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# D2.1 STEPS STRUCTURE AND COURSES

## WP2. STEPS STRUCTURE AND COURSES DESIGN



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## Deliverable 2.1. STEPS structure and courses

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## EXECUTIVE SUMMARY

**This report is an improved form of the D2.1 report submitted in 2020.** This was necessary to specify the changes that took place in the semesters structure and the number of credits (ECTS) due to the specific accreditation processes for the universities: Agricultural University of Tirana and European University of Tirana (Albania) and University “Haxhi Zeka” of Peje and Universum College (Kosovo).

According to the accreditation reports submitted by the partners and according to the recommendations of the national authorities in Albania and Kosovo, it was decided to change the number of credits to 5, for each discipline included in the curriculum and to harmonize the curriculum.

For Kosovo, the organization of a joint “*Sustainable Food Production Systems*” Master’s program between the two institutions - University “Haxhi Zeka” of Peje and Universum College - has been approved, starting in 2021.

For Albania, the master's program has not yet been approved. AUT and EUT have resubmitted the Application Form to the Ministry of Education and Sports on 30 September 2021 and are waiting for the response, to proceed with the second phase of the application.

As a result, according to the 22-26 of November meeting in Bihac, the consortium decided that this material would be a supplement to document D2.1. submitted in 2020, under WP 2 - STEPS structure and courses design.

The design of the MSc programme - “*Sustainable Food Production Systems*” - was the result of the close collaboration between partner countries organizations and the strategic contribution of EU partners.

As one of the most experienced partners of the consortium, but also, as a close neighbour of the partner countries, USAMVB is leading the task, by taking into consideration the possible resistances and conflicts due to the different perspectives of academics and stakeholders, as well as the socio-cultural differences in the Western Balkans region.

The type and the level of education were aligned with the national strategies and EU integration.

This report presents the design of the “*Sustainable Food Production Systems*” MSc programme in relation to the specific needs identified during the preparatory tasks, the vision and the strategic goals of the national educational policies for six HEIs institutions: Agricultural University of Tirana and European University of Tirana (Albania); University “Haxhi Zeka” of Peje and Universum College (Kosovo); University of Bihac and University of Sarajevo (Bosnia and Herzegovina).

## 1 INTRODUCTION

### 1.1 Scope

Sustainable food is food that is healthy for the consumers and produced in a humane, ecologically benign, socially responsible, and economically fair way (Byloo M., 2011). Also, sustainable food production systems offer opportunities for economic benefits, creation of jobs, enhanced food safety and security.

According to EU Commission, on the Common Agriculture Policies, there are many different views as respect to what constitutes a “sustainable” food system, and what falls within the scope of the “sustainability” term. Strictly speaking sustainability implies the use of resources at levels that do not exceed the capacity of the Earth to replace them. For food, a sustainable system might be seen as encompassing a range of issues such as security of the supply of food, health, safety, affordability, quality, a strong food industry in terms of jobs and growth and, at the same time, environmental sustainability, in terms of issues such as climate change, biodiversity, water and soil quality.

According to the Institute of Food Technologists (IFT), a global organization with members in more than 90 countries, dedicated to advancing the science of food and its application across the global food system, “the food sciences draw from many disciplines, including biology, chemical engineering, and biochemistry to better understand food processes and improve food products for the general public. As the stewards of the field, food scientists study the physical, microbial, and chemical makeup of food. They apply their findings to develop the safe, nutritious, and sustainable foods and innovative packaging that line supermarket shelves today”.

The economic sectors involved in the search for a new balance in this era of globalization and labor market flexibility are crying out for human resources capable of performing job activities to required standards in a variety of contexts and conditions. Modern firms are therefore applying, or intend to apply, the competency approach to the management of their workers as a means of boosting their productivity and market competitiveness.

In different EU countries the competency certification and training systems are in an advanced stage of development, the training on offer already incorporates a competency-based approach, whereas for other countries this objective has yet to be achieved. The absence of a system of competency standards appears to be the brake that is holding back its adoption, although the need to modernize training has been clearly expressed in recent policies, legal instruments, and educational reforms.

The aim of this report is to present a modernized educational programme of HEIs partners, which will produce workforce aimed to support the transition towards sustainable food production systems, by applying advanced engineering techniques, management approaches, policies and reforms at all levels.

The programme is aligned with the European vision for green, circular economy and the national strategies of Western Balkans countries, regarding the agriculture restructuring, business diversification and rural development. The MSc programme will offer advanced knowledge to graduates working in particular, in rural, agricultural areas which will contribute to the transition to sustainable food production systems.

### 1.2 Audience

This report is addressed to the partners of the STEPS project, as well as to the interested stakeholders, students, teaching staff, trainees, and technical staff.

### 1.3 Definitions

It is important to assign definitions to the terms used in the report, so that there is not a misunderstanding of what is meant in the discussion of a curriculum design and the various components therein. For the purposes of the STEPS project, these definitions apply:

*Core curriculum* is a set of courses that are considered basic and essential for future class work and graduation.

*Course* is a unit of teaching that typically lasts one academic term, is led by one or more instructors (teachers or professors), and has a fixed roster of students. A course is usually an individual subject. Students may receive a grade and academic credit after completion of the course.

*Elective course* is one chosen by a student from a number of optional subjects or courses in a curriculum, as opposed to a required course which the student must take.

*Required courses (sometimes called "core courses" or "general education courses")* are deemed essential for an academic degree; elective courses tend to be more specialized. Elective courses usually have fewer students than the required courses.

*ECTS (European Credit Transfer and Accumulation System)* is a tool of the European Higher Education Area for making studies and courses more transparent. It helps students to move between countries and to have their academic qualifications and study periods abroad recognised. ECTS allows credits taken at one higher education institution to be counted towards a qualification studied for at another.

*Student workload* in ECTS consists of the time required to complete all planned learning activities such as attending lectures, seminars, independent and private study, placements, preparation of projects, examinations, and so forth. According to Bologna Convention, ECTS credits express the volume of learning based on the defined learning outcomes and their associated workload.

*Food scientists and food technologists* are those who study, research, innovate and improve food products and processes to ensure safety, quality and nutritional adequacy are maintained in food products for a vast range of consumer needs.

*Formal learning* is typically provided by education or training institutions, with structured learning objectives, learning time and learning support. It is intentional on the part of the learner and leads to certification.

*Non-formal learning* is not provided by an education or training institution and typically does not lead to certification. However, it is intentional on the part of the learner and has structured objectives, timeplanning and support.

*Qualification* means a formal outcome of an assessment and validation process which is obtained when a competent authority determines that an individual has achieved learning outcomes to given standards.

*Qualification framework*: systematic framework through which all qualifications may be described and related to each other in a coherent way, which can be understood by students, academic institutions and stakeholders.

*Learning outcomes* means statements regarding what a learner knows, understands and is able to do on completion of a learning process, which are defined in terms of knowledge, skills and responsibility and autonomy.

*Knowledge* means the outcomes of the assimilation of information through learning. Knowledge is the body of facts, principles, theories and practices that is related to a field of study or work. Knowledge is described as theoretical or factual. There is a necessity of new knowledge about the requirements which the agricultural production (AP) should meet in order to implementation of friendly technologies for sustainable food system.

*Skills* mean the ability to apply knowledge and use know-how to complete tasks and solve problems. Skills are described as cognitive (involving the use of logical, intuitive and creative thinking) or practical (involving manual dexterity and the use of methods, materials, tools and instruments).

*Competence* means the proven ability to use knowledge, skills and personal, social and/or methodological abilities, in work or study situations and in professional and personal development.

*Competence in science, technology and engineering* refers to the ability and willingness to explain the natural world by making use of the body of knowledge and methodology employed, including observation and experimentation, in order to identify questions and to draw evidence-based conclusions.

*Competences in technology and engineering* are applications of that knowledge and methodology in response to perceived human wants or needs.

*Competence in science, technology and engineering* involves an understanding of the changes caused by human activity and responsibility as an individual citizen.

*Entrepreneurship competence* refers to the capacity to act upon opportunities and ideas, and to transform them into values for others. It is founded upon creativity, critical thinking and problem solving, taking initiative and perseverance and the ability to work collaboratively in order to plan and manage projects that are of cultural, social or financial value.

## 1.4 Structure

Chapter 1 contains an overview of this document, providing its Scope, Audience, Definitions and Structure.

Chapter 2: this section provides information of elaboration of Steps master programme, by Methodology, Training needs in West Balkan countries, Qualification, Target groups, Skill and Competences, Design of Curriculum.

Chapter 3 presents the joint characteristics of the MSc program developed in Western Balkans countries.

Chapter 4 is used for summarizing the work done and the conclusions.

