between a dietary regime and the reduction dietary regime;
Differentiate between elimination diets and reduction diets;
Determine the significance of the proper body mass reduction regimes;
Differentiate between authorized and no-name reduction diets.

Competencies:

Discuss the given reduction diet;

Create a dietary plan for an elimination diet.</td></tr>
<tr><td>Learning Methods:</td><td>ex-cathedra lectures,
group discussions,
case analyses,
calculus and practical assignments, students' individual work,
consultations and writing of the seminar paper,
Knowledge is assessed through the final exam and assignments.</td></tr>
<tr><td>Knowledge assessment (if any): [25]:</td><td>
<table>
<tr><td colspan="2">Criterion</td><td>max</td><td>min</td></tr>
<tr><td>1</td><td>Attendance (theory and practical classes)</td><td>5</td><td>0</td></tr>
<tr><td>2</td><td>Class participation</td><td>10</td><td>0</td></tr>
<tr><td>3</td><td>Assignments</td><td>30</td><td>30</td></tr>
<tr><td>4</td><td>Final exam</td><td>55</td><td>30</td></tr>
<tr><td colspan="2">Total</td><td>100</td><td>60</td></tr>
</table>
</td></tr>
<tr><td>Literature[26]:</td><td>Obligatory:

Hodžić, I. (2013/2014). Dijetalna ishrana-izborni modul, interna skripta, Pedagoški fakultet Univerziteta u Sarajevu

Recommended:

Hadžić, A. (2009). Dijeta u ishrani, Buybook, Sarajevo-Zagreb</td></tr>
</table>

[25] The assessment structure and criteria for each course is determined by the institution's council before the beginning of the study year, pursuant to the Article 64, Section 6 of the Law of Higher Education of the Sarajevo Canton.

[26] The University Senate or the institution's council adopts the list of the obligatory and Recommended literature as well as other recommended literature which the student uses to study for the exam. The list is determined pursuant to the Article 56, Section 3 of the Law of Higher Education of the Sarajevo Canton.

UNIVERSITY OF SARAJEVO – CENTER FOR INTERDISCIPLINARY STUDIES COURSE DESCRIPTION

Code: SNIDPŠU112	**Name:** Nutrition for Preschool Children and School Children		
Cycle: specialist study programme	**Year: I**	**Semester:**	**Number of ECTS:** 4
Status: elective		**Total Number of Hours: 20** **Lectures: 15** **Practical classes: 5**	

Instructors:	Asst. Prof. Dr. Irzada Taljić
Enrolment preconditions:	none
Course Goal(s):	Introduce the students with the characteristics of the preschool children and schoolchildren; Introduce the students with the energetic and nutritive needs of these groups; Adopt the skills and communication tools in the cycle: teacher-child-parent; Introduce the students with the influence of the nutritients to the growth and development of an organism, the health status, improvement of the cognitive abilities, psychological and physical growth and development in children; Get acquainted with the normative regarding the food preparation in preschools and schools; Introduce the students to the Policy of nutrition in preschools and schools.
Course Outline/Topics:	1. Characteristics of preschool children and schoolchildren; 2. Energetic and nutritive needs of the preschoolers and schoolchildren and the calculation; 3. Promotion of adequate nutrition as a form of prevention of chronic diseases, obesity, malnutrition; 4. Guidelines for adequate nutrition; 5. Food plan for the preschoolers and schoolchildren; 6. Planning of 3 adequate meals in a preschool; 7. Planning an adequate school meal; 8. The importance of institutional education in nutrition; 9. The influence of different factors on the dietary habits: genetic, familial, peer, socio-economic, perceptions of one's appearance, mass-media, physical activities 10. Nutritive significance of the meals served in preschools and schools;

