



ПОЉОПРИВРЕДНИ ФАКУЛТЕТ

Faculty of Agriculture

# Crop and Vegetable Sciences

at Faculty of Agriculture, 6 Nemanjina, 11080 Zemun, [www.agrif.bg.ac.rs](http://www.agrif.bg.ac.rs)

ECTS: 60/ LANGUAGE OF INSTRUCTION: SERBIAN/ DEGREE: MASTER

## Study program content

The study program Crop and Vegetable Sciences of the second degree of higher education represents the study program of graduate academic studies.

The study program of master academic studies lasts for 1 year that is 2 semesters. Within the study program 1 obligatory course is taught (Ecology and agroecosystems). This course is a good basis, which will be broadened by the knowledge of the areas of agroecosystems function and which will be succeeded by the courses introducing new groups of courses to the students. Beside the above-mentioned course, the student chooses another 6 courses from three different groups of elective courses.

The student obtains 5 ECTS credit points by passing the obligatory course, and by passing elective courses the student is awarded another 31 ECTS credit points. Upon completion of master's thesis, a student is awarded 15 ECTS credit points (5 in the first and 10 in the second semester). Professional practice is taken in the second semester (3 ECTS) as well as a research paper which is comprised of the practical part of the final paper (8 lessons of active teaching that is 6 ECTS) and represents an integral part of the obligatory course (2 lessons of active teaching) and two elective courses each with 1 lesson of active teaching. The total of ECTS credit points in this study program is 60.

## Study program goals

The goals of the study program of master studies are achieving competences which demonstrate the completion of master academic studies, a certain level of specialization as well as qualification for research into the field of crop science, vegetable science and seed science, organic crop production and sustainable use of natural resources. It refers to the development of general competences: objective evaluation of one's own work and the work of others, communication with the experts in other fields, possession of professional ethics, ability to plan and organize production, ability to work independently, knowledge of research methods, conducting of

experiments, statistical processing of data and interpretation of the results, creativity.

The goal of the program is development of course-specific competences: detailed knowledge of the structure and functioning of agroecosystems for the purpose of rational and economical use of natural resources in agriculture, detailed knowledge of specific ways the production (agrotechnical) of crop (cereals, legumes, industrial and forage crops), vegetable crops and seed crops, seed production and processing, specificities of organic cropping system, regulations and standards in the field of production, organic production efficiency, specificities implementation in the field of plant protection in this mode of production, rational use of genetic resources of cultivated plants and knowledge of biotechnology and biosafety.

## Study program outcomes

Upon the completion of the study program of master studies the student acquires general competences: ability to improve the acquired knowledge and apply it in the practice; objective evaluation of one's own work and the work of others, competence in analysis and synthesis, ability to obtain and analyze information from different sources, ability to work in interdisciplinary teams and communicate with the experts in other fields, possession of professional ethics, ability to plan and organize production; ability to work independently; knowledge of research methods, conducting of experiments, statistical processing of data and interpretation of the results; creativity, developed awareness of the necessity of continuous improvement of knowledge; possession of a higher level of social responsibility concerning the production of safe food; environmental protection and conservation of natural resources in accordance with the principles of sustainable development.

Upon the completion of the study program of master studies acquires course-specific competences and thorough knowledge of: agrotechnics of cereals, legumes, industrial, forages and vegetable plants; methods, procedures and the processes of production and processing of cultivated crops seeds; specificities of organic

cropping systems; regulations and standards in the field of organic production; agroecosystems functioning and economical and rational use of natural and genetic resources in agriculture; monitoring and application of innovations in the fields of graduate academic studies, use of information and communication technologies.

### Modules

Biomedical engineering; Naval architecture; Aerospace engineering; Design in mechanical engineering; Railway mechanical engineering; Welding and welded structures; Engineering of biotechnical systems; Industrial engineering; Information technologies; Motor vehicles; Internal combustion engines; Food industry engineering; Production engineering; Process engineering and environment protection; Automatic Control engineering; Weapon systems; Thermal power engineering; Material handling, constructions and logistics; Thermal science engineering; Hydropower engineering; Computational engineering.

### Admission requirements

Students who have completed B.Sc. studies at any of the faculties of technical-technological sciences, with at least ECTS 180, are allowed to enroll in M.Sc. studies at Faculty of Mechanical Engineering.

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# Fruit Science and Viticulture

at Faculty of Agriculture, 6 Nemanjina, 11080 Zemun, [www.agrif.bg.ac.rs](http://www.agrif.bg.ac.rs)

ECTS: 60/ LANGUAGE OF INSTRUCTION: SERBIAN/ DEGREE: MASTER

## Study program content

This is the study program of the second degree of higher education that is master academic studies of Fruit Science and Viticulture.