## 2 STEPS MSc PROGRAM ELABORATION

### 2.1 Methodology

Content of the educational process in the vision of curricula is represented by knowledge, skills, attitudes, values, strategies reflected in a set of curricular documents (curriculum, curriculum on disciplines, academic textbooks, etc.), aimed at the initial and continuous professional training of specialists, but also personal development.

This report is based on the results obtained in WP1, "Assessment and analysis of stakeholder's needs", in connection with social and economic environment of the HEIs countries and analysis of other MSc programme in the world. The overall objective of this work package was to provide the background and support the design of the STEPS programme in order to meet labour market and society's need and expectations. Thus the specific objective of the need assessment process was to address new job market needs induced by new and forthcoming Western Balkan countries (Albania, Bosnia and Herzegovina and Kosovo) public policies on sustainable food systems, to explore partner countries' needs in terms of skilled engineers and managers, which support every aspect of the transition towards sustainable food production systems.

The need assessment process has shown that the three countries have similarities in rural and agriculture sector not only in their development perspectives but also in their current and future skills and competences needs.

Regarding the characteristics of agriculture and food sector development, two types of development speeds are observed. On one hand, there are poorly equipped and poorly managed family farms and a significant number of low-utilization processing entities with out-dated equipment and poor management. Most of the entities in this group are low-productive, low-profit, and non-competitive. On the other hand there is a group of large, modern, well-equipped and adequately managed farms, processors, suppliers and distributors that succeed in both quantity and quality to achieve competitiveness in both domestic and regional and distant markets. Unfortunately, this group is represented by small number of value chain actors.

In Albania, Kosovo and Bosnia and Herzegovina the EU integration is perceived as one of the main factors that plays an important role in rising the awareness of institutions, business operators and consumers on food quality and safety standards. The EU integration process will also increase the level of awareness on food sustainability issues. EU integration, has also an important role in the capacity building process, as previously mentioned, the lack of competences and knowledge in all the sectors dealing with food systems, will require a more qualified and responsible labour force. As a consequence, this will also have an impact on the quality of the products.

## 2.2 Training needs in HEIs partners

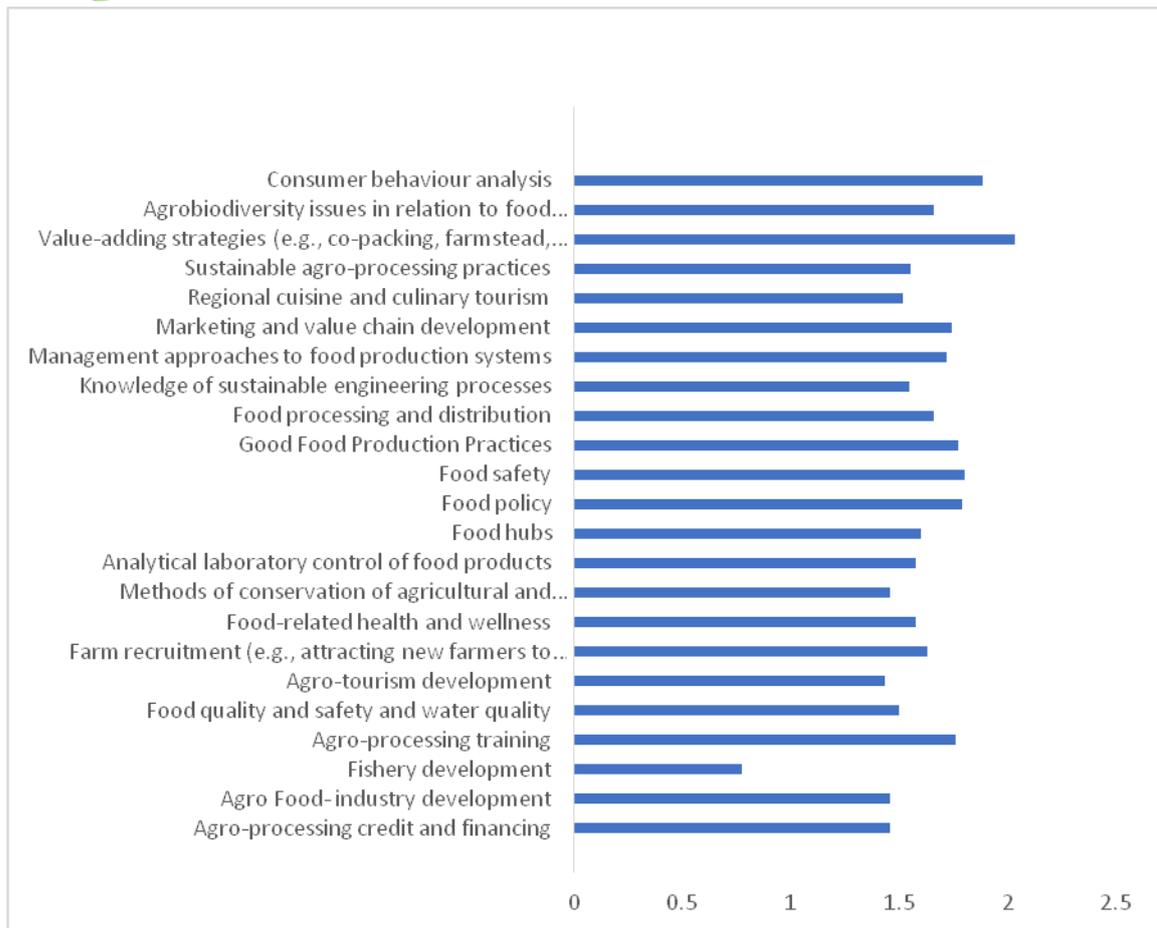
Effective training started with the identification of training needs. "Training need is a condition where there is a gap between "what is" and "what should be" in terms of incumbents' knowledge, skills, attitudes and behaviour for a particular situation of one point in time. The gap usually occurs when a difference exists between "desired performance" and "actual performance". Training needs identification makes it possible to design a training programme that will address the identified training problem or need.

### 2.2.1. Training needs in Albania

The needs assessments analysis of Albanian stakeholders can be summarized as follows:

- The idea of introducing the new MS course "Sustainable food system is warmly welcomed by all participants, as such course is great opportunity to train future sector professionals in missing knowledge, skills and competences, under condition that it is well, interdisciplinary, designed. Also, they all agreed that such a study programme should be organized at the master/MSc level and could be accessed by students from different undergraduate profiles.
- Among the most important subjects/modules to be incorporated into the course, the participants emphasized the following ones:
  - ✓ Value-Adding strategies (waste management, food package issues (plastic, heavy packages in relation to CO<sub>2</sub> emission);
  - ✓ Food policy, food law, and food regulation;
  - ✓ Food process engineering, including "smart" and "environmentally friendly" design of food processing premises and technological lines;
  - ✓ Economic issues such as management, marketing, planning, analysis, project planning and proposals writing.

The training needs for the further STEPS MSc Programme is presented in Figure 2.

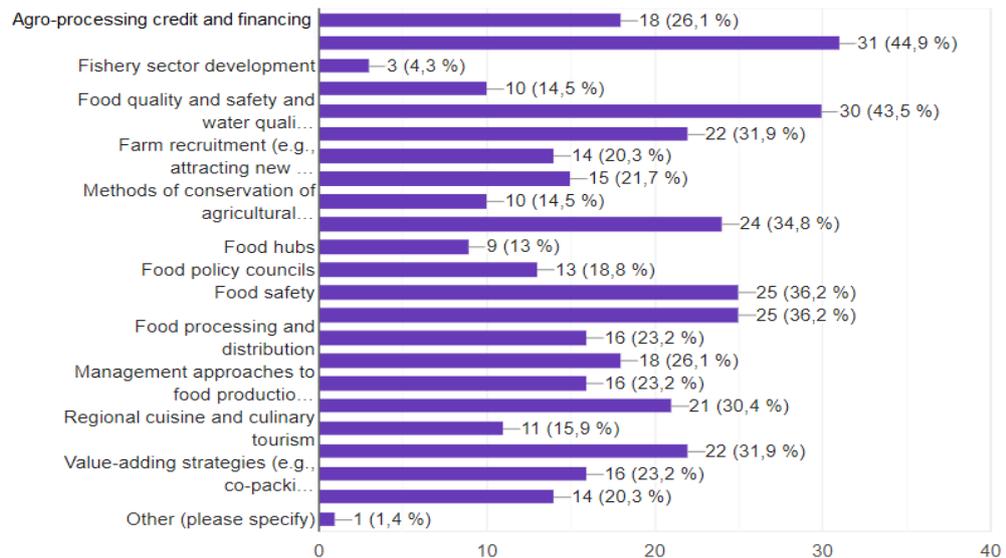


**Fig.1 – Training needs in Albania (Source: UET, AUT, 2019)**

### 2.2.2. Training needs in Bosnia Herzegovina

Needs assessments analysis of stakeholders in Bosnia Herzegovina can be summarized as follows:

- The idea of introducing the new MS course “Sustainable food system is warmly welcomed by all participants, as such course is great opportunity to train future sector professionals in missing knowledge, skills and competences, under condition that it is well, interdisciplinary, designed. Also, they all agreed that such a study programme should be organized at the master/MSc level and could be accessed by students from different undergraduate profiles.
- Among most important subjects/modules to be incorporated into the course, the participants emphasized the following ones:
  - ✓ Economic issues such as credit and financing, management, marketing, planning, analysis, project planning and proposals writing;
  - ✓ Soil and water management in agriculture;
  - ✓ Value-adding strategies (waste management, food package issues (plastic, heavy packages in relation to CO<sub>2</sub> emission)).
  - ✓ Food policy, food law, and food regulation;
  - ✓ Food process engineering, including "smart" and "environmentally friendly" design of food processing premises and technological lines.

