**Справка за дисциплините в летен семестър на учебната 2018/2019 г. - катедра „Растениевъдство“, специалност „Агрономство“, ОКС „Бакалавър“, редовно обучение**

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| Discipline „BOTANy – 2 PART”, code: 7 |
| Annotation: This curriculum is intended for the training of students of the specialty "Agronomy". Botany – part 2 - the system of plants studies the population-taxonomic form of plant existence. It is devoted to the taxonomic diversity of plants, the theory and practice of its classification (plant taxonomy) and the nomenclature of plants, the explanation of this diversity and regularities of its obtaining and its existence, the clarification of the kinship relations between the taxa ) and the main trends and trends of plant evolution. Students are acquainted with the basics of science, the methods of classifying and defining theoretically and economically important taxa of the Bulgarian flora. |
| Main issues of the syllabus content:* Plant systems: Principles and methods of plant systems.
* Taxonomic categories.
* Botanical Nomenclature.
* Higher / Cormorant / Plants /Magnoliobionta/.
* Seed Plants Division /*Spermatophyta, Magnoliophyta*/.
* Coating plants /*Magnoliophytina/*.
* Class Bovine plants /*Magnoliopsida*/.
* Class Single-family plants /*Liliopsida/*.
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| Discipline „Soil Science”, code: 8 |
| Annotation: This curriculum is intended for students of the specialty "Agronomy", Bachelor's degree. The course "Soil Science" aims to acquaint students with soils as natural education and their diversity in the Republic of Bulgaria. The Course on Soil Science includes two sections - Formation, composition and properties of soils and soils in Bulgaria.The first section provides information on soil rocks and minerals. Questions about the formation, construction of the soil profile, the composition and the properties of the soil are also discussed. In the second part the FAO Soil Classification and Soil Classification in Bulgaria are studied, the methods and the means for their conservation and improvement.Soil science as a science is related to other subjects of the training course (general agriculture, agrochemistry, meliorations, etc.). |
| Main issues of the syllabus content:* Formation, composition and soil properties.
* The soils in Bulgaria.
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| Discipline „Plant Physiology and Biochemistry”, code: 9 |
| Annotation: The curriculum is intended for students of a Bachelor's degree program in Agronomy. The course "Plant Physiology and Biochemistry" provides knowledge about the vital functions and processes in the plant organisms, their adaptive modifications and reactions, and the related phenomena and properties. Students are acquainted with the nature, meaning and mechanisms of water exchange, photosynthesis, respiration, mineral nutrition, growth and development of plants, as well as the relationship between these basic physiological processes. The general theory of plant stress and the physiology of adaptive reactions are explained. Students gain knowledge about the plant metabolism, energy transformations and biochemical processes and reactions that underlie the metabolism of the plant organism.The development of modern agriculture requires knowledge of the physiological and biochemical bases of biological phenomena in order to rationally use of the factors to guide and regulate the growth and development of plants, thereby increasing the yield and quality of agricultural production, while preserving the environment. The knowledge that the future agronomists will acquire about the essence of the biochemical and physiological processes in plants is directly related to the other agricultural disciplines - plant growing, plant breeding, soil science, melioration, agrochemistry, plant protection, agroecology and others. |
| Main issues of the syllabus content:* Main physiological processes in plant organisms - water exchange, photosynthesis, respiration, mineral nutrition, growth and development.
* Biochemistry of basic life processes in plant organisms.
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| Discipline „General microbiology”, code: 10 |
| Annotation: The discipline "General Microbiology" is an independent biological discipline whose subject matter is microorganisms. It aims to acquaint students with: the subject and tasks of microbiology and the stages of development in the process of its separation as an independent science; morphology, physiology and systematics of the major groups of microorganisms - bacteria, yeasts, actinomycetes, viruses and fungi; nutrition and metabolism of microorganisms; the influence of external factors on microorganisms; the role of microorganisms in the circles of substances and the transformation of energy; propagation and alteration of microorganisms; the relationship between microorganisms and the environment - microflora of water, soil and air |
| Main issues of the syllabus content:* Subject and tasks of microbiology and stages of development in the process of its differentiation as an independent science.
* Morphology, physiology and systematics of major groups of microorganisms - bacteria, yeasts, actinomycetes, viruses and fungi.
* Nutrition and metabolism of microorganisms.
* Influence of external factors on microorganisms. The Role of Microorganisms for the Circulation of Substances in Nature.
* Propagation and alterations of microorganisms.
* The relationship between microorganisms and the environment - microflora of water, soil and air.
