ROMÂNIA

MINISTERUL EDUCAŢIEI ŞI CERCETĂRII

UNIVERSITATEA DIN CRAIOVA

FACULTATEA DE AGRONOMIE

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PACKAGE OF COURSES

Bachelor study program: AGRICULTURE

This is the package of course of bachelor study program of AGRICULTURE from the University of Craiova/ the Faculty of AGRONOMY/The Department of Agricultural of Agricultural and Forestry Technology

1ST YEAR OF STUDY

MATHEMATHICS AND STATISTICS

ECTS CREDITS: 3
YEAR / SEMESTER: Ist year / Ist semester
HOURS PER WEEK: 1 hour of course, 1 hour of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: fundamental discipline
COURSE OBJECTIVE(S):
Determination of lengths, areas and volumes of geometric objects. Solving specific problems of linear programming, such as crop distribution, setting feed ration for animal feed and working technology, based on matrix computing techniques. Knowledge of the fundamental concepts of probability theory, probabilistic computation rules, the main probability schemes, the notion of random variable. Knowledge of the main classical distribution laws. Statistical analysis of the phenomenon. Graphical representation of a statistical series. The distribution of statistical data and graphical representation, the synthesis of data with an indicator representing them, the determination of statistical indicators of populations and samples (for example, indi-cators of the variations and moments).
COURSE CONTENTS: Crowds; Functions; Matrix calculation; Determinants; Vector spaces. Addiction and linear independence; Euclidean spaces. Orthogonal bases; Linear applications. Matrix of linear application; Canonical forms of endomorphism; Biliary forms. Pattern shapes
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): exam
(answers to exam 60%, final answers to seminar works 40%)

BIOPHYSICS AND AGROMETEOROLOGY

ECTS CREDITS: 4
YEAR / SEMESTER: Ist year /Ist semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: fundamental discipline
COURSE OBJECTIVE(S):
Knowledge of specific applications living and research equipement with importance in biophysics and agricultural meteorology; explain the phenomena, the processes applications and devices according to the main meteorological parameters, environmental characteristics; interpret the evolution of the system based on changes in environmental factors.
COURSE CONTENTS:
Matter organisation. Elements of spectroscopy. Contact phenomena between liquid and solid. Molecular transport phenomena. Diffusion and osmosis. Introduction in biological thermodinamoics. The physical structure of the atmosphere. Solar radiation in the atmosphere and the ground. Thermal regime of the soil and air. Condensation and water vapor condensation products. Rain fall. The climate of Romania and of Europe.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (answers to exam 60 %, periodic answers to practical work 20 %, results to periodic control works 20 %)

ENERGETICAL BASE AND MACHINERY I

ECTS CREDITS: 4
YEAR/SEMESTER: Ist year/ Ist semester
HOURS PER WEEK: 2 hours course, 2 hours practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Knowledge of the shapes of the energy used in agriculture, the possibilities of obtaining and conversion into mechanical energy. Understanding the objectives and importance of mechanization in agriculture. The interpretation of the phenomena which occur in the conversion of various forms of energy into mechanical energy and vice versa. Advantages and disadvantages of their use. The use of appliances, counters, graphics, reading and interpretation and application of their results in order to obtain agricultural performance of the machines. Acquiring and deepening the knowledge reffering to the technique used in forestry activities. The presentation of the main forestry machinery and equipment. The detailed presentation of the main works realized with the technic from agriculture.
COURSE CONTENTS: Forms of energy used in agriculture. Obtaining mechanical energy. BE materials used in the driving mechanism. A cycle of transformation of thermal energy (caloric) into mechanical energy. The driving mechanism and the mechanism for distribution. Role. Construction. Operation. Gas distribution pie chart. Thermal power plant engines. Role. Fuels used in the operation of heat engines. The fuel mixture supply system of the thermal-ignition engines. Construction. Operation. The supply unit of thermal engines with self-ignition. Construction. Operation. Construction and operation of injection pumps and injectors. Lubricating device cooling system. Ignition system. Construction and operation. BE transmissions used in clutches, gearboxes, differentials. Work equipment used in construction BEPA traction feature. Machinery for seedbed preparation. Machines and plants for reclamation. Equipment for sowing: Drills in dense rows (in Batch sowing machines, Combined seeding). Planter: potato planters (planters planters planting bulbs). Machines for maintenance of crops: cultivators. Machines and equipment for the application of fertilizers and: machines for the application of solid chemical fertilizers (organic fertilizers application machines, machines for application of the liquid fertilizers).
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (answers to exam 60%, final answers to Laboratory works 40%)