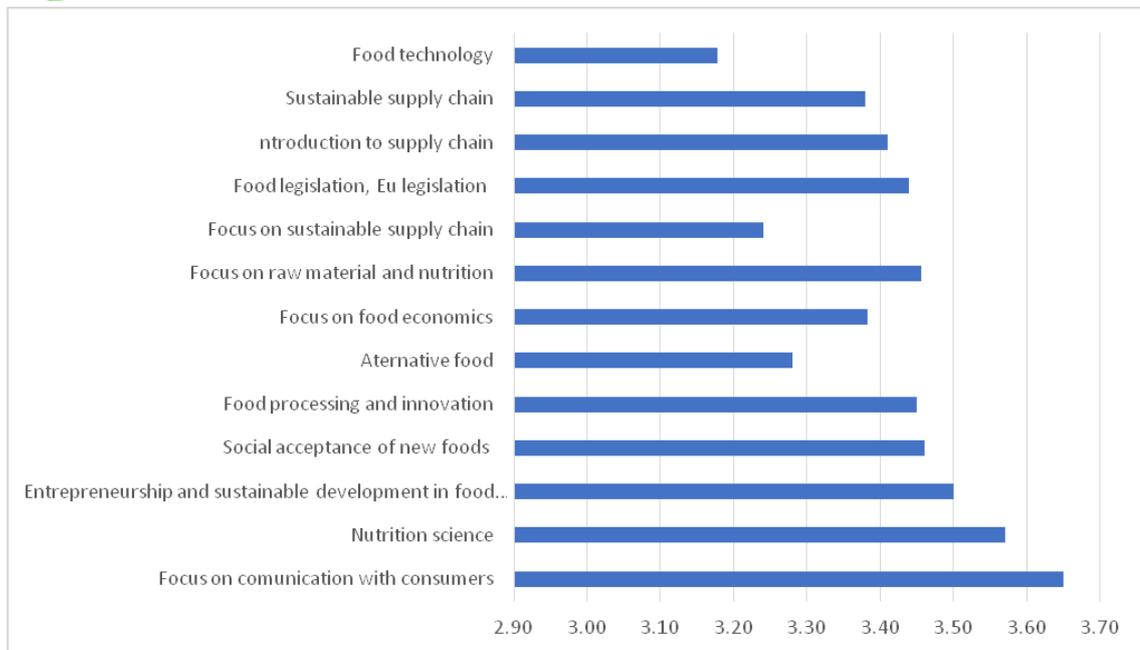


**Fig.2 – Training needs in Bosnia and Herzegovina (Source: UNBI,UNSA, 2019)**

### 2.2.3. Training needs in Kosovo

Regarding the results of the training needs of the stakeholders in Kosovo, these include:

- The idea of introducing the new MS course “Sustainable food system is warmly welcomed by all participants, as such course is great opportunity to train future sector professionals in missing knowledge, skills and competences, under condition that it is well, interdisciplinary, designed. Also, they all agreed that such a study programme should be organized at the master/MSc level and could be accessed by students from different undergraduate profiles.
- Among most important subjects/modules to be incorporated into the course, the participants emphasized the following ones:
  - ✓ Economic issues such as: entrepreneurship and innovation, management, marketing, planning, analysis, project planning and proposals writing;
  - ✓ Nutrition science;
  - ✓ Value-adding strategies (new processing techniques, food package issues, sustainable development in food production);
  - ✓ Food policy, food law, and food regulation;
  - ✓ Food process engineering, including "smart" and "environmentally friendly" design of food processing premises and technological lines.



**Fig.3 – Training needs in Kosovo (Source: UC, UHZ, 2019)**

## 2.3. Curriculum Design of “Sustainable Food Production Systems” MSc programme in Western Balkan

### 2.3.1. Introduction

The curriculum is the document that includes all the disciplines that must be passed in order to obtain a university qualification, divided by years of studies.

The list of disciplines included in the curriculum, as well as their content, reflected in the analytical programmes, correspond to the legal profile and respond to the current training requirements of lawyers, with fundamental knowledge and the ability to adapt to the requirements of the practical activity.

In STEPS curriculum we can find:

- the core/mandatory/compulsory courses/subjects/disciplines and elective/optional subjects/disciplines;
- the number of hours reserved per week for a subject (and how many are intended for lectures, seminar, laboratory or projects);
- the type of assessment (evaluation, verification during the course);
- the number of related ECTS credits per semester.

The joint aim is to create strong institutional links, to promote mobility of students and staff, to offer courses in a cost-effective way based on the exchange of good practices and cooperation.

The harmonization frameworks and the national and EU policies that need to be implemented will be highlighted in the content of all courses.

It also promotes the development of modern teaching methodologies and environments, in order to give the opportunity to attendees to develop soft skills, such as problem solving, team-working, decision making etc.

The flexible and modular structure of the programme offers students the opportunity to select courses from different groups and create individual profiles.

### 2.3.2. Qualification

Descriptors defining levels in the **European Qualifications Framework (EQF)** include Level 7 for the Master Programme.

**Table 1**  
**Characteristics of Level 7 in EQF**

Level	Knowledge	Skills	Responsibility and autonomy
Level 7 The learning outcomes relevant to Level 7 are	-highly specialised knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking and/or research; -critical awareness of knowledge issues in a field and at the interface between different fields.	-specialised problem-solving skills required in research and/or innovation in order to develop new knowledge and procedures and to integrate knowledge from different fields.	-manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches; -take responsibility for contributing to professional knowledge and practice and/or for reviewing the strategic performance of teams.

**The International Standard Classification of Education (ISCED)** has been developed to facilitate comparisons of education statistics and indicators across countries on the basis of uniform and internationally agreed definitions.

The coverage of ISCED extends to all organised and sustained learning opportunities for children, young people and adults, including those with special educational needs, irrespective of the institutions or organisations providing them or the form in which they are delivered.

The current classification – ISCED 2011 or 'ISCED' (UNESCO-UIS, 2012) – refers to the following levels of education: **ISCED 7: Master's or equivalent level.**

Programmes at ISCED level 7 are at Master's or equivalent level, and are *often designed to provide participants with advanced academic and/or professional knowledge, skills and competencies, leading to a second degree or equivalent qualification.* Programmes at this level may have a substantial research component but do not lead to the award of a doctoral qualification. Typically, programmes at this level are theory-based but *may include practical components and are informed by state of the art research and/or best professional practice.*

### 2.3.3. Target groups

**The STEPS MSc in Sustainable food production systems** will improve the knowledge of future graduates on food systems and the concept of sustainability.

The graduates of the faculty acquire qualifications to meet the demands of the labor market, being ***compatible to work in the following sectors of activity / institutions:***

- local and international production companies for agriculture production, food processing, organic production, etc;

- commercial companies for agriculture production, food processing, organic production, etc;
- consultancy firms;
- certification and inspection companies for organic products certification;
- policy makers;
- analysis laboratories;
- economic aspects, management and marketing;
- national control authorities;
- expertise and certification in agriculture;
- nutrition sciences, medical fields;
- industrial processing food;
- education and scientific research.

### 2.3.4. Skills and Competences

Among competencies and skills currently lacking but required from workforce in sustainable food production systems, the following ones were emphasized:

- In addition to the basic knowledge of concerned technology, the employee should demonstrate teamwork skills, and flexibility to work in a team;
- flexibility in making the most appropriate decision;
- capability of maintaining given product quality in a cost-effective manner;
- market-orientation, which requires both creativity and a good knowledge of production technology as well as economic indicators throughout the food production chain;
- knowledge of a sustainable food production chain, from proper production, processing and distribution to the final consumer;
- knowledge of waste management and food system impact to the environment;
- adoption of sustainable natural resource use in daily economic practices;
- high level of IT knowledge and competencies;
- capability to apply holistic approach to work, not only to rigidly adhere to the learned rules, as food production is very dynamic, and changes are fast and visible;
- leadership skills are required, to be able and capable of taking responsibility and decision making;
- knowledge of the food safety segment and the implementation of food safety and quality standard.
- more practical experience in this segment, as well as the product marketing segment are required;
- knowledge of economics issues: marketing, management, capability of planning and analysing, as well as competences in project cycle management.