	11. Using the cycle teacher-child-parent aiming to promote adequate nutrition; 12. Discussion of normative/standards in the diet of preschool children and schoolchildren; 13. Creating a project which would popularize adequate nutrition among children.
Learning Outcomes:	Knowledge: Define the characteristics of preschool children and schoolchildren; Calculate the Energetic and nutritive needs of the preschoolers and schoolchildren Skills: Use the adequate method to determine the nutritional status and dietary habits; Competencies: Recommend an adequate (energetic and nutritive) dietary plan for a preschooler and a school child; Create the normative for food planning in preschools and schools; Promotion of adequate nutrition within these groups as a means of prevention; Suggest dietary guidelines for this group.
Learning Methods:	ex-cathedra lectures, calculus and practical assignments, students' individual work, with Knowledge is assessed through the assignments.
Knowledge assessment (if any): [27]:	1. Assignment 1: planning of 3 adequate meals in a preschool 20%; 2. Assignment 2: planning an adequate school meal 20%; 3. Assignment 3: create and conduct a research 20%; 4. Assignment 4: analyze the results of the research 20%; 5. Assignment 5: write recommendations/guidelines based on the research 20%.
Literature[28]:	Obligatory: Taljić, I. (2019) Ishrane školske djece i adolescenata, Univerzitet u Sarajevu, Grafičar promet d.o.o., Sarajevo

[27] The assessment structure and criteria for each course is determined by the institution's council before the beginning of the study year, pursuant to the Article 64, Section 6 of the Law of Higher Education of the Sarajevo Canton.

[28] The University Senate or the institution's council adopts the list of the obligatory and Recommended literature as well as other recommended literature which the student uses to study for the exam. The list is determined pursuant to the Article 56, Section 3 of the Law of Higher Education of the Sarajevo Canton.

	IOM (2010) School Meals: Building Blocks for Healthy Children, Washington, DC: The National Academies Press; Van Straten, M., Griggs, B. (2006) Super foods for babies and children, Dorling Kindersley Ltd; Jamie's School Dinners, DVD (2005) Fresh One Production Ltd. Recommended: Grujić, R., Miletić, I., Stanković, I. (2007) Nauka o ishrani čovjeka, knjiga druga, Tehnološki fakultet Univerziteta u Banjaluci;

UNIVERSITY OF SARAJEVO – CENTER FOR INTERDISCIPLINARY STUDIES COURSE DESCRIPTION

Code: SNISHSP113	**Name:** Sports Nutrition		
Cycle: specialist study programme	**Year: I**	**Semester:**	**Number of ECTS:** 4
Status: elective		**Total Number of Hours: 20** Theory classes: 10 Workshops: 5 Seminar papers: 5	

Instructors:	Assoc. Prof. Dr. Amel Mekić
Enrolment preconditions:	none
Course Goal(s):	Introduce the students to the significance, role and the basic characteristics of sports nutrition; Introduce the students to the determination of nutrition status; dietary methods; Introduce the students to the energetic and nutritive needs, the importance of coordination of food consumption with the level of physical activity, metabolic equivalent; Introduce the students to the significance, role, different types and basic characteristics of the sport supplements; Introduce the students to the nutrition strategies for specific groups (sports of strength and speed, sports of aerobic endurance, sports which require the combination of strength and endurance); Introduce the students to the quantitative dietary planning and the menu creation (five and six meals).
Course Outline/Topics:	The importance, role and basic characteristics of the programmed conventional sports nutrition; Determination of the nutritive status, dietetic methods; The importance, role and basic characteristics of sport supplements; Diet and strategy for specific groups; Sports of strength and speed; Sports of aerobic endurance, Sports which require the combination of strength and endurance Hydration and sports – water; pharmacological products for recovery