BOTANICS I

ECTS CREDITS: 5
YEAR/SEMESTER: Ist year/ Ist semester
HOURS PER WEEK: 2 hours course, 2 hours practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: fundamental discipline
COURSE OBJECTIVE(S): Ability to understand the morphological and structural characteristics of vascular plants, knowledge that will underpin the study of horticultural plants studied at the specializations of the following years of study. The ability to correlate the morphological and structural notions of horticultural plants in the technological process, in order to achieve productive performance results.
COURSE
CONTENTS: Objective and methods of investigation. Botanical subdivisions. Development of botany in the world and in Romania. Plant cytology. Plant histology. Organography. The plant organs. Vegetative and reproductive organs.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (Final theoretical exam 60%, final practical exam 40%)

ECOLOGY AND ENVIRONMENTAL PROTECTION

ECTS CREDITS: 4
YEAR/SEMESTER: Ist year / Ist semester
HOURS PER WEEK: 2 hours of course, 2 hours of seminar
NUMBER OF WEEKS: 14
TYPE OF COURSE: fundamental discipline

COURSE OBJECTIVE(S): Presenting in a form as concise and as accesible as possible to the students the course material regarding the organizational levels, the biotope, the biocenosis, the foundamental states of the ecosystem, the flows of the ecosystems, the factors that affect the circulation of substance in ecosystems, etc. Knowing the influence of the climatic conditions from the cultivation areas on agro-ecosystems, food chains and material resources of the biosphere. The detailed presentation of the main pollution problems beeing the current issue of mankind.
COURSE CONTENTS: Levels of organization of living matter. Ecosystem: meanings of the concept of ecosystem; Biotope. Abiotic factors; biocenosis; Biotic their role in the ecosystem; Cyclic and linear; The structure of ecosystems; Ground state of the ecosystem; Food chains; Ecological niche; Flows in ecosystems; Components and features of biogeochemical cycles; Types of ecosystems; Ecological homeostasis: heterogeneity; agro; Lanturiri trophic, The material resources of the biosphere; Pollution.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): colloquium
(answers to colloquium 60%, final answers to practical works 40%)

ENGLISH LANGUAGE I

ECTS CREDITS: 2
YEAR / SEMESTER: Ist year / Ist semester
HOURS PER WEEK: 1 hour of course
NUMBER OF WEEKS: 14
TYPE OF COURSE: complementary discipline
COURSE OBJECTIVE(S): Improving the ability to understand spoken English and specific vocabulary texts written in English, using a reference material especially designed for students of Silviculture, but also for those who want to learn ESP vocabulary in context. Practice of important vocabulary and grammar practice, tackle four skills, reading, listening, speaking and writing, explain specific vocabulary, and grammar lessons which are thought in detail, with exercises that give students useful practice in this particular area. True or false exercises, gap filling, matching the words with their definition, translations, in context dialogues and lessons with key bolded words are really selected for students to understand and use it correctly. Deepening the main grammar rules of English in a modern way, problematic, requiring students to learn but also to think. Consolidation of skills to dialogue, describe, report. Emphasizing the practical nature of learning, the course is meant to stimulate students' interest in written and spoken language, to improve knowledge and communication in English.
COURSE
CONTENTS: Focus on language: Present Tense Simple/ Continuous, Vocabulary: Silviculture is the branch of Life Sciences that deals with the art, science, technology, and business of growing plants. It also is the study of plants. It includes the cultivation of medicinal plants, fruits, vegetables, nuts, seeds, herbs, sprouts, mushrooms, algae, flowers, seaweeds and non-food crops such as grass and ornamental trees and plants.
LANGUAGE OF INTRUCTION: English
ASSESSMENT METHOD(S): colloquium (exam answers 60%, theoretical and practical checking 40%)

FRENCH LANGUAGE I

ECTS CREDITS: 2
YEAR / SEMESTER: Ist year / Ist semester
HOURS PER WEEK: 1 hour of course
NUMBER OF WEEKS: 14
TYPE OF COURSE: complementary discipline
COURSE OBJECTIVE(S): Improving the ability to understand spoken French and specific vocabulary texts written in French, using a reference material especially designed for students of Silviculture, but also for those who want to learn vocabulary
in context. Practice of important Silviculture vocabulary and grammar practice, tackle four skills, reading, listening, speaking and writing, explain specific vocabulary, and grammar lessons which are thought in detail, with exercises that give students useful practice in this particular area. True or false exercises, gap filling, matching the words with their definition, translations, in context dialogues and lessons with key bolded words are really selected for students to understand and use it correctly.