### 2.3.5. Curriculum Design of STEPS MSc Program

The STEPS MSc programme was designed according to the Bologna convention.

It was structured based on ECTS credits. For Agricultural University of Tirana, European University of Tirana, University of Peja, Universum College and University of Sarajevo the STEPS Master program will be organised into four semesters and account for a total of 120 ECTS credits. For University of Bihac, will be organised an one year, with 60 credits.

According to the **target groups** and the **needs analysis**, the **scientific background and the experience of the partners**, the **courses/subjects will be organized in two groups**:

- *Food engineering, quality and safety;*
- *Food production systems management.*

An estimation of the time learners typically was completed all learning activities such as:

- **lectures,**
- **seminars,**
- **lab,**
- **projects,**
- **practical work,**
- **mastership,**
- **individual study** required to achieve the defined learning outcomes in formal learning environments.

Workload was measured in ECTS credits and the European countries (EHEA) have defined 60 ECTS as a fulltime year of studies. To set for one semester to make a core courses with the same title of the module for all (3 from Group I + 3 from group II, in total 6 courses with 5 ECTS, in total 30 ECTS which may be distributed in all semesters. For the elective courses will be offered two profiles, meeting the HEIs capacity to deliver MSc in 4 semesters with 120 ECTS in total, where students get 30 ECTS for a semester and also, for University of Bihac, will be one year, two semesters with 60 credits.

Language of MSc Course could be offer in Albanian and Bosnian - and digitized for Learning Master Platform and also could be in English and the educational materials will be translated in national languages.

**Total courses of STEPS Master program – 40 courses.**

**Number of Core Courses - 6**

- *Food engineering, quality and safety – 3 (50%)*
- *Food production systems management – 3 (50%)*

**Number of Elective Courses - 34**

- *Food engineering, quality and safety – 21 (61.76%)*
- *Food production systems management – 13 (38.24%)*

**The total number of credits 30 ETCS /semester: means 4 or 6 elective courses/semester.**

**4 or 6 elective courses per semester x 2 semesters means 8 or 12 courses, could be more...for both specializations. In frame of STEPS project we have 6 core courses + 8-12 elective courses = around 14-18 courses/MS program**

**Design of courses:**

- Core Courses – 30 ECTS;
- Elective Courses – 60 ECTS;
- Master Thesis – 30 ECTS

**Core Courses – 30 ECTS**

The Core Courses will be the same for all HEI's universities and will be mandatory. It proposed to be set for first semester to make a core classes with same title of module for all (3 from Group I+3 from group II, in total 6 courses with 5 ECTS, in total 30 ECTS, whereas for Albania will be with 6 ECTS, in total 36 ECTS).

No.	Subjects/Courses	ECTS
1	Fundamentals of food production systems	5
2	Agricultural and food industry waste management	5
3	Advanced food science and technology	5
4	Governance, Policy and Legislation in the Agri-Food Sector	5
5	Food Ethics	5
6	Research methodologies and tools	5
	<b>TOTAL</b>	<b>30</b>

**Elective Courses: 60 ECTS**

Group I: Food Engineering, Quality & Safety - 30 ECTS

Group II: Management of Food Production Systems – 30 ECTS

The number and title of elective courses depends of specificity of HEI's universities (see tables).

**Master's Thesis – 30 ECTS**

- Msc thesis will be in the fourth semester, or in the case of the University of Bihac at the end of the first year.

**Table 2**
**MSc title: “SUSTAINABLE FOOD PRODUCTION SYSTEMS”**
**COURSE CURRICULUM DESIGN**
*Agricultural University of Tirana and European University of Tirana, Albania*

<b>Faculty / Department</b>	<b><i>Agricultural University of Tirana / Faculty of Biotechnology/ Department of Agrifood Technology</i></b>	<b>European University of Tirana/ Faculty of Economics, Business and Development/ Department of Management and Marketing</b>
<b>Language</b>	English, Albanian	
<b>Years of study</b>	2	
<b>Duration in semesters</b>	4	
<b>Credits-ECTS</b>	120	
<b>Short Description:</b>	AUT and EUT will offer a master program with two years program, with 120 ECTS, teaching will be done in three semesters, while in the 4 <sup>th</sup> semester MSc thesis will be done. The teaching will be in the HEI that could cover courses based on their expertise: Agricultural University of Tirana will be responsible for delivering the engineering, quality and safety courses, while European University of Tirana will be responsible for delivering the management in food production courses because of their expertise).	

**Table 3**
**List of Course Curriculum**
*Agricultural University of Tirana and European University of Tirana, Albania*

<b>1<sup>st</sup> semester</b>	<b>Core courses</b>	Fundamentals of food production systems
		Agricultural and food industry waste management
		Advanced food science and technology
		Governance, Policy and Legislation in the Agri-Food Sector
		Food Ethics
		Research methodologies and tools
<b>2<sup>sd</sup> semester</b>	<b>Elective courses</b>	Quality System Development, Management and Shelf Life Assessment of Food
		Quality and Sustainability of Animal-source Food Production
		Traceability systems of food products
		Innovative product development
		Innovative practices of harvesting and post harvesting
		Sustainable Ecology for Fish Management and Conservation
		Environmental Chemistry towards Food Processing
<b>3<sup>rd</sup> semester</b>	<b>Elective courses</b>	Management of Sustainable Food Supply Chain
		Marketing of Sustainable Agri-Food Products
		Sustainable Food Value Chain Management
		Innovation and Entrepreneurship for Sustainable Food Production Systems
		Consumer science and sustainable consumption
		Data Analysis and Decision-making
		Total Quality Management in the Agri-Food Sector
<b>4<sup>th</sup> semester</b>		Master thesis

Table 4

**MSc title: “SUSTAINABLE FOOD PRODUCTION SYSTEMS”  
COURSE CURRICULUM DESIGN**

*Agricultural University of Tirana and European University of Tirana, Albania*

No.	Course title	Formative category	1 <sup>st</sup> Semester (15 weeks)						2 <sup>nd</sup> Semester (15 weeks)						Total per semester ECST	
			Lect.	S.	La b.	P.	EC TS	ET	Lect.	S.	La b.	P.	ECTS	ET		
<b>I. CORE COURSES</b>																
1	Fundamentals of food production systems	Core; FEQS	30	6	8	16	5	Written and oral								5
2	Agricultural and food industry waste management	Core; FEQS	30	12	0	18	5	W+O								5
3	Advanced food science and technology	Core; FEQS	30	6	8	16	5	W+O								5
4	Governance, policy and legislation in the agri-food sector	Core; MFPS	30	30			5	W+O								5
5	Food Ethics	Core; MFPS	30	30			5	W+O								5
6	Research methodologies and tools	Core; MFPS	30	6	6	18	5	W+O								5
<b>Total core courses: ECTS/semester</b>							<b>30</b>									<b>30</b>
<b>II. ELECTIVE COURSES</b>																
1	Quality System Development, Management and Shelf Life Assessment of Food	Elective; FEQS							30	12	0	18	5	W+O		5
2	Quality and Sustainability of Animal-source Food Production	Elective; FEQS							30	8	10	12	5	W+O		5
3	Traceability systems of food products	Elective; FEQS							30	10	10	10	5	W+O		5
4	Innovative product development	Elective; FEQS							30	6	12	12	5	W+O		5
5	Innovative practices of harvesting and post harvesting	Elective; FEQS							30	2	10	18	5	W+O		5
6	Sustainable Ecology for Fish Management and Conservation	Elective; FEQS							30	6	8	16	5	W+O		5
7	Environmental Chemistry towards Food Processing	Elective; FEQS							30	12	8	10	5	W+O		5
<b>Total elective courses: ECTS/semester</b>													<b>30</b>			<b>30</b>
<b>Total year courses: ECTS/year</b>							<b>30</b>						<b>30</b>			<b>60</b>