The study program master academic studies, which lasts one year that is 2 semesters, comprises the total of 7 courses, including 4 obligatory and 3 groups of elective one-semester courses. The elective courses are envisaged for the first and second semester, 6 in the first and 4 in the second semester. The student chooses 3 from 10 elective courses.

In each semester, a student can acquire 30 ECTS which makes the total of 60 ECTS. Teaching is both theoretical and practical, and for the course Pomology and elective course 2, research paper (2 lessons) is envisaged. Practical teaching is provided through professional practice which brings a student 5 ECTS.

Methods used in the process of teaching are ex cathedra lectures, laboratory sessions, field exercise and methods of interactive teaching. Methods of interactive teaching used are individual, group (team) collaborative and cooperative methods of active learning.

The interactive methods are used within the individual and group work. Panel discussions, formal debates, workshops, case study, keeping a research diary, writing a seminar paper, evaluation of the other student's work and active sessions of material consolidation are implemented.

## Study program goals

The goals of the study program of master studies are achieving competences which mark the completion of master academic studies, a certain level of specialization as well as qualification for research into the field of fruit science, viticulture, fruit and grapevine breeding and apiculture.

It refers to the development of general competences: objective evaluation of one's own work and the work of others, communication with the experts in other fields, possession of professional

ethics, ability to plan and organize production, ability to work independently, knowledge of research methods, conducting of experiments, statistical processing of data and interpretation of the results, creativity and so forth.

The goal of the program is development of course-specific competences: thorough knowledge of modes and methods of designing, exploitation and realization of fruit, grapevine and apicultural production for the purpose of a sustainable agricultural development; implementation of appropriate measures to increase efficiency and higher economic returns, controlling product quality; independent completion of studies and projects related to the fields of horticulture, viticulture and apiculture.

## Study program outcomes

Upon the completion of the study program of master studies the student acquires applicable scientific and technical knowledge of the fields of fruit science and viticulture, ability to design, organize and control production, manage the processes of production as well as to continue education in the specialized academic studies or doctoral academic studies.

Upon the completion of the study program of master studies the student acquires general competences: ability to use technical literature, to implement knowledge in solving the problem in practice, to use research methods, development of critical and self-critical thinking as well as professional ethics, development of communication competences and knowledge transfer, informing professional and general public on the results of one's own work.

The course-specific competences are reflected in knowledge and understanding of planting material of fruit trees and grapevines, new cultivars and rootstocks, designing the modern orchards and vineyards, new methods and achievements in breeding of fruits and grapevine, organic production of fruits and grapes and organization of fruit and viticultural production.

## Admission requirements

Admission to the first year of master academic studies is possible if:

- The candidate graduated from the Faculty of Agriculture, corresponding study program.
- The candidate who graduated from some of related faculties or related study program at the Faculty of Agriculture, after passing the additional examinations, if it is prescribed by the study program, of the courses determined by the corresponding Department Council.

## Contact

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# Horticulture

at Faculty of Agriculture, 6 Nemanjina, 11080 Zemun, [www.agrif.bg.ac.rs](http://www.agrif.bg.ac.rs)

ECTS: 60/ LANGUAGE OF INSTRUCTION: SERBIAN/ DEGREE: MASTER

## Study program content

The study program Horticulture of the second degree of higher education represents the study program of graduate academic studies.

The study program of master academic studies lasts for 1 year that is 2 semesters. Within the study program, 4 obligatory and 3 elective courses are taught. The elective courses occupy 33% of the whole structure. Students can choose one course from the three offered courses of each group of elective courses.

After passing obligatory courses the student acquires 23 ECTS, and after passing elective courses the student acquires another 14 ECTS. Upon the completion of the graduation thesis the student receives 15 ECTS (5 in the first and 10 in the second semester). The professional training is carried out in the second semester (5 ECTS) as well as a study research paper within which a practical part of the final paper is done (6 lessons of active teaching that is 3 ECTS). The total of ECTS credit points in this study program is 60.

## Study program goals

The goals of the study program of master studies are achieving competences which mark the completion of master academic studies, a certain level of specialization as well as a qualification for the research into the field of horticultural production. It refers to the development of general competences: objective evaluation of one's own work and the work of others, communication with the experts in other fields, possession of professional ethics, ability to plan and organize production, ability to work independently, knowledge of research methods, conducting of experiments, statistical processing of data and interpretation of the results, creativity. The goal of the program is development of course-specific competences: thorough knowledge of the production technology of fruit and vine planting material, production of ornamental trees and shrubs and use of management practices in the nursery production, knowledge of the principles of growing horticultural crops (vegetables, flowers, fruits, aromatic plants and

herbs) in the protected area, detailed knowledge of specific methods of production grasslands and their role in land planting and garden planning, knowledge of production technology of fruits, vegetables and grapevine according to the organic principles and knowledge of regulations and standards of this area. Also, the goal of the program is recognition of the important segments of economic business operations on farms, knowledge of new cultivars of fruit species, knowledge of the specificities of fruits and vegetables processing and knowledge of the methods of horticultural plants breeding.

