

Course Description of Agricultural Engineering

Name of the subject: Animal nutrition	Credit (ECTS): 4
Type of lesson: <u>lec.</u> / <u>sem.</u> / <u>prac.</u> / <u>cons.</u> and number: 2 lec. + 2 sem.	
Method of testing (<u>exam.</u> / <u>prj.</u> / <u>other</u>): exam.	
Place of subject in the curriculum (which semester): 3. semester	
Pre-conditions (<i>if applies</i>): ---	
Subject description: short, informative description of the <u>knowledge and competences</u> to acquire.	
<p>The objective of the course the students can follow the process of nutrients transforming into animal products and they also get to know the ways and methods of healthy and economic animal nutrition. Students will learn about the chemical components of foodstuff, the rules of feeding, the method of conservation and storage as well as the role of nutrition in animal safety. They will get to know the sample-taking and ranking methods, the nutrient-value calculation and the way of composing daily ratio for animals. This course provides theoretical as well as practical base to understand other subjects related to animal production.</p>	
Name of the subject: Forestry and wildlife management	Credit (ECTS): 2
Type of lesson: <u>lec.</u> / <u>sem.</u> / <u>prac.</u> / <u>cons.</u> and number: 1 lec.	
Method of testing (<u>exam.</u> / <u>prj.</u> / <u>other</u>): exam.	
Place of subject in the curriculum (which semester): 4. semester	
Pre-conditions (<i>if applies</i>): ---	
Subject description: short, informative description of the <u>knowledge and competences</u> to acquire.	
<p>The subject deals with the environmental relationships and the main areas of forest management. It describes the forest law regulations and the forest management organization. It presents the main constituent and accompanying tree species. It discusses the most common methods for the establishment of forests. It describes the principles of natural forest management, the management of natural forests. It analyzes the relationship between forest and wildlife management. Main topics are: The conservation of wildlife as natural resource and the sustainable utilisation. The principles and practice of ecological approach to wildlife protection and hunting. The main characteristics of huntable species. The legislation in wildlife</p>	



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management and its national organization. The objectives and instruments of wildlife management. The concept, the tools, equipment and methods of hunting. The features of wildlife management economics. Wildlife protection and nature conservation.

Name of the subject: Finance and accountancy

Credit (ECTS): 3

Type of lesson: lec. / sem. / prac. / cons. and number: 2 lec. + 1 sem.

Method of testing (exam. / prj. / other): exam.

Place of subject in the curriculum (which semester): 6. semester

Pre-conditions (*if applies*): ---

Subject description: short, informative description of the knowledge and competences to acquire.

The objective is to provide the students with basic knowledge of accounting duties, the areas of accounting, the essence of accounting methods and the financial reporting obligations. Students will learn the essential business-related financial and tax knowledge as well as the practical issues of accounting.

Name of the subject: Agricultural environment management

Credit (ECTS): 2

Type of lesson: lec. / sem. / prac. / cons. and number: 2 lec.

Method of testing (exam. / prj. / other): exam.

Place of subject in the curriculum (which semester): 4. semester

Pre-conditions (*if applies*): ---

Subject description: short, informative description of the knowledge and competences to acquire.

The main objective of the subject is to form the environment-conscious attitude and to present environment friendly agricultural production systems and methods. Students will learn about the quick degradation process, which is due to the wasteful usage of natural resources and the inconsecutive industrial and agricultural production and also about the prevention possibilities. When managing the resources of the Earth, they should feel it important to provide the stability of the ecological systems, and to preserve the regeneration ability, the biodiversity and the special natural values of the ecosystems.

Name of the subject: Agricultural marketing

Credit (ECTS): 2

Type of lesson: lec. / sem. / prac. / cons. and number: 2 lec.



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Method of testing (<u>exam.</u> / prj. / other): exam.	
Place of subject in the curriculum (which semester): 6. semester	
Pre-conditions (<i>if applies</i>): ---	
<p>Subject description: short, informative description of the <u>knowledge and competences</u> to acquire.</p> <p>Within the market economy conditions the knowledge of the main characteristics of the food market, the laws of the market participants' behaviour, the understanding and shaping of the market as well as the methods and techniques have vital importance. The general objective of the course is to provide basic knowledge in this field of science, as well as to provide funds for the development of skills that will enable students to do their practical work in the market.</p>	
Name of the subject: Horticulture	
Type of lesson: <u>lec.</u> / <u>sem.</u> / prac. / cons. and number: 2 lec. + 2 sem.	
Method of testing (<u>exam.</u> / prj. / other): exam.	
Place of subject in the curriculum (which semester): 4. semester	
Pre-conditions (<i>if applies</i>): ---	
<p>Subject description: short, informative description of the <u>knowledge and competences</u> to acquire.</p> <p>The course presents the general knowledge of the three main horticultural sectors (vegetables, fruit and grape production). The selected issues are aimed at providing students with the view to understand horticultural sciences. Out of the main issues of general vegetable-production a special emphasis will be given to the production technology of the diverse vegetable species (ecological requirements, reproduction, fertilization, irrigation, harvest, storage). Concerning fruit production, an overall production overview (physiological and ecological needs, variety selection, etc) will be given. In the cultivation of the vine, the basic knowledge to develop a vineyard is summarized, with particular regard to the ecological needs as well as the choice of the area and the type and also the requirements for producing good quality raw material.</p>	
Name of the subject: Agricultural economy	Credit (ECTS): 2
Type of lesson: <u>lec.</u> / sem. / prac. / cons. and number: 2 lec.	
Method of testing (<u>exam.</u> / prj. / other): exam.	
Place of subject in the curriculum (which semester): 5. semester	