	(prohibited and allowed); Planning and programming of the conventional food sources; Planning and programming of the supplements and food supplements; Biochemical analysis and the pharmacokinetics of the allowed products; WADA – The World Anti-doping Agency (doping control, ADAMS, borderline substance, exceptions for therapeutic reasons, the list of prohibited products; Food and supplement modelling in accordance with body straining; Creation of the menu and the supplement programmes.
Learning Outcomes:	Knowledge: The importance of hydration for sportsmen; the importance of supplement usage; Defining the nutritional status; determine and coordinate absorption with release (quantitative planning); Skills: Programming the using of sports supplements and adapted dietary plans. Competencies: Modelling the diet and supplements in relation to the bodily straining and creation of the dietary plan and supplement programs.
Learning Methods:	Theory classes, student workshops, seminar papers, interactive classes
Knowledge assessment (if any): [29]:	Seminar paper I – 15% Colloquium I – 20% Colloquium II – 20% Final exam – 45%
Literature[30]:	Obligatory: 1. Kulier, I. (2001): Prehrana vrhunskih sportaša-temeljni principi. Impress, Zagreb; 2. Malacko, J., Rađo, I. (2004):Tehnologija sporta i sportskog treninga, Univerzitetski udžbenik, Fakultet sporta i tjelesnog odgoja, Sarajevo; 3. Pašalić, E. (1999): Farmakološka sredstva za oporavak (dozvoljena i nedozvoljena sredstva). Diplomski rad, Univerzitet u Sarajevu, Fakultet sporta; 4. Pašalić, E., Rađo, I. (2003): Klasifikacija i osnovne karakteristike sportskih suplemenata. Kondicijski trening-stručni časopis za teoriju i metodiku kondicijske pripreme, Udruga kondicijskih trenera Hrvatske, str. 61-66, broj 1 Vol.1. ISSN 1334-2991 Zagreb;

[29] The assessment structure and criteria for each course is determined by the institution's council before the beginning of the study year, pursuant to the Article 64, Section 6 of the Law of Higher Education of the Sarajevo Canton.

[30] The University Senate or the institution's council adopts the list of the obligatory and recommended literature as well as other recommended literature which the student uses to study for the exam. The list is determined pursuant to the Article 56, Section 3 of the Law of Higher Education of the Sarajevo Canton.

	Recommended: Šatalić, Z. (2016); Sportska prehrana, Zagreb

Code: SNGOJAZ114	**Name:** Obesity		
Cycle: specialist study programme	**Year: I**	**Semester:**	**Number of ECTS:** 4
Status: elective		**Total Number of Hours: 20** **Lectures – 10 hours** **Seminars – 10 hours**	

Instructors:	Asst. Prof. Dr. Amina Valjevac
Enrolment preconditions:	Completed course Food Physiology
Course Goal(s):	Understanding the different aspects of body mass regulation and the disorders connected with obesity, clinical aspects of obesity and diabetes, as well as the recent strategies, treatment and prevention of obesity.
Course Outline/Topics:	body mass and body composition functional characteristics of the adipose tissue central control of the food consumption peripheral control of the food consumption adipose tissue as an endocrine organ obesity and the oxidative stress oxidative stress and the metabolic disorders obesity and the metabolic disorders the role of adipokines in diabetes medicamentous treatment of obesity invasive methods of treatment of obesity
Learning Outcomes:	After completing the course „Obesity“, the students will acquire the following knowledge: Knowledge: - mechanisms involved in body mass regulation and the factors which contribute to obesity the role of the central nervous system and the nerve paths involved in the regulation of appetite and energy usage

	patio physiological processes connected with obesity endocrine roles of the adipose tissue and adipokines Skills: -skills of searching for relevant information in the field of human physiology, not available in recommended literature -skills of critical selection and presentation of information Competencies: master the current strategies in prevention and treatment of obesity
Learning Methods:	Lectures and seminars
Knowledge assessment (if any): [31]:	Continuous knowledge assessment though active participation in seminar classes amounts to 60% (60 points) of the final grade, while the final exam in the form of MCQ test amounts to 40% (40 points) of the final grade. A student can collect the total amount of 100 points.
Literature[32]:	Obligatory: 1. Guyton A.C., Hall J.E. Medicinska fiziologija, Medicinska naklada Zagreb 2012. 2. Hadžović-Džuvo A i sur. Gojaznost: fiziološki, patofiziološki i terapijski aspekti. Medicinski fakultet Sarajevo, 2016. Recommended: 1. Akabas SR, Lederman SA, Moore BL. Textbook of Obesity: Biological, Psychological and Cultural Influences. Wiley-Blackwell; 2012.

[31] The assessment structure and criteria for each course is determined by the institution's council before the beginning of the study year, pursuant to the Article 64, Section 6 of the Law of Higher Education of the Sarajevo Canton.
[32] The University Senate or the institution's council adopts the list of the obligatory and recommended literature as well as other recommended literature which the student uses to study for the exam. The list is determined pursuant to the Article 56, Section 3 of the Law of Higher Education of the Sarajevo Canton.