Deepening the main grammar rules of French in a modern way, problematic, requiring students to learn but also to think.
Consolidation of skills to dialogue, describe, report. Emphasizing the practical nature of learning, the course is ment to stimulate students' interest in written and spoken language, to improve knowledge and communication in French.
COURSE CONTENTS:
Focus on language, Vocabulary: Landscape. Scale and heterogeneity (incorporating composition, structure, and function). Patch and mosaic. Boundary and edge. Ecotones, ecoclines, and ecotopes. Disturbance and fragmentation. Theory. Application. Research directions.
LANGUAGE OF INTRUCTION: French
ASSESSMENT METHOD(S): colloquium (exam answers 60%, theoretical and practical checking 40%)

PLANT PHYSIOLOGY

ECTS CREDITS: 4
YEAR/SEMESTER: Ist year / Ist semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: fundamental discipline
COURSE COORDINATOR: Associate Professor, PhD, Luminita BUSE DRAGOMIR
YEAR/SEMESTER: IInd year / Ist semester
HOURS PER WEEK: 2 hours course, 2 hours practical course
NUMBER OF WEEKS: 14
TYPE OF COURSE: fundamental discipline
COURSE OBJECTIVE(S): The explanation and interpretation of the interrelations between adopted production systems and the environment. Informing students on the way of how physiological processes occur in plant bodies and deciphering essential functioning aspects of the mechanisms of the individual order. Making connections between physiological and physical processes, biochemical processes, in order to gain complete knowledge on the natural phenomena. Knowing the decisive character of the phenomena and processes studied and evidencing, basing on the volume of knowledge studied, the influence of natural and anthropogenic environmental factors on these processes.
COURSE CONTENTS:
Knowledge and interpretation of the physiological processes of plants andacquiring practical skillsfor the ex perimental demonstration of the main vital plant manifestations.
Plant cell physiology. Water exchange between the plant cell and the external environment.
Plant water regime (Absorption, transport and elimination of water by plants). Mineral Nutrition. Photosynthesis. Synthesis, transport and storage of organic substances in plants. Aerobic respiration and anaerobic respiration. Plant growth and plant development. Plant orientation andgrowth mov ement.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): colloquium (examination answers 50 %, final answers for workshops 50%)

MICROBIOLOGIE

ECTS CREDITS: 4
YEAR/SEMESTER: Ist year / Ist semester
HOURS PER WEEK: 2 hours course, 2 hours practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: fundamental discipline
COURSE OBJECTIVES: Ability to understand the morphological and structural characteristics of microorganisms. Understanding and fixing the basics of microbiological sciences applications, presenting a brief classification scheme major groups of microorganisms. Deepening the students a systematic bacterial constantly updated, using for this purpose the latest information in the field, including gender or species of interest in the industry that could affect the public health, but allowing students a quick orientation and correct the identification of microbial species, in the diagnosis, and prevention, healing or to combat pathogens macro.

TOPICS: Objective and methods of investigation. Knowledge of the main groups of microorganisms and interrelationships with environmental implications. Knowledge of the circuits contribution biological organisms in nature, the various elements of the organic substances and their.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (exam answers = 60 %, laboratory answers = 40 %)

INTRODUCTION TO AGRICULTURAL PRACTICE

ECTS CREDITS: 4
YEAR/SEMESTER: Ist year / Ist semester
HOURS PER WEEK: 2 hours course, 2 hours practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Getting Students from the first year of study accustomed with the main specialty subjects like Botany, Soil Management, Plant Physiology, Plant management, Vegetables culture, Fruit growing, Viticulture.
COURSE CONTENTS: Vegetal cell, Plant morphology (root, stem, flower, fruit), Plant Physiology, soil formation processes, fertilizers, weeds, main field crops, vegetable crops, seedling nursery, tomato crop, cabbage, egg plant crop, main fruit trees cultures (apple tree, plum tree, quince tree, cherry tree), vine crop, wine production.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (exam answers = 60 %, laboratory answers = 40 %)