## Study program outcomes

Upon the completion of the study program of master studies of Horticulture the students acquire applicable knowledge of the field of horticultural production, and they are qualified for: the production of planting fruit and vine materials and ornamental trees, the production of horticultural plants (, flowers, fruits, aromatic plants and herbs) in the protected area, establishment and protection of ornamental grasslands, production of fruits and vegetables according to the organic principles as well as continuation with studies in specialized academic or doctoral academic studies.

Upon the completion of the study program of master studies the student acquires the following general competences: ability to use technical literature, to implement knowledge in solving the problem in practice, to use research methods, development of critical and self-critical thinking as well as professional ethics, development of communication competences and knowledge transfer, informing professional and general public on the results of one's own work.

## Admission requirements

Admission to the first year of master academic studies is possible if:

- The candidate graduated from the Faculty of Agriculture, corresponding study program.
- The candidate who graduated from some of

related faculties or related study program at the Faculty of Agriculture, after passing the additional examinations, if it is prescribed by the study program, of the courses determined by the corresponding Department Council.

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# Phytomedicine

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ECTS: 60/ LANGUAGE OF INSTRUCTION: SERBIAN/ DEGREE: MASTER

## Study program content

The study program Phytomedicine of the second degree of higher education represents the study program of master academic studies.

Upon the completion of master academic studies the student acquires the academic title of Master Engineer in Agriculture for Phytomedicine. The group of elective courses is provided in Diploma supplement. On the basis of the chosen courses, the research area is determined, which can comprise: phytopathology, agricultural entomology and zoology, pesticides, herbology and of multidisciplinary character.

The program of master academic studies lasts for one year that is two terms. Within the study program four obligatory courses are taught (Agricultural toxicology with ecotoxicology, Ecology in plant protection, Basics of pesticide toxicological chemistry, Anatomy and physiology of sick plants). Apart from the above-mentioned obligatory courses, the student chooses another three courses from the total of 9 elective courses. After passing obligatory courses the student acquires 23 ECTS, and after passing elective courses a student is granted another 19 ECTS.

After completing master thesis the student acquires 10 ECTS. Professional practice is taken in the second semester (3 ECTS) as well as a research paper which comprises the practical part of the final paper (10 lessons of active teaching that is 5 ECTS) and represents an integral part of one obligatory course and two elective courses each with 2 lesson of active teaching.

## Study program goals

The goals of the study program of master studies comprise achieving competences which mark the completion of master academic studies, a certain level of specialization as well as qualification for research into the field of phytomedicine. It refers to the development of general competences: objective evaluation of one's own work and the work of others', communication with the experts in other fields, possession of professional ethics, ability to plan and organize works

in the field of phytomedicine, creativity and ability to work independently, knowledge of laboratory and field research methods, statistical processing of data and interpretation of the results.

The goal of the program is development of course-specific competences: detailed theoretical knowledge of the target groups of organisms, of practical techniques, ecological framework of the functioning of agroecosystems, rational and economical use of natural resources in agriculture, detailed knowledge of specific ways of protecting plant species, production of healthy seed and planting material, the toxicological properties of pesticides, phytosanitary regulations and standards, specificities in the field of plant protection within the organic food production, knowledge of biotechnology and biosafety.

## Study program outcomes

Upon the completion of the study program of master studies the student acquires general competences: ability to improve the acquired knowledge and apply it in the practice; objective evaluation of one's own work and the work of others', competence in analysis and synthesis, ability to obtain and analyze information from different sources, ability to work in interdisciplinary teams and communicate with the experts in other fields, possession of professional ethics, ability to plan and organize professional activities, ability to work independently; knowledge of research methods, conducting of experiments, statistical processing of data and interpretation of the results; creativity, developed awareness of the necessity of continuous improvement of knowledge; possession of a higher level of social responsibility concerning the production of safe food; environmental protection and conservation of natural resources in accordance with the principles of sustainable development.