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| Discipline „General agriculture”, code: 11 |
| Annotation: The curriculum is intended for students of a Bachelor's degree program in Agronomy. The course "General Agriculture" is one of the basic courses for the future agronomists. It addresses the main issues of agriculture and its intensification; the parameters of the factors determining yields of crop plants and the basic principles in their differentiated regulation; methods of effective maintenance and use of soil fertility and other agri-environmental resources; crop rotation, soil cultivation systems, sowing methods; alternative and environmentally friendly farming systems.After finishing the course, the students will be able to apply the appropriate agricultural practices (crop rotation, soil cultivation systems, sowing) according to the specific soil and climatic conditions.General agriculture is based on a number of other disciplines (soil science, meteorology, plant physiology, microbiology, agrochemistry, mechanization of agriculture). At the same time the course on "General Agriculture" is the basis for the special agronomic topics as plant growing, fruit growing, vegetable growing, viticulture, etc. |
| Main issues of the syllabus content:* Main vegetation factors determining yields of crop plants and methods of their regulation.
* Precursors of the main agricultural crops. Classification of seed crops and the principles for their creation.
* Methods and systems for soil treatment.
* Methods, depth and time for sowing.
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| Discipline „Physics with fundamentals of biophysics”, code: 12 |
| Annotation: The objective of the course is to acquaint the students of the speciality "Agronomy" with the basic concepts and laws of physics and to give initial knowledge about the manifestation of these laws in living organisms. |
| Main issues of the syllabus content:* Elements of classical mechanics;
* Elements of fluid mechanics and thermodynamics;
* Elements of electrodynamics;
* Basic concepts of oscillatory motion and waves;
* Elements of optics and quantum physics.
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| Elective discipline |
| Discipline *„SPECIALIZED SPORT ACTIVITIES – PART 2”*, code: 13а |
| Annotation: The program SSP aims to give students theoretical and methodic knowledge, connected with : motion capabilities improvement, technical and tactical training connected psychological education of the students in order to effective practical realization of regional and state students tournaments. Expected results: obtaining and improvement of special motion skills and increasing of sport education level. The education program corresponds to European system for credits transfer in order to support student’s mobility. Semester ends with covering test of approved in the department system for semester control and approve. |
| Main issues of the syllabus content:* Theoretical and methodical knowledge
* Common physical training
* Special Physical training
* Technical and tactical training
* Psychological an will training.
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| Elective discipline |
| Discipline *„SPORT AND SOCIAL ADAPTATION – PART 2”*, code: 13б |
| Annotation: The education program for the class “Sport and social adaptation” has been included in syllabus for all specialties for bachelor’s degree. It is intended for students who are not obliged by specific health reasons to take part in class “Specialized sport training” (due to physical deceases and health problems). The class aims to introduce students to opportunities and favorable impact of physical activity on their psychical and physical condition, also for a better social adaptation. The course of lectures will allow students to receive knowledge about elements of modern sport, special sport training, social aspect of sport activities, social adaptation of the person by means of physical education and sport, adapted physical activity, rehabilitation health tourism, sport and oth. The education program corresponds to European system for credits transfer in order to support student’s mobility. |
| Main issues of the syllabus content:* Sport
* Social adaptation
* Role of sport for more effective social adaptation.
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| Discipline „Plant Protection – part 1 (Herbology)”, code: 21 |
| Annotation: The curriculum is intended for students of a Bachelor's degree program in Agronomy. During the course "Plant Protection – part 1 (Herbology)", the students acquire common knowledge about different groups of weeds (ephemers, early spring, late spring, winter, winter, biennial and perennial) and methods of combating them (physichemical, chemical, etc.). The biological classification, according to which grouping is based on the characteristics of growth, flowering and fruiting, is considered in detail. The characteristics of each group of weeds, the agricultural crops most frequently encountered, the agro-technical and chemical means used to control them shall be indicated. The latest achievements in the field of synthesized organic herbicides are studied.The main focus is on integrated weed control in the country's main field and vegetable crops, perennials, oil and medicinal crops, etc. in close connection with specific biotopes (arable land, meadows, pastures, ponds, etc.).Herbology as a science is related to other disciplines (botany, ecology, general agriculture, plant growing, physiology, agrometeorology). Knowledge of them, especially botany, helps students to identify and group weeds according to their biological classification. |
| Main issues of the syllabus content:* Morphological, biological and ecological characteristics of weeds. Biological groups of weeds - non-parasitic monocarpous weeds, non-parasitic polycarpic weeds, parasitic and semi-parasitic weeds. Weed associations and their investigation.
* Weed control methods. Herbicides - mechanisms of phytotoxic and selective action of herbicides, persistence of herbicides in the soil, classification of herbicides by chemical groups.
* Integrated weed control in basic field and vegetable crops, in perennial plantations – orchards and vineyards.