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Pre-conditions (*if applies*): ---

Subject description: short, informative description of the knowledge and competences to acquire.

The overall aim of teaching the subject is to provide basic knowledge for agricultural engineer students about the characteristics of the economic problems in the agricultural sector, the essence and major elements of the agricultural policy with special regard to the circumstances of Hungarian agriculture. It is particularly important in today's era to have agro-economics knowledge based on the theories of modern agricultural economics, and also to know about the agro-ecological practices, experiences and ideas for the future dissemination of the developed market-economy countries. This is compared to the characteristics of the Hungarian agriculture, so evaluating our situation, the potential and limitations of the agricultural economy in the future development process.

Name of the subject: Basic studies in agriculture I.

Credit (ECTS): 2

Type of lesson: lec. / sem. / prac. / cons. and number: 2 lec.

Method of testing (exam. / prj. / other): exam.

Place of subject in the curriculum (which semester): 1. semester

Pre-conditions (*if applies*): ---

Subject description: short, informative description of the knowledge and competences to acquire.

During this course the students will learn about the most important plant cultures, animal species, production factors and the relating basic concepts, work procedures and tools, particularly in farm conditions. Students should be trained to be able to do all the work processes themselves in order to operate the up-to-date techniques. They will also be able to apply their knowledge according to the ever-changing requirements on small private farms or on large scale farms as well as in the agricultural administration. They should be open to accept the new and modern knowledge and also to adapt the latest technologies on the highest level.

Name of the subject: Botany

Credit (ECTS): 3

Type of lesson: lec. / sem. / prac. / cons. and number: 2 lec. + 2 sem.

Method of testing (exam. / prj. / other): exam.

Place of subject in the curriculum (which semester): 1. semester

Pre-conditions (*if applies*): ---



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Subject description: short, informative description of the knowledge and competences to acquire.

The objective is to present the structure of plant organs, the taxonomical places of the most important cultures and weeds, their morphological characteristics and the unity of the plant and its environment. During the practice course the microscope-techniques are presented as well as the plant species, which are significant in agricultural and horticultural production and also in forestry. This course provides theoretical basis to the better understanding and utilization of the other subjects dealing with botany.

Name of the subject: Microbiology

Credit (ECTS): 2

Type of lesson: lec. / sem. / prac. / cons. and number: 2 lec.

Method of testing (exam. / prj. / other): exam.

Place of subject in the curriculum (which semester): 2. semester

Pre-conditions (*if applies*): ---

Subject description: short, informative description of the knowledge and competences to acquire.

The aim of the subject is the general description of the main groups of microorganisms, and the presentation of their physiological, morphological, physiological characteristics. Activities in the biosphere and biogeochemical cycles. The description of the growth and proliferation of microorganisms. The significance of the metabolites produced by microbes. Their role in soil, in animal husbandry, in plant production, in environment management and in food industry. Microbe cultures, detection and diagnostic procedures.

Name of the subject: Agricultural biotechnology

Credit (ECTS): 2

Type of lesson: lec. / sem. / prac. / cons. and number: 1 lec.

Method of testing (exam. / prj. / other): exam.

Place of subject in the curriculum (which semester): 3. semester

Pre-conditions (*if applies*): ---

Subject description: short, informative description of the knowledge and competences to acquire.

This course provides knowledge about the basics of genomics (genomanalysis) and the molecular plant selection based on genomics as well as the most significant molecular biological methods. It gives insight into the plant and animal reproduction biotechnology, the basics of the gene



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technology, the transgenic plants and animals important from economic point of view, and also the risk factors and ethical problems of producing transgenic plants and animals.

Name of the subject: General zoology

Credit (ECTS): 3

Type of lesson: lec. / sem. / prac. / cons. and number: 2 lec. + 2 sem.

Method of testing (exam. / prj. / other): exam.

Place of subject in the curriculum (which semester): 1. semester

Pre-conditions (*if applies*): ---

Subject description: short, informative description of the knowledge and competences to acquire.

The objective is that students learn about the animal species they might most often see during their activities in plough-lands, in gardens and horticultural enterprises, in agricultural buildings and around, in ponds and forests. The subject also deals with the biology of the chosen species, about their ecological demands and their role in agricultural production and also about the most frequent protected species.