**COURSE PROGRAMME – 2<sup>nd</sup> Year**

No.	Course title	Formative category	3 <sup>rd</sup> Semester (15 weeks)						4 <sup>th</sup> Semester (15 weeks)						Total per semester ECTS
			Lect.	S.	Lab.	P.	ECTS	ET	Lect.	S.	Lab.	P.	ECTS	ET	
<b>III. ELECTIVE COURSES</b>															
1	Management of Sustainable Food Supply Chain	Elective; MFPS	30	30			5	W+O							5
2	Marketing of Sustainable Agri-Food Products	Elective; MFPS	30	30			5	W+O							5
3	Innovation and Entrepreneurship for Sustainable Food Production Systems	Elective; MFPS	30	30			5	W+O							5
4	Sustainable Food Value Chain Management	Elective; MFPS	30	30			5	W+O							5
5	Consumer science and sustainable consumption	Elective; MFPS	30	30			5	W+O							5
6	Data Analysis and Decision-making	Elective; MFPS	30	30			5	W+O							5
7	Total Quality Management in the Agri-Food Sector	Elective; MFPS	30	30			5	W+O							5
<b>Total optional courses: ECTS/semester</b>							<b>30</b>								<b>30</b>
1	<b>MASTER THESIS</b>	Compulsory							0		30		30	W+O	30
<b>Total compulsory master thesis: ECTS/semester</b>													30		<b>30</b>
<b>Total year courses: ECTS/year</b>							<b>30</b>						<b>30</b>		<b>60</b>

Lect. – Lectures; S – Seminars; Lab.- Laboratory; P – Projects (hours/week); ECTS – credits/semester; ET – Evaluation type  
 FEQS – Food Engineering, Quality & Safety; MFPS – Management of Food Production Systems

Table 5

MSc title: “SUSTAINABLE FOOD PRODUCTION SYSTEMS”

## COURSE CURRICULUM DESIGN

*University of Sarajevo and University of Bihac, Bosnia and Hertegovina*

University/ Faculty / Department	University of Sarajevo/Faculty of Agriculture and Food Sciences	University of Bihac/Faculty of Biotechnology
<b>Language</b>	English, Bosnian	English, Bosnian
<b>Years of study</b>	2	1
<b>Duration in semesters</b>	4	2
<b>Credits-ECTS</b>	120	60
<b>Short Description:</b>	Two-years (4 semesters, 120 ECTS) master degree programme which will be implemented at the University of Sarajevo – Faculty of Agriculture and Food Sciences. The programme offers balanced ratio of two groups of subjects (Food Engineering, Quality & Safety; Management of Food Production Systems), with 30 ECTS of compulsory courses (1 <sup>st</sup> semester), 60 ECTS of elective courses (2 <sup>nd</sup> and 3 <sup>rd</sup> semester) and 30 ECSTS compulsory master thesis.	University of Bihac will organise the one academic year of Steps Master Program, with 60 ECST. In the second semester will have some activities for elaboration of Master Thesis.

**Table 6**  
**List of Course Curriculum**

**University of Sarajevo, Bosnia and Hertegovina**

<b>1<sup>st</sup> semester</b>	<b>Core courses</b>	Fundamentals of food production systems
		Agricultural and food industry waste management
		Advanced food science and technology
		Governance, Policy and Legislation in the Agri-Food Sector
		Food Ethics
		Research methodologies and tools
<b>2<sup>nd</sup> semester</b>	<b>Elective courses</b>	Sustainable land management
		Waste and recycling technologies in agriculture
		Nutritionism
		Rural development
		Harvesting and post-harvesting technologies for agricultural products
		Low input agriculture
		Consumer science and sustainable consumption
		Total quality management in the agri-food sector
		Agri-food economics
Business economics and international trade in the agri-food sector		
<b>3<sup>rd</sup> semester</b>	<b>Elective courses</b>	Sustainable technology of dairy products
		Sustainable technology of fruit and vegetable processing products
		Sustainable technology of meat products
		Sustainable technology of wine, beer and spirits
		Sustainable technology of bakery products
		Packaging technology
		Innovation and entrepreneurship for sustainable food production systems
		Marketing of sustainable agri-food products
		Project cycle management
Sustainable food value chain management		
<b>4<sup>th</sup> semester</b>		Master thesis

**Table 7**  
**List of Course Curriculum**

*University of Sarajevo, Bosnia and Herzegovina*

No.	Course title	Formative category	1 <sup>st</sup> Semester (15 weeks)						2 <sup>nd</sup> Semester (15 weeks)						Total per semester ECTS
			Lect.	S.	Lab.	P.	ECTS	ET	Lect.	S.	Lab	P.	ECTS	ET	
<b>I. CORE COURSES</b>															
1	Fundamentals of food production systems	Core; FEQS	2	-	1	-	5	W							5
2	Agricultural and food industry waste management	Core; FEQS	2	1	-	-	5	W							5
3	Advanced food science and technology	Core; FEQS	1	-	2	-	5	W							5
4	Governance, policy and legislation in the agri-food sector	Core; MFPS	2	1	-	-	5	W + O							5
5	Food Ethics	Core; MFPS	2	1	-	-	5	W							5
6	Research methodologies and tools	Core; MFPS	1	1	-	1	5	W+O							5
<b>Total core courses: ECTS/semester</b>							<b>30</b>								<b>30</b>
<b>II. ELECTIVE COURSES</b>															
1	Sustainable land management	Elective; MFPS							2	-	1	-	5	W + O	5
2	Waste and recycling technologies in agriculture	Elective; FEQS							2	-	-	1	5	W + O	5
3	Nutritionism	Elective; FEQS							2	1	-	-	5	Written	5
4	Rural development	Elective; MFPS							2	1	-	-	5	W	5
5	Harvesting and post-harvesting technologies for agricultural products	Elective; FEQS							2	1	-	-	5	W	5
6	Low input agriculture	Elective; FEQS							2	-	1	-	5	W	5
7	Consumer science and sustainable consumption	Elective; MFPS							2	1	-	-	5	W	5
8	Total quality management in the agri-food sector	Elective; MFPS							1	-	1	1	5	W + Practical	5
9	Agri-food economics	Elective; MFPS							2	-	-	1	5	W	5
10	Business economics and international trade in the agri-food sector	Elective; MFPS							2	-	-	1	5	W	5
<b>Total elective courses: ECTS/semester</b>													<b>30</b>		<b>30</b>
<b>Total year courses: ECTS/year</b>							<b>30</b>						<b>30</b>		<b>60</b>

**COURSE PROGRAMME – 2<sup>nd</sup> Year**

No.	Course title	Formative category	3rd Semester (15 weeks)						4th Semester (15 weeks)						Total per semester ECTS
			Lect.	S.	Lab.	P.	ECTS	ET	Lect.	S.	Lab.	P.	ECTS	ET	
<b>III. ELECTIVE COURSES</b>															
1	Sustainable technology of dairy products	Elective; FEQS	2	-	1	-	5	W + O							5
2	Sustainable technology of fruit and vegetable processing products	Elective; FEQS	2	-	1	-	5	W + O							5
3	Sustainable technology of meat products	Elective; FEQS	2	-	1	-	5	W + O							5
4	Sustainable technology of wine, beer and spirits	Elective; FEQS	2	-	1	-	5	W + O							5
5	Sustainable technology of bakery products	Elective; FEQS	2	-	1	-	5	W + O							5
6	Packaging technology	Elective; FEQS	1	-	1	1	5	W + O							5
7	Innovation and entrepreneurship for sustainable food production systems	Elective; MFPS	2	1	-	-	5	W							5
8	Marketing of sustainable agri-food products	Elective; MFPS	2	1	-	-	5	W							5
9	Project cycle management	Elective; MFPS	2	-	-	1	5	W							5
10	Sustainable food value chain management	Elective; MFPS	2	-	-	1	5	W							5
<b>Total optional courses: ECTS/semester</b>							<b>30</b>								<b>30</b>
<b>1</b>	<b>MASTER THESIS</b>	<b>Compulsory</b>											<b>30</b>	<b>Oral</b>	<b>30</b>
<b>Total compulsory master thesis: ECTS/semester</b>													<b>30</b>		<b>30</b>
<b>Total year courses: ECTS/year</b>							<b>30</b>						<b>30</b>		<b>60</b>

Lect. – Lectures; S – Seminars; Lab.- Laboratory; P – Projects (hours/week); ECTS – credits/semester; ET – Evaluation type  
 FEQS – Food Engineering, Quality & Safety; MFPS – Management of Food Production Systems

**Table 8**  
**List of Course Curriculum**

**University of Bihać, Bosnia and Herzegovina**

<b>1<sup>st</sup> semester</b>	<b>Core courses</b>	Fundamentals of Agri-Food Production Systems
		Agricultural and Food Industry Waste Management
		Advanced Food Science and Technology
		Governance, Policy and Legislation in the Agri-Food Sector
		Food Ethics
		Research Methodologies and Tools
<b>2<sup>nd</sup> semester</b>	<b>Elective courses</b>	Sustainable Land Management
		Harvesting and Post-Harvesting Technologies for Agricultural Products
		Low Input Agriculture
		Total Quality Management in the Agri-Food Sector
		Sustainable Technology of Dairy Products
		Sustainable Technology of Meat Products
		Sustainable Animal Production
		Sustainable Plant Production
		Animal Food Technology Science
		Marketing of Sustainable Agri-Food Products
		Master Thesis