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| Discipline *„PLANT PROTECTION – PART 2 (PHYTOPATHOLOGY)”*, code: 22 |
| Annotation: The course "Phytopatology" acquaints students with basic issues related to the development of phytopathology, the host-pathogenic relationships, the morphological features of the main groups of phytopathogenic microorganisms and high parasites and the general symptomatology of the diseases caused by them, methods for determining the losses from diseases, and methods of struggle. Special phytopathology introduces the students to the crop diseases that are of major importance for Bulgaria, the morphological, eteological and epidemiological characteristics of their causative agents and the main measures and practices for combating them. |
| Main issues of the syllabus content:* General Phytopatology

- Parasitism, specialization and variability of phytopathogens.- Pathogenesis- Epiphitology- Morphology, biology and classification of major phytopathogenic groups- Methods to combat phytopathogens* Special Phytopathology.

- Symptoms, biology and and control of major crop diseases in Bulgaria |
| Discipline „Plant Breeding and Seed Production”, code: 23 |
| Annotation: The curriculum is intended for students of a Bachelor's degree program in Agronomy. The course "Plant Breeding and Seed Production" provides a wide knowledge about the plant populations and the methods for creation of new varieties of agricultural crops. By studying the basic approaches of the plant breeding and the latest advances in the application of plant biotechnology in agriculture, the students gain insight into the processes underlying the reproduction of plant materials, the latest breeding achievements and their use in practice. Breeding and seed production is related to a number of branches of biology: general biology, plant growing, genetics, biochemistry, physiology, plant protection, etc. The knowledge of breeding, based on mitosis and meiosis, gametogenesis and polyploidy, will serve to understand the hybridization and the selection in the decaying generations. Breeding, along with biotechnological methods, is related to other major disciplines such as microbiology, anatomy, botany, histology and phytopathology. The new products of the genetic engineering techniques, known as genetically modified varieties and hybrids (maize, sunflower, rice, potatoes, etc.), represent in practice the achievements of molecular breeding. |
| Main issues of the syllabus content:* Main approaches in classical and biotechnological plant breeding.
* Methods of breeding and assessment of breeding material in self – , cross - and vegetatively propagated plants.
* Heterosis in plant breeding.
* Seed production of basic crops.
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| Discipline *„VITICULTURE – PART 1”*, code: 24 |
| Annotation: The Viticulture as an educational and scientific discipline has as its object the cultural vine with its environmental requirements and the methods for regulating its growth and fruit production with a view to obtaining high yields of quality grapes. Contemporary viticulture is based on the achievements in physiology, biochemistry, agrochemistry, soil science, general agriculture, mechanization, organization and economics of agriculture and other basic sciences, and specifies their achievements directly to the grapevine, revealing its specific features depending on ecological and agro-technical conditions. The final aim of the curriculum is to acquaint students with the basic botanical principles and biological characteristics of the vine, to acquire the necessary theoretical knowledge and practical skills in breeding the vine and in the creation and cultivation of vine plantations. |
| Main issues of the syllabus content:* Botanical and biological characteristics of the vine
* Creation and cultivation of vine plantations
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| Discipline *„AGRICULTURAL MACHINES”*, code: 25 |
| Annotation: The course is designed to give students the necessary knowledge and skills in the field of theory and construction of agricultural machinery. The basic machines for soil cultivation, sowing, fertilizing, plant protection, harvesting from different crops, mechanization of the processes in livestock breeding and processing of the obtained products are studied. |
| Main issues of the syllabus content:* Soil cultivation machines - plows, cultivators, gear harrows, disc tillage tools.
* Sowing, planting and transplanting machines.
* Fertilizing machines.
* Plant protection machines.
* Machines for harvesting.
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| Elective discipline |
| Discipline „CONSERVATION of the natural resources”, code: 26а |
| Annotation: Natural resources are the substances supplied by the nature and needed for survival. They are all environmental components that can be used directly or indirectly by man for their economic development, including air, water, soil, sun, wind, plants, animals, fossil fuels (coal, oil, and natural gas), nuclear fuel, etc. Many natural resources are limited in supply and cannot be renewed. The over - use of natural resources is inevitably responsible for the degradation of our natural environment and ecosystems and the environmental issues at global level - the depletion of natural resources, water pollution, air pollution, toxic chemicals and soil pollution, global warming, ozone layer depletion, loss of bio - diversity, loss of natural habitats, etc.The discipline "Conservation of natural resources" is part of the general education of the students from "Agronomy" specialty and is studied during the fourth semester with auditorium workload of 30 hours lectures and 15 hours practical work. The course aims to give knowledge about the interrelation between the natural resources, their changes due to different natural and anthropogenic factors, the environmental impacts caused by their exploitation, as well as their conservation. Special attention is paid to the negative impact of the agrarian sector on the environment. |
| Main issues of the syllabus content:* Natural and Anthropogenic Environment. Components of the anthropogenic environment - atmosphere and ambient air, water, soil, biodiversity, etc. Factors of the environment - wastes, noise, radiation;
* Global environmental problems - water shortage and pollution, global warming, ozone layer depletion, deforestation, acid rains, industrial and household wastes and their environmental effects;
* Natural resources and the environmental impacts due to their utilization - renewable and non - renewable resources;
* Environmental pollution - natural and man - made. Classification of the pollutants and sources of pollution;.