UNIVERSITY OF SARAJEVO – CENTER FOR INTERDISCIPLINARY STUDIES COURSE DESCRIPTION

Code: SNFUNHR115	**Name:** Functional Food		
Cycle: specialist study programme	**Year: I**	**Semester:**	**Number of ECTS:** 4
Status: elective		**Total Number of Hours: 20** Lectures – 12 hours Factory visits – 6 hours Written paper – 2 hours	

Instructors:	Assoc. Prof. Dr. Asima Akagić
Enrolment preconditions:	none
Course Goal(s):	The course's goal is to introduce the students to the basic information about the functional food and the differences between the functional food and the other forms of food (GMO, new food). During the course, the students will be acquainted with the basic principles, usages and eventual risks as well as the principle of introduction of functional food to the market. Furthermore, the students will be introduced to the basics of national and international legislative in the areas of production and trade of the functional food.
Course Outline/Topics:	Organization of the course. Additional information about the written paper and the defined chapters in the paper. Food technology and its influences on the development of functional food; The market for functional food, in comparison with the other forms of food; Substances required for the production of functional food (probiotics, prebiotics and simbiotics); Introduction of the functional food to the market; Health and nutritive statements; Probiotics – introduction to the probiotical cultures, stability in the medium; Prebiotics – significance, means of extraction – oat as functional food Factory visit
Learning Outcomes:	Knowledge: Acquire the knowledge of the basic production principles and means of

<table>
<tr><td></td><td>introduction of the functional food to the market.
Acquire the knowledge on the legal framework regulating the area of functional food.

Skills: Recognize the functional food on the market

Competencies: Use the functional food in nutrition plans for certain population categories</td></tr>
<tr><td>Learning Methods:</td><td>Lectures (PPT presentations of the instructors) – in class
Factory visit – discussion
Paper – result processing and gathering data; drafts – on-line consultations; presentation of the paper – in class</td></tr>
<tr><td>Knowledge assessment (if any): [33]:</td><td><table><tr><td></td><td>min</td><td>max</td></tr><tr><td>Attendance</td><td>8</td><td>10</td></tr><tr><td>Paper</td><td>23</td><td>50</td></tr><tr><td>Final exam</td><td>24
55</td><td>40
100</td></tr></table></td></tr>
<tr><td>Literature[34]:</td><td>Obligatory:

Akagić A., Oručević Žuljević S., Sarić Z. (2019): Nastavni materijal za predmet funkcionalna hrana.
Velagić-HabulE., Nikolić A., Begić-Akagić A. (2005): Nove forme hrane na tržištu. Nova hrana i organski proizvedena hrana. Poljoprivredni fakultet, Univerziteta u Sarajevu u saradnji sa Konzorcijumom TEMPUSJEP – 16140/01. (str. 18 - 40)

Recommended:

Gibson G.R., Williams C.M. (2000): Functional foods, Woodhead publishing limited, CRC press, London.
Schmidl M.K., Labuza T.P. (2000): Essentials of Functional Foods, An aspen Publication, Meryland.
Prentis S. (1991): Biotehnologija-nova industrijska revolucija. Orbis Publishing Limited,London</td></tr>
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[33] The assessment structure and criteria for each course is determined by the institution's council before the beginning of the study year, pursuant to the Article 64, Section 6 of the Law of Higher Education of the Sarajevo Canton.
[34] The University Senate or the institution's council adopts the list of the obligatory and recommended literature as well as other recommended literature which the student uses to study for the exam. The list is determined pursuant to the Article 56, Section 3 of the Law of Higher Education of the Sarajevo Canton.