**Table 9. List of Course Curriculum, University of Bihac, Bosnia and Herzegovina**

No.	Course title	Formative category	1 <sup>st</sup> Semester (15 weeks)						2 <sup>nd</sup> Semester (15 weeks)						Total ECTS	
			Lect.	S	Lab	P.	ECTS	ET	Lect.	S.	Lab	P.	ECTS	ET		
<b>I. CORE COURSES</b>																
1	Fundamentals of Agri-Food Production Systems	Core; FEQS	3	1	-	1	5	W O								5
2	Agricultural and Food Industry Waste Management	Core; FEQS	2	1	1	-	5	W O								5
3	Advanced Food Science and Technology	Core; FEQS	2	1	1	-	5	W O								5
4	Governance, Policy and Legislation in the Agri-Food Sector	Core; MFPS	1	1	-	1	5	W O								5
5	Food Ethics	Core; MFPS	2	1	-	1	5	W O								5
6	Research Methodologies and Tools	Core; MFPS	2	1	-	1	5	W O								5
<b>Total core courses: ECTS</b>																<b>30</b>
<b>II. ELECTIVE COURSES (min 15 ECTS)</b>																
1	Sustainable Land Management	Elective; MFPS								2	1	1	-	5	W O	5
2	Harvesting and Post-Harvesting Technologies for Agricultural Products	Elective; FEQS								2	1	1	-	5	W O	5
3	Low Input Agriculture	Elective; FEQS								2	1	-	1	5	W O	5
4	Total Quality Management in the Agri-Food Sector	Elective; MFPS								2	1	-	1	5	W O	5
5	Sustainable Technology of Dairy Products	Elective; EQS								2	1	1	-	5	W O	5
6	Sustainable Technology of Meat Products	Elective; EQS								2	1	1	-	5	W O	5
7	Sustainable Animal Production	Elective; FEQS								2	1	-	1	5	W O	5
8	Sustainable Plant Production	Elective; FEQS								2	1	-	1	5	W O	5
9	Animal Food Technology Science	Elective; FEQS								2	1	1	1	5	W O	5
10	Marketing of Sustainable Agri-Food Products	Elective; MFPS								2	1	-	1	5	W O	5

<b>Total elective courses: ECTS</b>											<b>min</b>		<b>30</b>
	<b>Master thesis</b>										<b>15</b>	Oral	
<b>Total year courses: ECTS/year</b>											<b>30</b>		<b>60</b>

Lect. – Lectures; S – Seminars; Lab.- Laboratory; P – Projects (hours/week); ECTS – credits/semester; ET – Evaluation type  
 FEQS – Food Engineering, Quality & Safety; MFPS – Management of Food Production Systems

**Table 10**
**MSc title: “SUSTAINABLE FOOD PRODUCTION SYSTEMS”**
**COURSE CURRICULUM DESIGN**
*University of Peja and Universum College, Kosovo*

<b>University/ Faculty / Department</b>	<b>University of Peja/Faculty of Agribusiness</b>	<b>Universum College</b>
<b>Language</b>	English, Albanian	
<b>Years of study</b>	2	
<b>Duration in semesters</b>	4	
<b>Credits-ECTS</b>	120	
<b>Short Description:</b>	Two year (4 semesters, 120 ECTS) joint master degree programme which will be implemented at the University of Peja. Universum College.	

**Table 11. MSc title: “SUSTAINABLE FOOD PRODUCTION SYSTEMS” COURSE CURRICULUM DESIGN, University of Peja, Kosovo**

<b>1<sup>st</sup> semester</b>	<b>Core courses</b>	Fundamentals of food production systems
		Agricultural and food industry waste management
		Advanced food science and technology
		Governance, Policy and Legislation in the Agri-Food Sector
		Food Ethics
		Research methodologies and tools
<b>2<sup>nd</sup> semester</b>	<b>Elective courses</b>	Quality System Development, Management and Shelf Life Assessment of Food
		Quality and Sustainability of Plant-source Food Production
		Traceability systems of food products
		Nutrition
		Innovative practices of harvesting and post harvesting
		Sustainable Ecology for Fish Management and Conservation
		Environmental Chemistry towards Food Processing
<b>3<sup>rd</sup> semester</b>	<b>Elective courses</b>	Sustainable technology of dairy products
		Sustainable technology of fruit and vegetable processing products
		Sustainable Use of the plant protection products
		Sustainable technology of wine, beer and spirits
		Sustainable technology of bakery products
		Consumer science and sustainable consumption
		Innovation and entrepreneurship for sustainable food production systems
		Marketing of sustainable agri-food products
		Total quality management in the agri-food sector
		Sustainable food value chain management
		Management of Sustainable Food Supply Chain
		Marketing of Sustainable Agri-Food Products
		Sustainable Food Value Chain Management
		Innovation and Entrepreneurship for Sustainable Food Production Systems
		Consumer science and sustainable consumption
Data Analysis and Decision-making		
Total Quality Management in the Agri-Food Sector		
<b>4<sup>th</sup> semester</b>		Master thesis

**Table 12**
**MSc title: "SUSTAINABLE FOOD PRODUCTION SYSTEMS"**
**COURSE CURRICULUM DESIGN**
**University of Peja and Universum College, Kosovo**

No.	Course title	Formative category	1 <sup>st</sup> Semester (15 weeks)						2 <sup>nd</sup> Semester (15 weeks)						Total per semester ECST
			Lect.	S.	Lab.	P.	ECTS	ET	Lect.	S.	Lab	P.	ECTS	ET	
<b>I. CORE COURSES</b>															
1	Fundamentals of food production systems	Core; FEQS	2		2		5	W+ O							5
2	Agricultural and food industry waste management	Core; FEQS	2		2		5	W+ O							5
3	Advanced food science and technology	Core; FEQS	2		2		5	W+ O							5
4	Governance, policy and legislation in the agri-food sector	Core; MFPS	2	1	1		5	W+ O							5
5	Food Ethics	Core; MFPS	2	1	1		5	W+ O							5
6	Research methodologies and tools	Core; MFPS	2	1	1		5	W+ O							5
<b>Total core courses: ECTS/semester</b>							<b>30</b>								<b>30</b>
<b>II. ELECTIVE COURSES</b>															
1	Quality System Development, Management and Shelf Life Assessment of Food	Elective; FEQS							2		2		5	W+ O	5
2	Quality and Sustainability of Animal-source Food Production	Elective; FEQS							2		2		5	W+ O	5
3	Traceability systems of food products	Elective; FEQS							2		2		5	W+ O	5
4	Innovative product development	Elective; FEQS							2		2		5	W+ O	5
5	Innovative practices of harvesting and post harvesting	Elective; FEQS							2		2		5	W+ O	5
6	Sustainable Ecology for Fish Management and Conservation	Elective; FEQS							2		2		5	W+ O	5
7	Environmental Chemistry towards Food Processing	Elective; FEQS							2		2		5	W+ O	5
<b>Total elective courses: ECTS/semester</b>													<b>30</b>		<b>30</b>
<b>Total year courses: ECTS/year</b>							<b>30</b>						<b>30</b>		<b>60</b>

**COURSE PROGRAMME – 2<sup>nd</sup> Year**

No.	Course title	Formative category	3rd Semester (15 weeks)						4th Semester (15 weeks)						Total per semester ECTS
			Lect.	S.	Lab.	P.	ECTS	ET	Lect.	S.	Lab.	P.	ECTS	ET	
<b>III. ELECTIVE COURSES</b>															
1	Sustainable technology of dairy products	Elective; FEQS	2		2		5	W + O							5
2	Sustainable technology of fruit and vegetable processing products	Elective; FEQS	2		2		5	W + O							5
3	Sustainable technology of meat products	Elective; FEQS	2		2		5	W + O							5
4	Sustainable technology of wine, beer and spirits	Elective; FEQS	2		2		5	W + O							5
5	Sustainable technology of bakery products	Elective; FEQS	2		2		5	W + O							5
6	Packaging technology	Elective; FEQS	2		2		5	W + O							5
7	Innovation and entrepreneurship for sustainable food production systems	Elective; MFPS	2		2		5	W							5
8	Marketing of sustainable agri-food products	Elective; MFPS	2		2		5	W							5
9	Project cycle management	Elective; MFPS	2		2		5	W							5
10	Sustainable food value chain management	Elective; MFPS	2		2		5	W							5
<b>Total optional courses: ECTS/semester</b>							30								30
1	<b>MASTER THESIS</b>	<b>Compulsory</b>												<b>30</b>	<b>Oral</b>
<b>Total compulsory master thesis: ECTS/semester</b>														<b>30</b>	<b>30</b>
<b>Total year courses: ECTS/year</b>							<b>30</b>							<b>30</b>	<b>60</b>