* Air pollution. Common air pollutants. Causes of air pollution. Protection of air pollution;
* Water resources and pollution. Causes of surface and underground water pollution. Water conservation;
* Agricultural resources and conservation. Soil pollution. Causes of soil pollution. Effects of soil pollution. Soil conservation;
* Industrial, household and agricultural wastes and their negative effect on the environment. Treatment of wastes;
* Noise pollution – sources, effects of noise pollution;
* Radionuclides pollution and hazardous effects.
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| Elective discipline |
| Discipline „Introduction to NATURE utilization and environmental protection”, code: 26б |
| Annotation: The over-use of the Earth resources have been found to be responsible for the degradation of our natural environment. The human activities impact the integrity of the natural world and environment, causing global environmental problems - global warming, ozone layer depletion, acid rains, discharge of toxic wastes, etc.The discipline "Introduction to nature utilization and environmental protection" is part of the general education of the students from "Agronomy" specialty and is studied during the fourth semester with auditorium workload of 30 hours lectures and 15 hours practical work. The course aims to give knowledge about the environmental issues, the consequences of the over - exploitation of the natural resourses, shows the interrelation between the different components of the environment and their deterioration, the reasons for the global environmental problems as well as the management of the environmental protection. |
| Main issues of the syllabus content:* Environment, natural environment and anthropogenic environment. The system Human - Environment;
* Components of the natural environment - habitat, communities, ecosystem, biosphere;
* Components of the anthropogenic environment and their ecological significance - atmosphere and ambient air, water, soil, biodiversity, landscape, etc;
* Global environmental problems - water shortage and pollution, global warming, ozone layer depletion, deforestation, acid rains, industrial and household wastes and their environmental effects;
* Sustainable development, environmental protection and management;
* Natural resources and the environmental impacts due to their utilization - renewable and non - renewable resources;
* Environmental pollution - classification of the pollutants and the main sources of pollution;
* Disasters - floods, earth quakes, cyclones, land slides, tsunami.
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| Discipline *„TRAINING PRACTICE – BASIC AGRONOMIC DISCIPLINES”*, code: 27 |
| Annotation: The aim of the curriculum of the Bachelor's degree program is to enrich the practical knowledge of students on basic agronomic subjects such as: Soil Science, General Agriculture, Design of Field Experiments, etc. The program aims, after learning the practical knowledge, that students apply the most appropriate agricultural practices. |
| Main issues of the syllabus content:* Soil Science;
* General agriculture;
* Design of Field Experiments.
 |
| Elective discipline |
| Discipline *„SPECIALIZED SPORT ACTIVITIES – PART 4”*, code: 28а |
| Annotation: The target of the program SSP is to establish and maintain important professional motion features: power, agility, velocity, common and special resilience by the means of sport trained. The students improve their skills based on collected theoretical and methodical knowledge and special technical skills in conditions of their practical realization during the classes and when taking part in students activities on different level. Expected results: Improvement sport education and specific sport qualification. The education program corresponds to European system for credits transfer in order to support student’s mobility. Semester ends with covering test of approved in the department system for semester control and approve. |
| Main issues of the syllabus content:* Theoretical and methodical knowledge
* Common physical training
* Special Physical training
* Technical and tactical training
* Psychological and will training.
 |
| Elective discipline |
| Discipline *„SPORT MANAGEMENT – PART 2”*, code: 28б |
| Annotation: The educational material for the discipline “Sport management” is intended for more thorough analysis of sport’s management in Bulgaria and good practices of EU from the standpoint of policy, social function, structure, forms and instruments, organizations and resources within conditions of state, public and private institutions and organizations. In the program practical developments for animation products are included, concepts for a hotel animation product, scenario for special events, kids animation and oth. The material is enriched with examples and applications by the real practice giving visual image about key ideas and approaches in management and sport’s management development. |
| Main issues of the syllabus content:* Basic knowledge connected with specifics of sport’s management labour.
* Economic parameters of sport’s management – product of sport, marketing analysis of sport’s services, project management in sport.
* Sponsorship and publicity in sport.