CONSERVATION OF BIODIVERSITY IN AGRICULTURE

CREDITS: 4
YEAR/SEMESTER: Ist year/ Ist semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
COURSE TYPE: specialization discipline
COURSE OBJECTIVE(S): Teaching the: biotope, habitat, biocenosis, preservatives ex-situ, in-situ, the amount of biodiversity. Knowing information about chronology, ecology and hierarchical classification of habitats and habitats. Reconigtion by each student of the main plant and animal species characterization Natura 2000 Natura 2000 forest habitats using manual identification Romanian Natura 2000 habitats in practical work. Knowledge of methodologies for identification and classification of Natura 2000 habitats their active participation in the field trip.
COURSE CONTENTS: Notions of the -biological diversity; habitat, biotope, biocenosis, biotopes CORIN; Value of biodiversity; Types of biodiversity; Biogeographical regions - context habitats; The main habitat classification systems; Natura 2000 habitats in Romania; Natura 2000 habitats widely distributed in Romania and the European Union; Romania distinctive habitats; Prepare a sheet for a Community habitat for priority habitat and species Natura 2000.LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): colloquium (60%, regular testing of control works 20%, of forest habitats recognition Natura 2000 forest habitats in the field - 10%, the final answers to practical laboratory work - 10%)

PHYSICAL EDUCATION I

ECTS CREDITS: 1*
YEAR/SEMESTER: Ist year / Ist semester
HOURS PER WEEK: 1 hour of seminar
NUMBER OF WEEKS: 14
TYPE OF COURSE: complementary discipline
COURSE OBJECTIVE(S): Discipline aims at forming the theoretical, practical and methodical skills for individual or group practice for a healthy lifestyle; Awareness of students about the role and importance of practicing physical exercise.

COURSE CONTENTS:
Athletics: school elements of jumping and running; Application paths combined with treadmills; Application paths combined with jumping elements; Application paths combined with equilibrium, escalation, climbing, etc.: Sports games: volleyball, badminton; Bilateral games under similar competitions conditions.
ASSESSMENT METHOD(S):
Admitted/Rejected
(Assessment through practical tests 80%, continuous assessmentthroughout semester 20%)

BOTANICS II

ECTS CREDITS: 4
YEAR/SEMESTER: 1st year/ IInd semester
HOURS PER WEEK: 2 hours course, 2 hours practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: fundamental discipline
COURSE OBJECTIVE(S): Studying and recognizing the main vascular plants, assimilating the main methods of plant investigation; Recognition of the main groups of the studied organisms; Differentiation between the main groups of the studied organisms; Knowledge of the ecology of the analyzed species and the presentation of the practical and scientific importance of plants.
COURSE CONTENTS :
Introduction: Definition and object of study; Research methods; Systematic units (taxa);
Plant nomenclature; Short history; Classification systems. Regnum Plantae sensu lato: What are plants (Plantae)?; Taxonomic considerations; The diversity of green plants sensu stricto; Phylogeny; Green algae: Charophyta. General characters; The importance of green algae. Regnum Plantae sensu strictissimo: Diversity and classification; Bryophyte; Tracheophytes (Cormobionta, Tracheobionta) - Plantae vasculares: The origin and meaning of tracheophytes
evolution; General characters; Systematic. Phyl. Pteridophyta (Ferigi) and Spermatophyta (gimnosperm and angiosperms); General characters, scientific and practical importance. Representatives.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENTMETHOD(S): Exam (Exam answers -60%, final answers to practical laboratory work 20%, periodic testing by practical control exercises -20%)