Upon the completion of the study program of master studies acquires course-specific competences and thorough knowledge of: detailed theoretical knowledge of the target groups of organisms, of practical techniques, ecological framework of the functioning of agroecosys-



tems, safe, rational and economical use of pesticides, detailed knowledge of specific ways of plant species production (agrotechnics), production of seed and planting material, knowledge of phytosanitary regulations and standards, specificities in the field of plant protection within the organic food production, knowledge of biotechnology and biosafety, monitoring and application of innovations in the fields of graduate academic studies, use of information and communication technologies. The knowledge acquired must be sufficient basis for further education, which essentially consists of the capacity for research work in specialized areas.

### Admission requirements

Admission to the first year of master academic studies is possible if:

- The candidate graduated from the Faculty of Agriculture, corresponding study program.
- The candidate who graduated from some of related faculties or related study program at the Faculty of Agriculture, after passing the additional examinations, if it is prescribed by the study program, of the courses determined by the corresponding Department Council.

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# Soil Management

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ECTS: 60/ LANGUAGE OF INSTRUCTION: SERBIAN/ DEGREE: MASTER

## Study program content

The study program comprises two obligatory courses (Degradation of agricultural soils and Ecological engineering of agricultural soils). Both courses are multidisciplinary courses in which students acquire knowledge of various soil sciences from the point of the process of degradation and protection of the soil, in order to evaluate the complex relationships between the various processes in the soil, as well as complex understanding of different measures of soil protection from degradation.

Apart from the above-mentioned courses, the student chooses 4 courses from four groups of elective courses. After passing obligatory courses the student acquires 12 ECTS, and after passing elective courses another 24 ECTS are granted. The total of lessons envisaged for each course is 3 lessons of lecture and 2 lessons of sessions that is 6 ECTS. Upon the completion of the graduation thesis the student acquires 15 ECTS (6 in the first and 9 in the second semester).

Professional training is provided in the second semester (3 ECTS), as well as research paper within which a practical part of the final paper is conducted (12 lessons of active teaching that is 6 ECTS). The list of obligatory and elective courses and credit points value for each course is expressed in accordance with European Credit Transfer and Accumulation System (ECTS). The methods used in teaching are ex cathedra lectures, laboratory sessions, field practices and methods of interactive teaching. Methods of interactive teaching comprise individual, group (team) collaborative and cooperative methods of active teaching.

The interactive methods are used within the individual and group work. Panel discussions, formal debates, workshops, case study, keeping a research diary, writing a seminar paper, evaluation of the other student's work and active sessions of material consolidation are implemented.

A special significance for both teaching and learning is attached to discussion, cooperative learning, mutual learning, organizing teams for

learning and learning based on experience, conceptual mapping and mapping of concepts or conceptual maps, method of simulation, research proposals and projects. Within each course, a continuous monitoring of the acquisition of knowledge is provided by checking through tests and knowledge tests and through a final exam at the end of the semester.

## Study program goals

The goals of the study program of master studies are achieving competences which mark the completion of master academic studies, a certain level of specialization as well as a qualification for research into the field of soil science and measures for improving soil quality. It refers to the development of general competences: objective evaluation of one's own work and the work of others', communication with the experts in other fields, possession of professional ethics, ability to plan and organize production, ability to work independently, knowledge of research methods, conducting of experiments, statistical processing of data and interpretation of the results, creativity and so forth.

The goal of the program is development of course-specific competences: detailed knowledge of the ways and methods of testing and mapping of soil and determination of its state; independent conduct of measures for soil protection for the purpose of sustainable agricultural development; implementation of appropriate measures to improve soil quality and the appropriate measures to increase water infiltration efficiency and productivity of crops; rational use of organic and mineral fertilizers in accordance with a system of control of soil fertility and plants, as well as control of the crops quality requirements; independent completing of studies and projects in the field of agricultural and hydraulic land reclamation (Standard 4, Competences of graduate students). These goals are achieved by implementing various teaching methods (ex cathedra lectures, laboratory sessions, field practices and methods of interactive teaching.

Methods of interactive teaching comprise individual, group (team) collaborative and coop-

erative methods of active teaching.) One of the goals of the study program is development of specific skills related to the strategic approach to perceiving elements of the planning of agricultural soil in terms of long-term development of agricultural production from the standpoint of environmental protection as well as conservation and rational use of land and water as natural resources of the utmost importance.

The goal of the study program is development of the ability to integrate knowledge, solve complex problems with the acceptance of ethical responsibility and understanding of complex social relations in countries in transition in which the difficulties of managing drainage systems must be viewed in the light of the process of privatization and transformation.