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| Discipline *„PLANT PRODUCTION – PART 2 (TECHNICAL AND ESSENTIAL OIL CROPS*)*”*, code: 35 |
| Annotation: The course "Plant Production – part 2 (Technical and essential oil crops)" aims at the study of technical cultures and plants rich in essential oils. The resulting seeds, root crops, tubers, fiber, stems, flowers, leaves serve as a raw material for technical processing in various industries. Depending on the nature of the resulting production, they are differentiated into tuberose, root, fiber, oil, essential oil and flavor crops. The aim of the course is to provide students with sufficient information to know the basic technical and essential oil cultures and the technology of their cultivation. Structurally determining issues will be the biological characteristics of the individual plant species in close connection with the practice: type of development, type of inflorescence, fruit, seed and breeding patterns. Emphasis will be placed on the most important aspects of agro-technology: precursors, soil preparation, sowing, weed control, pests and diseases, harvesting. |
| Main issues of the syllabus content:* Technical cultures (for each culture, origin and importance are considered, morphology and biological requirements, peculiarities in agro-technology, variety composition).
* Essential oil crops (for each culture, origin and importance are considered, morphology and biological requirements, peculiarities in agro-technology, variety composition).
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| Discipline *„PLANT PROTECTION - PART 3 (ENTOMOLOGY)”*, code: 36 |
| Annotation: The course "Entomology" acquaints students with the structure, propagation, distribution of insects in nature and their damage on the crop plants, as well as the prognosis for their occurrence and development. On this basis, effective methods and means of combating them are developed and applied |
| Main issues of the syllabus content:* General Entomology:

 Morphology, anatomy, types of transformation, systematics, damage and insect control in crop plants.* Special Entomology:

Polyphagous;Cereals pests;Bean crops pests;Pest on technical and oil crops;Vegetable pests;Fruit trees pests;Grape and berry crops pests. |
| Discipline *„FRUIT PRODUCTION – PART 2”*, code: 37 |
| Annotation: The study of the discipline "Fruit Production – part 2" is connected to a great extent with the appropriate conditions for cultivation of the main fruit production in our country. Particularly suitable in this regard is the Black Sea region, where soil conditions allow for the cultivation of apples, peaches, almonds and apricots, as well as a number of Mediterranean and subtropical crops such as fig, pomegranate, actinidia and fistas. Through the acquired knowledge, agronomists will be prepared to develop research projects, business plans and long-term strategies on a national and global scale. At the same time, they can be successfully implemented in local, national and international production, trade and research organizations involved in the production and marketing of fruit. |
| Main issues of the syllabus content:* Creation, fertilization and irrigation of orchards
* Pruning of fruit plants
* Fruit species
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| Discipline „Vegetable production – part 2”, code: 38 |
| Annotation: The Vegetable production is a major branch of agriculture. More than 50 types of vegetable crops are grown and still growning in our country. Every year vegetable production is produced on an area of about 150 thousand hectares according to statistical surveys,. The pursuit of competitive production in the cultivation of vegetables requires staff with in-depth knowledge in the field of vegetable production.Objective of the course: To enrich students information on the botanical characteristics of varieties and the modern technologies applied in the vegetable growing sub-sector. In the lecture course, they will have the opportunity to acquire new, theoretical and applied knowledge, which will subsequently be confirmed during the seminar and laboratory exercises. After completing the course, future Bachelors will have mastered the basic theoretical and some practical skills needed to organize a successful production of vegetable produce.Learning outcomes: Students acquire contemporary theoretical knowledge and practical approaches for growing vegetables. Understand the specific features and requirements of vegetable crops to the main environmental factors. To engage in techniques to optimize plant growth conditions and to permanently master the practices that will increase production efficiency.Undertaking the basics of vegetable production is a natural continuation of the fundamental and specialized subjects studied at the Bachelor's degree course. Therefore, after completing their training, the students will have real chances of realization on the labor market and the best ones will continue to build on the obtained knowledge in Master programs.Top of Form |
| Main issues of the syllabus content:* Vegetable production – special part
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| Discipline *„PLANT PRODUCTION – PART 3 (FODDER CROPS*)*”*, code: 39 |
| Annotation: The course "Plant production – part 3 (Fodder crops)" aims at studying forage crops. They produce rough and juicy feed for farm animals. They are annual cereal and leguminous forage grasses, perennial grain and leguminous forage grasses, forage root crops and silage crops, pumpkin crops. The aim of the course is to provide students with sufficient information to know the basic fodder crops and their cultivation technology. Structurally determining issues will be the biological characteristics of the individual plant species in close connection with the practice: type of development, type of inflorescence, fruit, seed and breeding patterns. Emphasis will be placed on the most important aspects of agro-technology: precursors, soil preparation, sowing, weed control, pests and diseases, harvesting. |
| Main issues of the syllabus content:* Annual fodder crops (for each crop, origin and importance, morphology and biological requirements, peculiarities in agro-technology, variety composition) are considered.
* Perennial fodder crops (for each crop the origin and importance, morphology and biological requirements, peculiarities in agro-technology, variety composition) are considered.