PEDOLOGY I

ECTS CREDITS: 4
YEAR/SEMESTER: Ist year/ IIst semester
HOURS PER WEEK: 2 hours course, 2 hours practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Transmission to students the basic knowledge, theoretical and practical, on: knowledge of natural factors of soil formation, how they have evolved their component fertilizers, training processes and composition of the soil profile and physical properties , hydro and chemical properties of soils.
COURSE CONTENTS: Pedogenesis factors and their role in soil formation. The formation and composition of the mineral part of the soil. The formation and composition of the organic portion of soil-organisms that participate in the formation of the organic portion of soil origin, composition and the decomposition of organic waste from ground. The formation and composition of the organic portion of the soil-soil humus formation; classification and properties of humic acids, classification and properties .. The formation of soil humus soil profile. The composition of the soil profile. The evolution of the profile of the ground in the various environmental conditions. The physical properties of soil. The physico-mechanical properties of soil. The water from the soil - hydro properties. The air from the soil - aeration properties. Soil heat - thermal properties. Soil-chemical properties of the soil solution, soil colloids. The chemical properties of the soil-retaining form of the soil buffering capacity of the soil acidity soil. Method of cleaning and preparation of soil samples for laboratory analysis. The main attributes of soil hydro.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (answers to exam 60%, final answers to Laboratory works 40%).

INFORMATICS

ECTS CREDITS: 2
YEAR/SEMESTER: Ist year / IInd semester
HOURS PER WEEK: 1 hour of course, 1 hour of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: fundamental discipline
COURSE OBJECTIVE(S): The utilization of electronic computing systems and of the computing publishing programms, knowing of the basic principles for building databases, knowing of how to develop algorithms for automatic processing of forest information, knowing of the orders for building different types of tables for the information bases data, working with tables and tabular calculations specific to forestry and silvical activities.
COURSE CONTENTS:
Windows operating systems – overview Microsoft WORD: Create/save/open /close file;
Page Setup: page margins, page sizes, page orientation header and footer options View Print Preview; Move/copy/paste; Select text; Search and replace, move to document; View Document; Header and footer preview - header and footer creation, ruler, toolbars; Insert to file: page numbers; Page breaks/section breaks; Footnotes;
Insert and edit a drawing, diagram, object, text box; Text formatting -specifying all formatting attributes; Create lists numbered/ with bullets/hierarchies;
Application borders and shadows;
Formatting text in columns, specifying TAB positions and leader characters;
Insert table, work with tables.
Creating drawings: Drawing toolbar; Inserting equations in the document.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): colloquium (answers to exam 50%, final answers to Laboratory works 50%)

TOPOGRAPHY AND TECHNICAL DRAWING

ECTS CREDITS: 3
YEAR/SEMESTER: Ist year / IInd semester
HOURS PER WEEK: 2 hours of course, 1 hour of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: fundamental discipline
COURSE OBJECTIVE(S): Execution measurement distances and surfaces; Drawing topographical plans; Using topographic devices; Differences in level measurement and calculation of points allowances; Rated drawing up plans and curves level.
COURSE CONTENTS: General terms and topographic base; Cartographic projections; Units of measurement in the topography; Topographical circle and trigonometric functions; Guidelines and axes; Errors in surveying; Marking and signaling points; Direct measurement of the distances; Measurement of angles; Indirect measurement of distances; Raising the level of the land; Planimetric Method closed traverse; Planimetric Method traverse support; Method for the removal; The method perpendiculars; Intersection before; Drawing up plans; Leveling the surface; Representation of relief;
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (answers to exam 60%, final answers to Laboratory works 40%)

TOPOGRAPHY AND TECHNICAL DRAWING - PROJECT

ECTS CREDITS: 2
YEAR/SEMESTER: Ist year / IInd semester
HOURS PER WEEK: 1 hour of project
NUMBER OF WEEKS: 14
TYPE OF COURSE: fundamental discipline
COURSE OBJECTIVE(S): Execution measurement distances and surfaces; Drawing topographical plans; Using topographic devices; Differences in level measurement and calculation of points allowances; Rated drawing up plans and curves level.
COURSE CONTENTS: General terms and topographic base; Cartographic projections; Units of measurement in the topography; Topographical circle and trigonometric functions; Guidelines and axes; Errors in surveying; Marking and signaling points; Direct measurement of the distances; Measurement of angles; Indirect measurement of distances; Raising the level of the land; Planimetric Method closed traverse; Planimetric Method traverse support; Method for the removal; The method perpendiculars; Intersection before; Drawing up plans; Lifting level; Leveling the surface; Representation of relief;
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (making and sustaining the project 100%)