### Study program outcomes

Upon the completion of the study program of master studies the student acquires general competences: ability to improve the acquired knowledge and apply it in the practice; objective evaluation of one's own work and the work of others', competence in analysis and synthesis, ability to obtain and analyze information from different sources, ability to work in interdisciplinary teams and communicate with the experts in other fields, possession of professional ethics, ability to plan and organize production; ability to work independently, knowledge of research methods, conducting of experiments, statistical processing of data and interpretation of the results; creativity, developed awareness of the necessity of continuous improvement of knowledge; possession of a higher level of social responsibility concerning the production of safe food; environmental protection and conservation of natural resources in accordance with the principles of sustainable development.

Upon the completion of the study program of master studies acquires course-specific competences: thorough knowledge of methods, procedures and processes of examining physical, chemical and biological soil properties as well as methods of improving water-air regime of soil, physical, chemical and biological properties,

knowledge of different disciplines, and analytical understanding of the effects of soil suitability for agricultural production, application of scientific methods in solving problems of land reclamation, monitoring and implementation of innovations in agricultural and hydraulic land reclamation and self-organization and management of the operation of melioration systems, use of information and communication technologies

The knowledge acquired must be sufficient basis for further education, which essentially consists of the capacity for research work in specialized areas. Learning outcomes are: thorough knowledge and understanding of soil sciences, ability to conduct independently experiments related to physical, chemical and biological properties of soil, interpretation of results, competence in the independent application of that knowledge in solving various problems of protection and improvement of agricultural soil.

Students should be able to use scientific methods and procedures of land mapping and diagnosis of its condition by combining knowledge of various fields; to design, organize and control the application of appropriate measures to improve soil, measures to increase water infiltration efficiency and productivity of crops; to apply rationally organic and mineral fertilizers in accordance with a system of control of soil fertility and plants requirements, and control of crops quality; to lead and participate independently in the preparation of project programs, revision of investment and technical documentation, studies and projects in the field of agricultural and hydraulic land reclamation, agricultural, recreational, sports and other green spaces, to plan, organize and control the management, maintenance and use of agricultural and irrigation systems in their exploitation, to organize, coordinate and work on highly specific tasks in inspection services in the field of development and use of land and water resources; to organize and coordinate the development, maintenance, and implementation of base and information systems, protection, development and use of agricultural land area, as the basic spatial planning document of the strategic development of agriculture.

## Admission requirements

All persons who completed corresponding undergraduate academic studies acquiring 240 ECTS.

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# Agricultural Engineering

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ECTS: 60/ LANGUAGE OF INSTRUCTION: SERBIAN/ DEGREE: MASTER

## Study program content

The study program of the second degree of higher education refers to the study program of master academic studies. The study program of master academic studies, which lasts for one year that is 2 semesters, comprises 5 courses, of which 2 are obligatory, and 3 groups of elective one-semester courses. Elective courses are envisaged for the ninth and tenth semesters, two and/or three in the semester. A student chooses 3 from 8 elective courses.

In each semester of master academic studies, the student can acquire 30 ECTS which makes the total of 60. Teaching is theoretical and practical for both obligatory courses. Practical teaching is envisaged for professional training which brings a student 3 ECTS.

The main technical areas in the study program of master academic studies for agricultural engineering are: Technical systems design in plant production and Technical systems design in animal production. Apart from that, a special attention is drawn to the courses such as: Security in the exploitation of agricultural machines, Control of production conditions and processes in a protected area, Measurement systems in agricultural engineering, Energetic efficiency of agricultural production, Market and marketing of agricultural engineering, Mechatronics in agricultural engineering, Maintenance of technical equipment in agriculture, Optimization of agricultural engineering. Within the tenth semester, a student carries out a research work. In the ninth semester, a student chooses master's thesis topic, which is realized through research work and a student defends it at the end of the tenth semester.

## Study program goals

The main goal of the study program is transfer of the latest scientific and technical knowledge and skills in the field of agricultural engineering for the purpose of more successful implementation in agricultural production and scientific research. The second goal is continuous and comprehensive development of all aspects of the agricultural engineering profession based

on modern principles and standards. The study program is aimed at directing studies towards achieving knowledge and skills needed for profitable agricultural production primarily by using renewable natural resources along with environmental protection, preservation of rural areas resources and cultural heritage.

The next main goal of the study program is providing possibilities for acquiring various practical knowledge of all branches and areas of agricultural engineering, such as those for crop, vegetable, fruit and viticultural and animal production. The third goal is the inclusion of students in the research.

One of the high priority goals is further development of the concept of students' education which offers a qualified expert ready for all challenges in the field of agricultural engineering of new age, along with creating the conditions for obtaining specialized knowledge, what is needed for a competitive agricultural production.

Basically, this study program is aimed at harmonization of the education system in accordance with the Bologna process that is gradual enabling of students to be involved in European Higher Education Area and the realization of European Common Agricultural Policy.