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| Elective discipline |
| Discipline „LANDSCApe science and landscaping”, code: 40а |
| Annotation: The "Landscape Science and Landscaping" as a science has a complex character and affects the most important application of physical geography. It introduces us to the structure and dynamics of landscapes (natural complexes). The study of landscapes in the era of technical progress is becoming increasingly important in view of the requirements for rational use of landscape resources in the natural environment.The current and future anthropogenesis of Bulgarian landscapes should be based on detailed, complex research on the basis of which the landscape development should be predicted with a view to the proper use of its resources and the preservation of the natural environment.The aim of the subject is to develop knowledge and skills in the field of geology and geomorphological features of the Bulgarian lands, the climate, vegetation and animal life in our country, the physico-geographic and landscape division of Bulgaria, the interrelationships between the landscape components. |
| Main issues of the syllabus content:* Geological Geomorphological Component Review;
* The climate in the Bulgarian lands and its landscaping role;
* Hydrological review of Bulgaria and dependence of the water regime of the landscape components;
* The soils and vegetation cover in Bulgaria as landscaping factors;
* Fauna as a landscape component in the Bulgarian lands;
* Theoretical foundations of landscape science.
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| Elective discipline |
| Discipline „Dendrology and garden layout”, code: 40б |
| Annotation: The Dendrology studies tree plants. The name derives from the Greek words dendron - tree and logos - science. Dendrology (particularly decorative) studies tree plants as an object of park-building activity and garden layout.The rapid development of productive forces leads to environmental pollution. Parks and gardens have not only acquired an adorable function. They are also relied on as a means of mitigating the environmental impact of industry. When decorative plants are used, their biological and ecological characteristics, in addition to their morphological qualities, also gain rapid growth, great debt, resistance to adverse environmental factors, diseases and pests, the possibility of combining other species, easy breeding and others. |
| Main issues of the syllabus content:* In the first section - Tree Plant Ecology, the relationships between plants and the factors of the environment are examined;
* In the second section - Morphology and Decorative Specifics of Tree Plants, the decorative qualities of the organs of the tree plants and their peculiarities in their use for ornamented purposes are examined. Due to the particular importance of soil conditions for the proper cultivation of decorative species;
* The topic of the soil cultivation, soil morphology, their properties and their distribution in Bulgaria are discussed in the section on soil science. Knowledge of soils is necessary for all gardening activities - design, construction and maintenance of garden sites, flower production and decorative nurseries;
* A detailed description of the decorative trees and shrubs most commonly used in the park-building practice is given in the tree and shrub tree section;
* In the next section you will find: the evergreen exotic garden, the shade garden, trees with pyramidal and crying crowns, a small coniferous grove, flower beds and tufts, a grass carpet, garden paths, a decorative wall, a structure for vines, blackberries and creeping plants, elements building the facade of your villa;
* The last section looks at the flowers - annuals, biennials and perennials, with bulbs, tubers, climbing, crackling, lashes, shrubs - climbing and unyielding.
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| Discipline „*TRAINING PRACTICE – FRUIT PRODUCTION AND VITICULTURE*”, code: 41 |
| Annotation: The Fruit production and Viticulture training practice aims to improve and enrich the practical knowledge of the students acquired theoretically during the training in these disciplines.During the course of the course the students will be acquainted with the peculiarities of fruit harvesting in the pome and drupe fruit species depending on the growth, the differentiation of the fruit buds and the fruiting habitat of the varieties. Pruning prune for fruit trees.Viticultural is an applied science that studies and identifies ways of growing the grapevine plant to obtain high, stable and quality yields from grapes. Through the practice of Viticulture, students will be able to acquire the necessary knowledge on the biology of the vine as well as on the creation and cultivation of the vineyards. Pruning in young and fruiting vineyards. In addition, they will have the opportunity to learn about the biological qualities of the more important varieties of vines. From the Fruit production and Viticulture training practice, students will receive the necessary practical training in these two areas. They will acquire relevant practical habits and skills that enable them to control the production of grapes in the private farm or cooperative associations of a new type. |
| Main issues of the syllabus content:* Fruit production
* Viticulture
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| Discipline „Training Practice – Vegetable production”, code: 42 |
| Annotation: Vegetable production is a major branch of agriculture. More than 50 types of vegetable crops are grown and still growning in our country. Every year vegetable production is produced on an area of about 150 thousand hectares according to statistical surveys. The pursuit of competitive production in the cultivation of vegetables requires staff with in-depth knowledge in the field of vegetable production.Objective of the course: The vegetable production teaching practice aims to consolidate the theoretical knowledge of the students obtained in the discipline "Vegetable production". During the practice the students learn about the directions of production of the individual vegetable cultures, the biological requirements in their cultivation, the specific botanical peculiarities and the modern technologies applied in the vegetable growing sub-sector.Learning outcomes: The main tasks of the Bachelor's course are to enrich the students' knowledge about modern technologies and varieties of vegetable crops. Understand the specific features and requirements of vegetable crops to the main environmental factors. To engage in techniques to optimize plant growth conditions and to permanently master the practices that will increase production efficiency.The knowledge gained from the course on vegetable production and their consolidation during the teaching practice will contribute to the improvement of the professional qualification of the students as well as to their successful realization in the labor market. |