Code: SNPAKHR116	**Name:** Food Packaging		
Cycle: specialist study programme	**Year: I**	**Semester:**	**Number of ECTS:** 4
Status: elective		**Total Number of Hours: 20** **Lectures: 15** **Seminars: 5**	

Instructors:	Full Prof. Dr. Nermina Spaho
Enrolment preconditions:	none
Course Goal(s):	The course's goal is to introduce the students to the basic functions and methods of food packaging; the materials used for food packaging, and enable them to acquire knowledge about the interactions between the food and the packaging, as well as the changes which happen to the packed food.
Course Outline/Topics:	a) Functions of packaging b) Food packaging materials c) Changes (sensory, chemical and microbiological) on the packed food d) Interactions between the food and the packaging e) Packaging for individual food groups f) Methods of packaging g) Perception of the packaging h) Food labelling i) Packaging and the environment
Learning Outcomes:	Knowledge: After the completion of the course, the student will: understand the functions of the food packaging and their importance in food industry; understand the possible effects of the packaging to the food (inner and outer);

	understand the changes which can happen to the packed food; understand the modern methods of packaging; explain the possibilities of lengthening best before dates for packed food list the examples of active and intelligent packaging and their usage in packaging of a certain product understand the food packaging's damage to the environment, but from the aspect of the lifecycle of the material's production understand the importance of the packaging's communication with the consumer (narrative and descriptive forms) Skills: choose the adequate packaging for a certain type of food; point to a certain packaging's damaging influence of human health and the environment explain the changes which can happen to the packed food and measure the changes in a limited form properly read the nutrition facts Competencies: The students will be able to, individually or in a team, make a decision about the material used for packaging of a certain type of food and choose the most acceptable packaging method. They will also be able to predict the possible interactions between the material and the food and suggest the measurements for prevention of the interaction. They will be able to write the nutrition facts for a certain product, in accordance with the legislative measures and thus contribute to the design of different types of packaging.
Learning Methods:	Lectures
Knowledge assessment (if any): [35]:	Written exam -40 Test -20 Seminar paper presentation -30 Attendance- 10
Literature[36]:	Obligatory: Spaho N. –Teaching Material Muhamedbegović, M., Juul, N.V., Jašić M.: Ambalaža i pakiranje hrane. Off-Set doo. Tuzla, 2015.

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	Recommended: M., Mathlouthi: Food Packaging and Preservation, Aspen Publishers, 1999.

UNIVERSITY OF SARAJEVO – CENTER FOR INTERDISCIPLINARY STUDIES COURSE DESCRIPTION

Code: SNVJKOM11	**Name:** Communication Skills		
Cycle: specialist study programme	**Year: I**	**Semester: II**	**Number of ECTS:** 1
Status: obligatory to attend, without grading		**Total Number of Hours: 10**	

Instructors:	Full Prof. Dr. Melika Husić Mehmedović Assoc. Prof. Dr. Dženana Husremović
Enrolment preconditions:	none
Course Goal(s):	1. Developing verbal and nonverbal communication skills, with the aim to transfer the knowledge. 2. Introducing the students to the models and processes of effective communication and presentation. 3. Raising the students' awareness about the importance of verbal and nonverbal communication.
Course Outline/Topics:	The communication process Communication channels Verbal communication Getting to know one's audience Preparation of the presentation and slides Nonverbal communication Giving feedback
Learning Outcomes:	Knowledge: The students will master the communication model through understanding of verbal and nonverbal communication. Skills: The students will further develop the skill of communication adjustment, in accordance with the audience.

	Competencies: The students will become readier and more confident in their public performance. They will also gain insight into their own communication style (both verbal and nonverbal) and possess improved communication and presentation skills.
Learning Methods:	Lectures (30%) Workshops (20%) Discussion (20%) Presentation (30%)
Knowledge assessment (if any): [37]:	Public presentation – 100% (no grade)
Literature[38]:	All additional materials will be distributed to the students electronically, in the form of presentations and relevant texts

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[38] The University Senate or the institution's council adopts the list of the obligatory and recommended literature as well as other recommended literature which the student uses to study for the exam. The list is determined pursuant to the Article 56, Section 3 of the Law of Higher Education of the Sarajevo Canton.