## Study program outcomes

Upon the completion of the studies the student is qualified for: Knowledge of agricultural engineering from the standpoint of machinery and equipment choice and the formation of aggregates and the rational and optimal use of performing of technological operations, monitoring the development of modern technologies and technical means, analysis and adoption of measures for their implementation, knowledge of methods and procedures for the rational use of all forms of energy in agriculture, knowledge of contemporary trends in the field of markets and marketing of agricultural engineering, knowledge of the possibility of using the natural conditions for organizing and improving agricultural production; Knowledge of technical and legal regulations and standards in the field of agricultural engineering, knowledge of meth-

ods and procedures for testing and certification of agricultural engineering, reclamation and utility machines, basic technological and technical design of technical systems in crop and livestock production, the ability to organize teamwork and critical thinking.

### Admission requirements

Admission to the first year of master academic studies is possible if:

- The candidate graduated from the Faculty of Agriculture, corresponding study program.
- The candidate who graduated from some of related faculties or related study program at the Faculty of Agriculture, after passing the additional examinations, if it is prescribed by the study program, of the courses determined by the corresponding Department Council.

### Contact

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# Food Technology

at Faculty of Agriculture, 6 Nemanjina, 11080 Zemun, [www.agrif.bg.ac.rs](http://www.agrif.bg.ac.rs)

ECTS: 60/ LANGUAGE OF INSTRUCTION: SERBIAN/ DEGREE: MASTER

## Study program content

Master academic studies are realized within one group, namely: food technology. The group comprises 3 main courses (18 ECTS credit points) and 3 elective blocks (21 ECTS credit points).

Within these studies a technical training is envisaged (3 ECTS credit points) and master's thesis of 15 ECTS, in the ninth and tenth semester (5+10).

The first elective course is chosen from a total of 5 offered within one elective block I. Within the elective block I, there are the following courses: Heat and mass transfer phenomena, Application of enzyme preparations in food production, Bacteriology of food, Structure, composition and post-mortem changes in animal tissues, Advanced course of chemistry and physics of milk. The second and third elective course is chosen from the elective block II that is the elective block III. Within the group of the elective block II, the following courses are offered: Modeling and optimization of procedures for heat conservation, Modeling and optimization of fermentation processes, Food Mycology, Functional and technological properties of animal tissues. Within the group of the elective block III, 16 courses are offered: Advanced course of cooling and freezing technology of food products, Advanced course of technology of fruit and vegetables, Advanced course of technology of prepared meals, Advanced course of beer technology, Advanced course of wine technology, Advanced course of spirits technology, Advanced course of processing of wheat and flour, Advanced course of confectioneries technology, Advanced course of technology of oil and fat, Advanced course of technology of sugar and starch, Advanced course of technology of growing and processing tobacco, Advanced course of meat technology, Advanced course of ancillary products in meat production, Advanced course of processing technology of milk, Advanced course of microbiology of animal products, Advanced course of microbiology of plant products, Advanced course of food biochemistry.

## Study program goals

The main goal of the study program is the expert with high level of fundamental and applicable knowledge of the fields of different food technologies whose Master's degree (together with undergraduate degree) will be recognized by all European institutions and which enable students find their places in food technology or to continue doctoral studies in the fields of some of food technologies enrolling on domestic or some university courses in the world.

Master studies should offer specific knowledge needed for determination and quick identification of micro-organisms originating from food, specific knowledge of the field of analytical methods needed for modern chemical analysis of food products, specific knowledge needed for management of food safety and quality in production processes of a chosen technology, as well as competence in critical thinking and ability to present acquired knowledge.

## Study program outcomes

Upon the completion of master academic studies, students acquire thorough knowledge and technical skills in the fields of chosen food technologies and they are able to apply them to solving problems in partly new or unknown professional environment.

Apart from that, students acquire knowledge and skills necessary for teamwork, and they are able to integrate information, as well as reasoning and drawing conclusions on the basis of the same. Students are qualified for efficient monitoring and adopting of innovations in the field of food technology, analytics and food microbiology.

After completing these studies, students are able to transfer clearly knowledge and conclusions to professional and general public. Also, upon the completion of these studies the competences needed for higher level of studies (doctoral studies) are developed.

## Admission requirements

Admission to the first year of master academic studies is possible if:

- The candidate graduated from the Faculty of Agriculture, corresponding study program.
- The candidate who graduated from some of related faculties or related study program at the Faculty of Agriculture, after passing the additional examinations, if it is prescribed by the study program, of the courses determined by the corresponding Department Council.