| Main issues of the syllabus content:* Vegetable production – general part
* Vegetable production – special part
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| Discipline *„TRAINING PRACTICE – PLANT PROTECTION”*, code: 43 |
| Annotation: The designed studying plan which is the Bachelor's degree program, Training Practice – Plant Protection, is essential for the future agronomists to become very good specialists. The main focus in the teaching practice is application and linking theory to a practical environment. The practice will provide to the students to acquire the types of methods for investigation and assessment of pest infestation, to be able to apply them in a real environment and to draw conclusions about whether or not they need chemical control. The correct identification of diseases by symptoms, the diagnosis of a species of enemy by imaginar, larval, caviar or egg stage and by type of damage, as well as the morphological determination of the weed species and the phenology in which they are found are essential for the course and implementation of the system of measures to combat them. By touching live illnesses, weeds and enemies, students will remember and learn them permanently. This will help future specialists - agronomists to manipulate freely with the set of major pests on individual cultures and quickly and adequately make decisions to fight them. During the training practice, it will emphasis on all possible ways of fighting, with a special focus on chemical protection. The chemical treatment rules include a set of measures for the protection of cultivated plants, the useful fauna and flora, the protection of human health, soil, air and water. Another focus in practical training will be the alternative stuff of pest control (useful insect bio-agents, biologically-based preparations and authorized plant protection products in organic and integrated agriculture). Practical training also includes visits to agricultural farms and companies to monitor and participate students in a number of plant protection activities. |
| Main issues of the syllabus content:* Working with assignment tables. Identification the main pests of agricultural crops.
* Investigation methods, calculation formulas and scales for reporting the degree of pest infestation.
* Conditions and techniques for chemical treatments. Alternative plant protection measures.
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| Discipline *„PRODUCTION PRACTICE – PLANT PRODUCTION”*, code: 44 |
| Annotation: The production practice in Plant production is a crucial moment in strengthening the students' knowledge and their practical application in the three parts of Plant Production. The training is carried out after the end of the sixth semester, in the summer months: from the end of June to the middle of September and the purpose is to cover the most important agricultural crops in NE(north-eastern) Bulgaria. In advance each student declares in which company he / she will conduct the practice, indicating the subject of the activity, the address registration, the materially responsible person and the names of the trainee mentor from the selected concern. Often the students themselves plan the practice over a long period of time, which determins their interest in acquiring practical skills and knowledge for as many crops as possible. The production training in Plant Production also creates opportunities for contacts from different directions and people in the agricultural sector, which is a prerequisite for future start-up in an accountable company. |
| Main issues of the syllabus content:* Harvest of winter cereals and rapeseed: harvest and torage technology.
* Cares during vegetation crops: BBCH scale evaluation of plant phenology; assessment of IPR and identification of pest control measures; fertilization and so on.
* Estimation of weed rate and species composition of weeds after harvesting. Cleaning the areas of plant residues. Types of soil treatments.
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| Discipline „Organic Farming and Agroecology”, code: 50 |
| Annotation: The curriculum is intended for students of a Bachelor's degree program in Agronomy. The course "Organic Farming and Agroecology" consists of two parts. The first part, "Organic Farming", deals with plant production without use of synthetic fertilizers, herbicides and chemicals against pests. The crop rotation used in this type of production is considered; methods of soil treatment; the use of animal manure, vegetable waste and fertilizer siderators; weed control and biological control of diseases and pests; raising livestock on organic farms; the certification of organic farms and the realization of organic production; the development of organic production in the world and in Bulgaria. The second part - "Agroecology" - deals with the study of agroecosystems with the different types of environmental relations, ecological aspects of crop rotation, soil cultivation, sowing, mineral fertilization, biological and ecological characteristics of weeds, plant diseases and pests and the fight with them.The course "Organic Farming and Agroecology" clarify the basic principles of organic farming, the basic criteria and normative documents regulating the organic production, as well as the characteristics of the agroecosystems in view of the proper ecological implementation of agronomic practices in plant production. |
| Main issues of the syllabus content:* Organic farming - essence, principles, development;
* Organic production of plant and livestock;
* Organic farming - certification of organic farms and the realization of organic production, development of organic production in the world and in Bulgaria;
* Agroecology - a general characteristic of agroecosystems;
* Agroecology - plant ecotypes according to their adaptation to cultivation, biological rhythms, phenological development of plants;
* Agroecology - biotic relationships in agroecosystems.