Lect. – Lectures; S – Seminars; Lab.- Laboratory; P – Projects (hours/week); ECTS – credits/semester; ET – Evaluation type  
 FEQS – Food Engineering, Quality & Safety; MFPS – Management of Food Production Systems

Table 14

**MSc title: “SUSTAINABLE FOOD PRODUCTION SYSTEMS”**  
**COURSE CURRICULUM DESIGN**  
*Universum College, Kosovo*

**COURSE PROGRAMME – 2<sup>nd</sup> Year**

No.	Course title	Formative category	3 <sup>rd</sup> Semester (15 weeks)						4 <sup>th</sup> Semester (15 weeks)						Total ECTS	
			Lect.	S.	Lab.	P.	ECTS	ET	Lect.	S.	Lab.	P.	ECTS	ET		
<b>III. ELECTIVE COURSES</b>																
1	Management of Sustainable Food Supply Chain	Elective; FEQS	30		13	25	5	W+O								5
2	Marketing of Sustainable Agri-Food Products	Elective; FEQS	26	8	13	30	5	W+O								5
3	Innovation and Entrepreneurship for Sustainable Food Production Systems	Elective; FEQS	30	5	13	25	5	W+O								5
4	Sustainable Food Value Chain Management	Elective; FEQS	30	8	8	30	5	W+O								5
5	Consumer science and sustainable consumption	Elective; FEQS	26	13	5	30	5	W+O								5
6	Data Analysis and Decision-making	Elective; FEQS	30		13	30	5	W+O								5
7	Total Quality Management in the Agri-Food Sector	Elective; MFPS	30	13	13	15	5	W+O								5
<b>Total optional courses: ECTS/semester</b>							<b>30</b>									
1	<b>Master thesis</b>	<b>Compulsory</b>							<b>39</b>	<b>20</b>	<b>50</b>	<b>45</b>	<b>30</b>	<b>W+ O</b>	<b>30</b>	
<b>Total compulsory master thesis: ECTS/semester</b>													<b>30</b>		<b>30</b>	
<b>Total year courses: ECTS/year</b>							<b>30</b>						<b>30</b>		<b>60</b>	

Lect. – Lectures; S – Seminars; Lab.- Laboratory; P – Projects (hours/week); ECTS – credits/semester; ET – Evaluation type  
 FEQS – Food Engineering, Quality & Safety; MFPS – Management of Food Production Systems

### **3 CHARACTERISTICS OF JOINT STEPS MASTER PROGRAM IN HEIs PARTNERS**

#### **3.1. Characteristics of Joint STEPS Master Program in Albania**

Agriculture University of Tirana (AUT) and European University of Tirana (EUT) will offer a joint Master of Sciences Program. AUT will contribute with courses in the category of Food Engineering Quality and Safety and master thesis; and EUT will contribute with courses in the category of Food Production Systems Management and master thesis.

#### **3.2. Characteristics of Joint STEPS Master Program in Bosnia and Herzegovina**

Jointly on the national level based on a bilateral agreement between University of Bihai (L|NBI) and University of Sarajevo (UNSA) meaning:

- a) exchange of teaching staff during the first semester of the Master study, and
- b) joint mentoring and co-mentoring on student master's thesis and membership in the Master's thesis defence commissions.

#### **3.3. Characteristics of Joint STEPS Master Program in Kosovo**

University "HAXI ZEKA" of Peja (UHZ) and Universum College (UC) agrees to do joint STEPS Master of Science Program to following principles:

- UHZ should be home University and will prepare Self Evaluation Report;
- Advertisement and enrolment conditions will be decided by home University;
- First semester with obligatory courses will be organised at UHZ University;
- Second and Third semesters will be organised in both universities based on student's interests;
- Student will choose Master thesis based on their interests.

## 4 CONCLUSIONS

According to the project proposal and the multiple discussions with the STEPS partners, the following most important conclusions can be drawn:

- This report is an improved and updated form of the D2.1 report sent in the year 2020.
- The report refers to **STEPS MSc structure and Courses**.
- This document present the **List of Course Curriculum an the Course Curriculum Design of Steps MSc Program – "Sustainable Food Production Systems"** for all six HEIs universities.
- For **Agricultural University of Tirana, European University of Tirana, University of Peja, Universum College and University of Sarajevo** the STEPS Master program **will be organised into 2 years, four semesters**, 3 of semester for educational activities and 1 for MSc thesis, with 30 ECTS per semester and account for a total of **120 ECTS** credits.
- **University of Bihac** will has **1 year of study, 2 semesters, with 30 ECTS credits per semester** and a total of **60 ECTS per year**.
- The Course Curriculum includes **Core Courses and Elective courses**.
- The **STEPS MSc in Sustainable food production systems will improve engineering and management practices** related to **food production, processing, quality monitoring and sustainability of agro-food systems and processes** in national/regional level resulted from the interviews.
- According to the target groups and the needs analysis, the scientific background and the experience of the partners, the **Core courses and Elective courses** will be organized in **two groups: Food engineering, quality and safety and Food production systems management**.
- **The Core Courses will be the same for all HEI's universities.**
- **The Core Courses will be the mandatory for all HEI's universities.**
- The **Core course will be in the first semester** with **3 courses from Group I+3 from Group II**, in total 6 courses, with 5 ECTS, in total 30 ECTS.
- The **Elective courses will take into account the specificity of each HEIs institutions**
- Each semester will be developed per 15 weeks, per semester.
- **STEPS MSc has to start delivering in the next academic year 2020-2021 (except Albania, where the program is expected to start in the academic year 2022-2023).**
- **STEPS MSc will be offer in Albanian and Bosnian** and also will be translated into English).
- The number of exams and holiday weeks will depend from HEIs universities.

## 5 REFERENCES

- Matty Byloos, 2011: <http://planetmattersandmore.com/sustainable-agriculture-2/defining-sustainable-food/>.
- MSc in Sustainable Food Production Systems / STEPS - Detailed description of the project.
- WP1 of STEPS project proposal, D1.1 report - Assessment and analysis of stakeholders' needs.
- WP1 of STEPS project proposal, D1.2 report - Research on STEPS relevant programmes.
- Bologna process and european higher education - [https://ec.europa.eu/education/policies/higher-education/bologna-process-and-european-higher-education-area\\_en](https://ec.europa.eu/education/policies/higher-education/bologna-process-and-european-higher-education-area_en).
- Standards and Guidelines for Quality Assurance in the European Higher Education Area: <https://eua.eu/downloads/content/standards%20and%20guidelines%20for%20quality%20assurance%20in%20the%20european%20higher%20education%20area%20esg%202015.pdf>.
- International Standard Classification of Education: Fields of Education and Training 2013: <https://circabc.europa.eu/sd/a/286ebac6-aa7c-4ada-a42b-ff2cf3a442bf/ISCED-F%202013%20-%20Detailed%20field%20descriptions.pdf>.
- Institute of Food Technologists website. <https://www.ift.org/>.

## 6 ANNEXES – AGREEMENT REGARDING JOINT STEPS MASTER PROGRAMS IN HEIs COUNTRIES

### 6.1 ANNEX I – Agreement between Agriculture University of Tirana and European University of Tirana, Albania



 Funded by the Erasmus+ Programme of the European Union





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REPUBLIKA E SHQIPËRIË

UNIVERSITETI BUJQËSOR I TIRANËS

*Mr. 3058 Prot*

Date, on *23/12/2019*

**Subject:** Confirmation for the way of organization of the Master of Sciences Course entitled: "Sustainable Food Production Systems", under the framework of STEPS Project

Agricultural University of Tirana, Coordinator of STEPS Project  
Ref. no. 598963-EPP-1-2018-1-AL-EPPKA2-CBHE-JP

According to decisions of Sarajevo meeting held on 11-13 Dec 2019, about the way of master course organizing in our High Education Institutions, we would like to confirm that Partner 01, Agricultural University of Tirana will offer the new Master of Sciences in Sustainable Food Production Systems, under the framework of STEPS Erasmus + Project, Ref. no. 598963-EPP-1-2018-1-AL-EPPKA2-CBHE-JP:

**Jointly in National level**

We want to explain clearly what we consider joint, as following:  
Agricultural University of Tirana (AUT), will offer MSc Program Jointly in cooperation with European University of Tirana (EUT), AUT will contribute with courses in the category/group: Food Engineering, Quality and Safety and the Master Thesis. More detailed information will be included in the MoU of "Joint MSc Program in Sustainable Food Production Systems", which will be drafted and signed by both partners in Albania, AUT and EUT.

Also, we commit to offer this Master course in 4 (four) semesters:

**Two academic year, 120 ECTS**

One semester will include 15 (fifteen) teaching weeks:

The final list of core and elective courses that will be included in STEPS structure, according to the list prepared by the working groups are attached to this letter.