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# Agricultural Economics

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ECTS: 60/ LANGUAGE OF INSTRUCTION: SERBIAN/ DEGREE: MASTER

## Study program content

The main purpose of master academic studies is achieving educational, technical and research goals and accomplishing tasks in the fields of agricultural economics. The type and mode of study adapted to the needs of strategic development as an important unifying part of agricultural production and society as a whole. The main purpose of the study is schooling of experts for the direct involvement in various fields and forms of agricultural production (farming, animal husbandry, fruit growing and viticulture) and food industry.

The study program of agricultural economics offers knowledge and skills necessary for achieving short-term and long-term goals in the field of agrobusiness management in Serbia, since graduate students are, by means of appropriate methods of teaching and learning, qualified for creative and innovative work and successful use of knowledge and skills of agricultural economics in agricultural production and food technology.

## Study program goals

The main goal of the study program is to transfer the latest scientific and technical knowledge and skills in the field of agricultural economics. Another important goal is the continuous comprehensive development of all agro-economic aspects of agricultural production and food processing industry based on modern principles and standards.

The study program is aimed at directing studies towards the acquisition of knowledge and skills necessary for profitable agricultural production and food industry by taking advantage of renewable natural resources, along with environmental protection, conservation of the resource of rural areas and cultural heritage.

One of the priorities is the further development of the concept of students' education that offers a complete professional, ready for the challenges of agricultural production of the new age, while

creating conditions for the acquisition of specialized knowledge needed for competitive agricultural production (of all its branches and forms).

## Study program outcomes

Upon the completion of master academic studies students acquire profound knowledge and technical skills in the field of agricultural economics and they are able to apply them to solving problems in partly new or unknown professional environment.

Apart from that, students acquire knowledge and skills necessary for teamwork, and they are able to integrate information, as well as to reason and draw conclusions on the basis of the same. Students are qualified for efficient monitoring and adopting of innovations in the field of agricultural economics. Upon the completion of master academic studies students acquire applicable knowledge of the field of agricultural economics, and are qualified for using literature, knowledge transfer and continuing studies in specialized academic and doctoral studies.

In addition, students gain general and course-specific skills for the purpose of quality performance of professional activities in agricultural economics.

The course-specific competences are reflected in knowledge of: concepts, categories, methods and procedures in planning and preparing and resolving accounting and financial aspects of agriculture and rates of investment, commercial and foreign trade business systems of agriculture and food industry, including organizational and economic aspects of rural development, cooperatives and markets, transportation and marketing of agricultural products.

Here, content of management is included as well as of leadership, planning, design and consulting of business systems of agriculture and food industry.

## Admission requirements

Admission to the first year of master academic studies is possible if:

- The candidate graduated from the Faculty of Agriculture, corresponding study program.
- The candidate who graduated from some of related faculties or related study program at the Faculty of Agriculture, after passing the additional examinations, if it is prescribed by the study program, of the courses determined by the corresponding Department Council.

## Contact

Head of the study program:

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# Environmental Protection in Agriculture - WUS program

at Faculty of Agriculture, 6 Nemanjina, 11080 Zemun, [www.agrif.bg.ac.rs](http://www.agrif.bg.ac.rs)

ECTS: 60/ LANGUAGE OF INSTRUCTION: SERBIAN AND ENGLISH/ DEGREE: MASTER

## Study program content

The program of master academic studies lasts for 1 year that is 2 semesters. Within the study, the first group of the courses of the field of Applied ecology it taught, and there are the following obligatory courses: Ecology and Agroecosystems, Applied Ecophysiology, Ecotoxicology and Ecological microbiology. This group of courses provides a good basis, which will enable acquiring profound knowledge of the fields of applied ecology and which will be succeeded by the courses, introducing students into specialized knowledge.

The second group of courses of the field of Economics and management of environment in agriculture introduces the students into economic part of the studies, where they will have the opportunities to meet the basics of macroeconomics of natural resources and environment; of techniques and methods of economic evaluation of natural resources and environment; of economic aspects of evaluation of the effects on environment.

The third unit of these studies refers to the study and protection of natural resources in agriculture: soil, water and biodiversity. Knowledge of GIS technologies and precise agriculture is needed for suitable use of resources employed in agriculture. Depending on interest and direction, at the end of the studies the student chooses the course from the field of environmental protection in different agricultural systems (crop and vegetable, fruit and viticultural, livestock, aquaculture or ecological right). Passing of each obligatory course as well as one elective course a student is awarded 4 ECTS, and passing the second elective courses a student is granted 6 ECTS each which makes a total of 50 ECTS. By conducting technical training a student acquires 2 ECTS and after producing master's thesis a student can acquire 8 ECTS, which makes a total of 60 ECTS.

## Study program goals

The goals of the study program of master studies are achieving competences which mark the

completion of master academic studies, a certain level of specialization as well as qualification for research into the field of environmental protection in agriculture and sustainable use of natural resources.