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| Discipline *„PHYTOPHARMACY”*, code: 51 |
| Annotation: The main task of modern agriculture is the production of high-quality and high capacity agricultural crops in order to feed the population and to meet the needs of industry and foreign markets. One of the primiry priorities in achieving this goal is to minimize the losses of pests, diseases and weeds on the crop plants. The main approach for the yield realization is the chemical method, which is closely related to biological, physico-mechanical, agrotechnical and other methods. Properly and safely applying the chemical method requires well-trained stuffs. The basic task of the discipline "Phytopharmacy" is to introduce students to the modern chemical plant protection products and their correct application in order to protect the environment and human health. This discipline is an important unit of plant protection and without its knowledge, the future agronomist could not be formed as a specialist. For this purpose, young plant-protectionists need to know the nature of pesticides, their application according to the pest, the mechanism of action and the mix with other chemicals. It is necessary to master the spraying technique, the conditions for its proper application, to comply with instructions for safe working and storage of agents, and to keep up with the novelties regarding PPPs in the EU member states. |
| Main issues of the syllabus content:* Subdivision of chemicals: according to pests, by origin and mode of action (MoA). Types of spraying. Forms and routes of application. Concentration, dose and rate of poisons.
* Organization of chemical struggle. Decontamination, disinsection and conservation of developing plants.
* State control of plant protection: BFSA.
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| Elective discipline |
| Discipline *„EUROPEAN AGRARIAN POLICY”*, code: 52а |
| Annotation: The curriculum is designed for students of the specialty "Agronomy", Bachelor's degree. Required knowledge of the learners on the following topics:- are the costs of implementing the activity optimal and the profitability of the different types of activities is optimal;- how much and what external financing the farmer needs to carry out the activity;- are all possible funding options available under schemes and measures for direct payments and RDPs to support the activity of the holding and the extent to which the holding meets the requirements and conditions to be supported by them;- Whether the organic production or application of agri-environmental practices applicable to the holding and would meet the conditions for receiving compensatory payments under Measure 10 and Measure 11; |
| Main issues of the syllabus content:* EU Common Agricultural Policy
* Direct payments
* Rural Development Program
* Thematic sub-program for the development of small farms
* Leader program
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| Elective discipline |
| Discipline *„EUROPEAN PROGRAMS IN THE AGRICULTURAL SECTOR”*, code: 52б |
| Annotation: The curriculum is intended for students of specialty "Agronomy", Bachelor's degree. Required knowledge of the learners on the following topics:- are the costs of implementing the activity optimal and the profitability of the different types of activities is optimal;- how much and what external financing the farmer needs to carry out the activity;- are all possible funding options available under schemes and measures for direct payments and RDPs to support the activity of the holding and the extent to which the holding meets the requirements and conditions to be supported by them;- Whether the organic production or application of agri-environmental practices is applicable to the holding and would meet the conditions for receiving compensatory payments under measure 10 and measure 11; |
| Main issues of the syllabus content:* EU Common Agricultural Policy
* Direct payments
* Rural Development Program
* Thematic sub-program for the development of small farms
* Leader program
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| Discipline *„PRODUCTION EXPERIENCE”*, code: 53 |
| Annotation: The production experience is the final practical training of the future specialists of the Bachelor's degree course, major Agronomy. It is planned for out-of-work employment of 200 hours during the eighth semester. In advance, each student provides complete information about a selected company he / she chose to practice. The purpose of the production experience is for each student to have a practice and draw on someone’s experience in different branches of agriculture. During the productive training, students visit various companies with a different range from the main activity. Organized calls are carried out in state institutions: ODBH - Varna, NCCZ - Varna, DAI - General Toshevo and others. During the term, the fourth-year graduates attend group seminars on the territory of TU – Varna or in companies and other organizations (SGS, BG Agro, leading companies in the field of chemical agents, and many others). After finishing the production training, each student presents a report on the events, in which he participated, the places which he has visited, and so on. Each training company applies an official note with a comprehensive assessment of the student's performance. The production practice is of a great importance to the young specialists. Through it attains a great variety of practical skills in the following disciplines: Plant Production, Fruit Production, Viticulture, Vegetable Production, Plant Protection, Phytopharmacy, General Agriculture, Landscape Science and Landscaping, Botany, etc. Future agronomists create contacts for job positions. The production training is a determining mechanism for the realization of young specialists on the labor market. |
| Main issues of the syllabus content:* Technology for growing basic types of agricultural and ornamental plants.
* Plant protection measures at all cultivation levels.
* Agro Pharmacies.
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