Code: SNFVKOI118	**Name:** The Wine Culture Phenomenon and Nutrition Patterns		
Cycle: specialist study programme	**Year: I**	**Semester: II**	**Number of ECTS:** 1
Status: obligatory to attend, without grading		**Total Number of Hours: 10**	

Instructors:	Full Prof. Dr. Milenko Blesić
Enrolment preconditions:	none
Course Goal(s):	1. Introducing the students with the types of wine and their basic characteristics 2. Introducing the students to the food patterns where wine is an essential component 3. Introducing the students to the basic rules of food and wine pairing
Course Outline/Topics:	Wine categories Basic nutritive aspects of wine The phenomenon of wine culture Wines and gastronomy The most important food patterns, where wine is an essential component The rules of food and wine pairing Writing of the suggestion of food and wine compositions
Learning Outcomes:	Knowledge: The students will master the basics of the wine culture and the role of wine in the gastronomy of presentation, serving and the basics of the techniques of organoleptic assessment of wine quality Skills: The students will be able to suggest simpler food compositions and basic types of wine. Competencies:

	The students will be able to recommend or organize nutritive, gastronomic, oenological and purposeful compositions of food and wine, using their understanding of nutritive, gastronomic and cultural features of wine, with their previously acquired communication skills.
Learning Methods:	Lectures (30%) Workshops and discussion (50%) Presentation (20%)
Knowledge assessment (if any): [39]:	Public presentation – 100% (no grade)
Literature[40]:	All additional materials will be distributed to the students electronically, in the form of presentations and relevant texts

[39] The assessment structure and criteria for each course is determined by the institution's council before the beginning of the study year, pursuant to the Article 64, Section 6 of the Law of Higher Education of the Sarajevo Canton.
[40] The University Senate or the institution's council adopts the list of the obligatory and recommended literature as well as other recommended literature which the student uses to study for the exam. The list is determined pursuant to the Article 56, Section 3 of the Law of Higher Education of the Sarajevo Canton.

UNIVERSITY OF SARAJEVO – CENTER FOR INTERDISCIPLINARY STUDIES COURSE DESCRIPTION

Code: SNPHRUS119	**Name:** Food Policies in Urban Environment		
Cycle: specialist study programme	**Year: I**	**Semester: II**	**Number of ECTS:** 1
Status: obligatory to attend, without grading		**Total Number of Hours: 10**	

Instructors:	Asst. Prof. Dr. Mirza Uzunović
Enrolment preconditions:	none
Course Goal(s):	1. Improve the level of understanding of the very complex concept „food policies in urban environment“, which emphasises the interconnectedness and the connection of the food supply chain with the social and economic goals of the links in the chain, nutritive/life habits, food quality, health, generations of waste and the quality of the environment and life. 2. Introduce the innovative ways in which one might, through a set of instruments of public policies, influence the means of diet, the availability of quality food, health and the quality of the environment and life. 3. Develop the ability to map and communicate with different interest groups, with the aim to create a productive dialogue based on sharing of the experiences connected to the concept and draw conclusions necessary for future action in a creative, innovative way. 4. Acquire the knowledge, skills and information required for the innovations in urban systems which enable availability, access to and consumption of food and which, finally, improve and create future image of the urban environment.
Course Outline/Topics:	**The Concept of Food Policies in Urban Environment**– which problems are addressed by these policies, how and why, and what is the usage of their implementation (case study Milan), EU approaches to the area, how innovations in the area can contribute to the improvement and create the future image of the urban environment.
Learning Outcomes:	Knowledge: The students will acquire knowledge on the food policies in urban environment, the links in the food supply chain, and the