**Project Coordinator**  
Prof. Dr. Renata Kongoli  
Signature: 

**Legal Representative of AUT**  
Prof. Dr. Baris Musabelliu  
Signature:   
Stamp: 

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Blv. "Gergj Fishta", Nr. 70, H. 1, Tiranë  
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info@univ-eu.edu.al  
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**Universiteti European i Tiranës**

BA / BACHELOR  
MSc / MASTER SHKENCOR  
MP / MASTER PROFESIONAL  
DR / DOKTORATURË

Funded by the Erasmus+ Programme of the European Union

ERASMUS+ PROJECT STEPS  
MSc in Sustainable Food Production Systems



Date, on 23/12/2019

To: Prof. Dr. Renata Kongoli, Coordinator of STEPS Project,  
Agricultural University of Tirana,

Ref. no. 598963-EPP-1-2018-1-AL-EPPKA2-CBHE-JP

Subject: Confirmation for the way of organization of the Master of Sciences Course entitled: "Sustainable Food Production Systems", under the framework of STEPS Project

According to decisions of Sarajevo meeting held on 11-13 Dec 2019, about the way of master course organizing in our High Education Institutions, we would like to confirm that Partner P02, European University of Tirana will offer the new Master of Sciences in Sustainable Food Production Systems, under the framework of STEPS Erasmus + Project, Ref. no. 598963-EPP-1-2018-1-AL-EPPKA2-CBHE-JP:

- Jointly in National level  
 Jointly in Transnational level

We want to explain clearly what we consider joint, as following:  
European University of Tirana (EUT), will offer a joint Master of Science program, in cooperation with the Agricultural University of Tirana. EUT will contribute with courses in the category of food production systems management and master thesis. Detailed information and modalities will be part of the Agreement on the Joint Master's Programme in Sustainable Food Production Systems, which will be drafted and signed by both partners.

- Separate

Also, we commit to offer this Master course in 4 (four) semesters:

- One academic year, 60 ECTS  
 Two academics year, 120 ECTS

One semester will include 15 (fifteen) teaching weeks:

- 15 weeks  
 13 weeks

The final list of core and elective courses that we will be included in STEPS structure, according the list prepared by the working groups are attached this letter.

**Contact Point of (EUT)**

Name: Kebjana Haka

**Legal Representative of (EUT)**

Name: Prof. Dr. Nevila Nika

Signature:

Signature:

UET, Licensuar me VKM nr. 636 datë: 20.09.2006, Akredituar me Vendim të Bordit të Akreditimit nr. 12 datë: 07.04.2015

## 6.2 ANNEX II - Agreement between University of Sarajevo and University of Bihac, Bosnia and Hertegovina

Univerzitet u Sarajevu



University of Sarajevo

No: 0101-12728/19  
Sarajevo, 20 December, 2019

To: Prof. Dr. Renata Kongoli, Coordinator of STEPS Project,  
Agricultural University of Tirana,  
Ref. no. 598963-EPP-1-2018-1-AL-EPPKA2-CBHE-JP

Subject: Confirmation for organizing the Master of Sciences Course entitled:  
"Sustainable Food Production Systems", under the framework of STEPS  
Project

According to decisions at the Sarajevo meeting held on 11-13 December 2019, regarding the organisation of the master course at our Higher Education Institutions, we would like to confirm that University of Sarajevo (UNSA) as a Partner no. 6 in the project will offer new Master of Sciences study program in "Sustainable Food Production Systems", under the framework of Erasmus+ project: STEPS, Ref. no. 598963-EPP-1-2018-1-AL-EPPKA2-CBHE-JP:

### Jointly in National level

Following is the explanation to the reference of *joint*:

Based on a bilateral agreement between University of Sarajevo (UNSA) and University of Bihac (UNBI) jointly means:

- Exchange of the teaching staff during the first semester (for the core courses) of the Master study program and
- Joint mentoring and co-mentoring for student's Master thesis and membership in the Commission for the Master thesis defence.

Also, we commit to offer these Master courses in 4 (four) semesters, two academics years, 120 ECTS.

One semester will include 15 (fifteen) teaching weeks.

The final list of the core courses that will be included in STEPS structure and in accordance to the list prepared by the working groups is attached to this letter.

Contact Point at University of Sarajevo  
Name: Prof. Dr. Sabahudin Bajramović

Signature:



Legal Representative of the University of Sarajevo  
Name: Prof. Dr. Rifat Škrijelj

Name: Prof. Dr. Rifat Škrijelj

Signature:



Stamp:

Univerzitet u Sarajevu – Obala Kulina bana 7/II, 71000 Sarajevo – Bosna i Hercegovina  
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**UNIVERSITY OF BIHAĆ**

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Funded by the  
Erasmus+ Programme  
of the European Union

ERASMUS+ PROJECT STEPS  
MSc in Sustainable Food  
Production Systems



Ref. No:02-78/20  
Bihać, 08/01/2020

**Prof. Dr. Renata Kongoli, Coordinator of STEPS Project,  
Agricultural University of Tirana,  
Ref. no. 598963-EPP-1-2018-1-AL-EPPKA2-CBHE-JP**

**Reference: Confirmation of the organizational structure of the Master of Science Course  
entitled: "Sustainable Food Production Systems", under the framework of STEPS Project**

According to the decisions made during the Sarajevo meeting, held in the period of 11-13 December 2019, with reference to the possible organizational structure of the Master course at our Higher Education Institution, we would like to confirm that Partner 5 - University of Bihać (UNBI) will offer the new Master of Science in Sustainable Food Production Systems under the framework of STEPS Erasmus+ Project, Ref. no. 598963-EPP-1-2018-1-AL-EPPKA2-CBHE-JP, as follows:

- Jointly on the national level  
based on a bilateral agreement between University of Bihać (UNBI) and University of Sarajevo (UNSA) meaning:

- a) *exchange of teaching staff during the first semester (core courses - list in the attachment) of the Master study, and*
- b) *joint mentoring and co-mentoring on student master's theses and membership in the Master's thesis defence commissions*

Also, we commit to offer Master course lasting 2 (two) semesters or

- one academic year, 60 ECTS as our Bologna model of study implies the following time frame 4+1+3 (240+60+180 ECTS)

The whole semester comprises 15 (fifteen) teaching weeks:

### 6.3. ANNEX III - Agreement between University of Peja and Universum College, Kosovo



Funded by the Erasmus+ Programme of the European Union

ERASMUS+ PROJECT STEPS  
MSc in Sustainable Food Production Systems



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**University of "Haxhi Zeka", Faculty of Agribusiness**

To: Prof. Dr. Renata Kongoli, Coordinator of STEPS Project,  
Agricultural University of Tirana,

Ref. no. 598963-EPP-1-2018-1-AL-EPPKA2-CBHE-JP

UNIVERSITETI "HAXHI ZEKU" PEJE  
UNIVERSITETI UNIVERSITETI "HAXHI ZEKU" PEJE

Date: on 26/12/2019

REKTORATI

Nr. / Br. / 3525      Nr. /faq/ Br. str / No. pg 2

Data / D. n / Data 26. 12. 2019      Pejë / Peć

Subject: Confirmation for the way of organization of the Master of Sciences Course entitled: "Sustainable Food Production Systems", under the framework of STEPS Project

According to decisions of Sarajevo meeting held on 11-13 Dec 2019, about the way of master course organizing in our High Education Institutions, we would like to confirm that Partner 947218969, University of Haxhi Zeka will offer the new Master of Sciences in Sustainable Food Production Systems, under the framework of STEPS Erasmus + Project, Ref. no. 598963-EPP-1-2018-1-AL-EPPKA2-CBHE-JP:

**X Jointly in National level**

We want to explaining clearly what we consider joint, as following:

UHZ agrees to do joint degree at national level (with UC) according to following principles:

- UHZ should be home University and will prepare SER (Self Evaluation Report)
- Advertisement and enrollment conditions will be decided by home University
- First semester with obligatory courses will be organized at UHZ University (30 ECTS)
- Second and third semester will be organized in both Universities based on student's interests (60 ECTS)
- Students will choose Master thesis based on their interest (30 ECTS)

Details for implementation of abovementioned principles will be defined through MoU between UHZ and UC

Also, we commit to offer this Master course in 4 semesters:

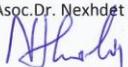
One academic year, 60 ECTS

**Two academics year, 120 ECTS**

One semester will include 15 teaching weeks:

15 weeks

The final list of core and elective courses that we will be included in STEPS structure, according the list prepared by the working groups are attached this letter.

**Contact Point of Faculty of Agribusiness**  
Name: Prof. Asoc. Dr. Nexhdet Shala  
Signature: 



**Legal Representative of Univesity Haxhi Zeka**  
Name: Prof. Dr. Fadil Millaku  
Signature: 

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STEPS
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