BIOCHEMISTRY

ECTS CREDITS: 3
YEAR/SEMESTER: Ist year / IInd semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: fundamental discipline
COURSE OBJECTIVE(S): Describing the scientific, theoretical and practical basis of the major classes of biochemical compounds from plants. Knowing, understanding the concepts, theories and basic methods of the plant biochemistry; their appropriate use in professional communication. Using the modern methods of scientific investigation in the fiel of biochemistry. Using specific biochemistry laboratory methods, techniques and procedures for the qualitative and quantitative determination of the biochemical compounds from plants. Developing correct skills and experimental skills regarding the approach and resolvation of the speciality problems.
COURSE CONTENTS: The composition of living matter. Carbohydrates: General. Monoglucidelor derivatives. Metabolic roles. Oligoglucide natural biochemical role. Lipids: classification, structure, biochemical role. Poliglucide: classification, structure, biochemical role. Complex lipids: classification, structure, biochemical

role. Natural Amino Acids: classification structure. Protein amino acids role. Holoproteide: structure, classification, own, biochemical role. Peptide. Heteroproteide: classification, structure, properties. Biochemical role. Vitamins: generalities. Fat-soluble vitamins: structure, role. Soluble Vitamins: classification, structure, biochemical role. Pesudovitamine. Nucleic acids: structure nitrogenous bases. Nucleoside and nucleotide structure, structure polynucleotide chain. Acids DNA and RNA, metabolic role. Enzymes: structure, classification. Types mechanism in enzyme catalysis.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S):
colloquium (answers to exam 60%, periodical assessment through practical tests 40%).

ENERGETICAL BASE AND MACHINERY II

ECTS CREDITS: 4
YEAR / SEMESTER: Ist year / IInd semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): creasing knowledge related to the construction and operation of agricultural machinery and equipment and complex influences established between their working bodies with soil and plants. Increasing knowledge on how to optimize the operating parameters of aggregates formed and their role in establishing differentiated technologies. The system for car according to the characteristics of the cultivated plants biological, ecological and environmental factors values.
Acquiring and deepening the knowledge reffering to the technique used in forestry activities.The presentation of the main forestry machinery and equipment. The detailed presentation of the main works realized with the technic from agriculture.
COURSE CONTENTS: Motor mechanism. A cycle of transformation of thermal energy (caloric) into mechanical energy. The driving mechanism and the mechanism for distribution. Role. Construction. Operation. Gas distribution pie chart. Thermal power plant engines. Role. Fuels used in the operation of heat engines. The fuel mixture. Thermal power plant engines with spark ignition. Construction. Operation. The supply unit of thermal engines with self-ignition. Construction. Operation. Construction and operation of injection pumps and injectors. Lubricating device cooling system. Ignition system. Construction and operation. BE transmissions used in clutches, gearboxes, differentials. General considerations on the use of machinery. Plows. Diggers ground. Cars for deep soil loosening. Diggers pits. Machinery for seedbed preparation. Machines and plants for reclamation. Equipment for sowing: Drills in dense rows (in Batch sowing machines, Combined seeding). Planter: potato planters (planters planters planting bulbs). Machines for maintenance of crops: cultivators. Machines and equipment for the application of fertilizers and: machines for the application of solid chemical fertilizers (organic fertilizers application machines, machines for application of the liquid fertilizers).
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S):
Exam (answers to exam 60%, final answers to Laboratory works, referrals 40%)

ENGLISH LANGUAGE II

ECTS CREDITS: 2
YEAR / SEMESTER: Ist year / IInd semester
HOURS PER WEEK: 1 hours of course
NUMBER OF WEEKS: 14
TYPE OF COURSE: complementary discipline
COURSE OBJECTIVE(S): Improving the ability to understand spoken English and specific vocabulary texts written in English; using a reference material especially designed for students of the Faculty of Agronomy, but also for those who want to learn ESP vocabulary in context. Practice of important vocabulary and grammar practice, tackle four skills, reading, listening, speaking and writing, explain specific vocabulary, and grammar lessons which are thought in detail, with exercises that give students useful practice in this particular area. True or false exercises, gap filling, matching the words with their definition, translations, in context dialogues and lessons with key bolded words are really selected for students to understand and use it correctly. Deepening the main grammar rules of English in a modern way, problematic, requiring students to learn but also to think. Consolidation

of skills to dialogue, describe, report. Emphasizing the practical nature of learning, the course is meant to stimulate students' interest in written and spoken language, to improve knowledge and communication in English.
COURSE CONTENTS:
Plant conservation, landscape restoration, landscape and garden design, construction, and maintenance, and arboriculture. Inside agriculture, horticulture contrasts with extensive field farming as well as animal husbandry.
LANGUAGE OF INTRUCTION: English
ASSESSMENT METHOD(S): colloquium (exam colloquium 60%, theoretical and practical checks 40%)