	interconnectedness between safe food and food of high quality (food supply chain), waste creation, and quality of the environment, climate change, health and the quality of life in urban environment. Skills: Systematic thinking and mapping of the food chain, planning, defining the scope and implementation of the workshops as a platform for productive discussion, exchange of knowledge and ideas in heterogeneous interest groups and the skill of summarising main/key messages/experiences and recommendations (preparation of the policy brief). Competencies: (i)Creation of the food policies in urban environment, based on the needs of different interest groups, (ii) advocacy of argumentation of application of modern approaches in the shaping of public policies, (iii)application of the principles of sustainability and social responsibility in all aspects of the students' work.
Learning Methods:	Lectures – preparation (20%) Workshop and discussion (60%) Presentation – policy brief (20%)
Knowledge assessment (if any): [41]:	Public presentation and a policy brief text – 100% (no grade)
Literature[42]:	De Cunto, Anja, Cinzia Tegoni, Roberta Sonnino, Cécile Michel, Feyrouz Lajili-Djalaï, (2017): Food in cities: study on innovation for a sustainable and healthy production, delivery, and consumption of food in cities, Directorate-General for Research and Innovation, Brussels, Belgium Giordano, T., Caroline Ledant, D. Di Martino, Cecile Michel, Franca Roiatti, (2018): The role of cities in the transformation of food systems: sharing lessons from milan pact cities, FAO, Rome, Italy Parsons, K., Corinna Hawkes (2018): Connecting food systems for co-benefits: How can food systems combine diet-related health with environmental and economic policy goals? Policy brief 31, World Health Organization, Copenhagen, Denmark, Available at: http://www.euro.who.int/pubrequest All additional materials will be distributed to the students electronically, in the form of presentations and relevant texts

[41] The assessment structure and criteria for each course is determined by the institution's council before the beginning of the study year, pursuant to the Article 64, Section 6 of the Law of Higher Education of the Sarajevo Canton.

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UNIVERSITY OF SARAJEVO – CENTER FOR INTERDISCIPLINARY STUDIES COURSE DESCRIPTION

Code: SNUMIDO120	**Name:** The Influences of Marketing on Child and Teenage Diet		
Cycle: specialist study programme	**Year:**	**Semester: II**	**Number of ECTS:** 1
Status: obligatory to attend, without grading		**Total Number of Hours: 10**	

Instructors:	Selma Gičević, expert associate
Enrolment preconditions:	none
Course Goal(s):	Introducing the students with the problems of food marketing Analytical approach and the discussion of existing solution, as well as the suggestion of solutions for Bosnia and Herzegovina
Course Outline/Topics:	Introducing the students with the problems of food and drinks marketing aimed at children – theory and literature review; Basics of food marketing regulations in Bosnia and Herzegovina and the world; Adult health implications of inadequate nutrition in childhood days Dangers and challenges of the unregulated food marketing – discussion; Main actors (stakeholders) in the process (parents, school, environment, the media etc.) New media Possibilities and options for child protection from the damaging influences of food marketing; Creation and presentation of the suggested solution at the level of Bosnia and Herzegovina
Learning Outcomes:	Knowledge: Knowledge of the basic features of food marketing, implications of inadequate nutrition in childhood and adulthood, intervention for protection Skills: Analytical approach to the problem, from the identification of the problem, determination of its possible consequences, analysis of the existing literature, analysis of the good examples in the world, situational analyses in Bosnia and Herzegovina, stakeholder analyses

	and the creation of the intervention framework in Bosnian context Competencies: Competency to analyse, critically and individually, the existing problem of the food marketing aimed at children and youth and the competency to create the intervention framework in Bosnian context.
Learning Methods:	- Lectures - Group work and discussion - Presentation/report (depending on the number of students)
Knowledge assessment (if any): [43]:	Presentation/report (passing grade)
Literature[44]:	Obligatory: McLeroy, K. R., Steckler, A. and Bibeau, D. (Eds.) (1988). The social ecology of health promotion interventions. Health Education Quarterly, 15(4):351-377. Nuffield Council on Bioethics, «Policy Process and Practice» http://nuffieldbioethics.org/wp-content/uploads/2014/07/Public-health-Chapter-3-Policy-process-and-practice.pdf Frieden TR, Dietz W, Collins J. Reducing childhood obesity through policy change: acting now to prevent obesity.Health Aff (Millwood). 2010;29:357-63. Hill D, Swinburn B, Johnson G, Harper T.Comprehensive Review of Food Labelling Law and Policy: Second submission from the Obesity Policy Coalition. Carlton, Victoria, Australia: Obesity Policy Coalition; 2010. Lee V, Mikkelsen L, Srikantharajah J, Cohen L.Promising Strategies for Creating Healthy Eating and Active Living Recommended: /

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