It refers to the development of general competences: objective evaluation of one's own work and the work of others', communication with the experts in other fields, possession of professional ethics, ability to plan and organize production, ability to work independently, knowledge of research methods, conducting of experiments, statistical processing of data and interpretation of the results, creativity.

The goal of the program is development of course-specific competences: detailed knowledge of the structure and functioning of agroecosystems, principles of ecotoxicology, ecological microbiology and plant ecophysiology, knowledge of natural resources used in agriculture (soil, water and biodiversity), their protection and remediation, principles of economics and management of natural resources, regulations and standards in environmental protection, use of information technologies in this field and the methods and procedures in all areas of agriculture, which will not lead to distortion and contamination of environment.

## Study program outcomes

Upon the completion of the study program of master studies the student acquires general competences: ability to improve the acquired knowledge and apply it in the practice; objective evaluation of one's own work and the work of others, competence in analysis and synthesis, ability to obtain and analyze information from different sources, ability to work in interdisciplinary teams and communicate with the experts in other fields, possession of professional ethics, ability to plan and organize production; ability to work independently; knowledge of research methods, conducting of experiments, statistical processing of data and interpretation of the results; creativity, developed awareness of the necessity of continuous improvement of knowledge; possession of a higher level of social re-

sponsibility concerning the production of safe food; environmental protection and conservation of natural resources in accordance with the principles of sustainable development.

### Admission requirements

Admission to the study program Environmental Protection in Agriculture is possible for candidates of all profiles who completed undergraduate academic studies.

### Contact

Head of the study program:

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# Zootechnics

at Faculty of Agriculture, 6 Nemanjina, 11080 Zemun, [www.agrif.bg.ac.rs](http://www.agrif.bg.ac.rs)

ECTS: 60/ LANGUAGE OF INSTRUCTION: SERBIAN/ DEGREE: MASTER

## Study program content

The study program is comprised of one obligatory and four elective courses, which are chosen from the group of elective courses. The study program of master academic studies is established in accordance with the needs for the profiles of experts who will solve problems in the agricultural (zootechnics) practice and in science in our country, and on the basis of experience and related academic programs in the EU and the countries in the world.

The teaching is composed of active (lectures and sessions) as well as of interactive teaching. During the process of teaching, the focus is on the independent and research work of the students, who are pointed out the research trends in the relevant area.

During the sessions, succeeding the lectures, concrete problems are solved, and the examples are presented in order to illustrate theoretical part of the curriculum, and sessions regarding the way of carrying them out and their content can be theoretical with practical examples, making of different plans (simulation) as well as field practices.

Preliminary examination requirements can also comprise producing of seminar papers and project assignments, evaluated according to the rules adopted by the Faculty. Each course offers a certain number of ECTS credit points, and the studies are considered completed when student fulfils all requirements, prescribed by the study program and acquires 60 ECTS.

## Study program goals

The goal of the program is the development of learning skills, as well as general and technical competences, which will enable the continuation of education in a way of qualifying for research work in specialized areas. The study program of the academic (master) studies is aimed at educating and qualifying cadres for technical and scientific work in the areas of basic branches of livestock production (cattle, sheep, goat, pig, horse breeding and poultry raising), as well as

fishing, hunting economy and beekeeping.

## Study program outcomes

Upon the completion of the study program of master studies the student acquires the following competences (skills):

- Understanding and solving problems in the field of Biotechnology-Zootechnics in different situations and circumstances;
- Ability to apply knowledge and skills to solve problems in different conditions;
- Multidisciplinary and holistic approach in solving problems in the field of zootechnics, and which are in the context of other areas within the field of technical and technological sciences;
- Ability to integrate knowledge to solve complex problems;
- Ability to reason logically on the basis of available information;
- Formulating one's own opinions, assumptions, and drawing conclusions;
- Ability to present and publish various scientific and technical information, give opinions and exchange ideas;
- Ability to apply the acquired fundamental knowledge of biotechnological and related natural sciences;
- Ability to work independently as well as to be a good team player;
- Ability to plan and carry out experiments;
- Competence in scientifically based interpretation of experimental data;
- Competence in effective scientific communication;
- Ability to manage research teams and organizations;
- Adoption of the attitude about the necessity of permanent training.

## Admission requirements

Admission to the first year of master academic studies is possible if:

- The candidate graduated from the Faculty of Agriculture, corresponding study program.

- The candidate who graduated from some of related faculties or related study program at the Faculty of Agriculture, after passing the additional examinations, if it is prescribed by the study program, of the courses determined by the corresponding Department Council.

### Contact

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