FRENCH LANGUAGE II

ECTS CREDITS: 2
YEAR / SEMESTER: Ist year / IInd semester
HOURS PER WEEK: 1 hours of course
NUMBER OF WEEKS: 14
TYPE OF COURSE: complementary discipline
COURSE OBJECTIVE(S): Improving the ability to understand spoken French and specific vocabulary texts written in French; using a reference material especially designed for students of the Faculty of Agronomy, but also for those who want to learn
vocabulary in context. Practice of important Horticulture vocabulary and grammar practice, tackle four skills reading, listening, speaking and writing, explain specific vocabulary, and grammar lessons which are thought in detail, with exercises that give students useful practice in this particular area. True or false exercises, gap filling, matching the words with their definition, translations, in context dialogues and lessons with key bolded words are really selected for students to understand and use it correctly. Deepening the main grammar rules of French in a modern way, problematic, requiring students to learn but also to think. Consolidation of skills to dialogue, describe, report. Emphasizing the practical nature of learning, the course is ment to stimulate students' interest in written and spoken language, to improve knowledge and communication in French.
COURSE CONTENTS:
Topological ecology Organism-centred. Analysis of social-ecological systems using the natural and social sciences and humanities. Ecology guided by cultural meanings of lifeworldly landscapes.
LANGUAGE OF INTRUCTION: French
ASSESSMENT METHOD(S): colloquium (exam colloquium 80%, theoretical and practical checks 20%)

PRACTICE

ECTS CREDITS: 3
YEAR / SEMESTER: Ist year / IInd semester
HOURS PER WEEK: 30 hours of project
NUMBER OF WEEKS: 3
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S):
COURSE OBJECTIVE(S): The purpose of practical training is to form skills and abilities appropriate to the specific activities of horticulture. Acquiring the applied skills of the knowledge obtained at the specialized courses regarding the field identification of the horticultural species, cultivating, harvesting and preserving them, the recognition and description of the soil profile, the field study of some soil properties, the identification of the plant nutrition disorders horticulture, knowledge of the equipment used in surveying, how to work with them and the execution of measurements of distances and surfaces.
COURSE CONTENTS:
Methods of collecting and preserving vascular plants to achieve herbaceous plants. Identification of the main morphological types of roots, stems, leaves, flowers and fruits. Identification of different plants encountered on the ground by means of dicotomic keys. Soil analysis on the ground: location of the soil profile; Orientation of the soil profile; Execution of the soil profile; The description of the soil profile determining morphological properties: (number, sequence and thickness of horizons, color, texture and structure of horizons, porosity, compactness, neoformations and soil

inclusions, appreciation of soil humidity, appreciation of humus content, characterization of plant nutrition status Fertilization of plants grown on nutrient substrates Presentation of the equipment used in surveying and how to work with them Surveying of distances and surfaces measurements Practical knowledge of the fields of activity in horticulture, floricultural plants, fruit trees, leguminous plants and vine under Morphological, structural, multiplication and lifecycle, and training of practical skills.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): colloquium (the practice book and the exam answers 100 %)

TRACTOR DRIVING

ECTS CREDITS: 3
YEAR/SEMESTER: Ist year / IInd semester
HOURS PER WEEK: 2 hours course, 2 hours practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Sending students to the basics of driving tractors and acquire theoretical and practical knowledge to acquire a driving license.
COURSE CONTENTS: Road network. Public road. Regulating traffic: traffic regulations, notions of public and administrative law, institutions involved in road traffic. Means for directing traffic. Obligations and prohibitions drivers. Traffic in intersections: intersections classification, preselection, movement within intersections directed, undirected movement within intersections. Of way: definitions, types, signs, priority conflict - settlement Overcoming vehicles: definitions, phases, control and dosing speed overtaking obligations and prohibitions to overcome. Voluntary stopping and parking: definitions, mandatory steps, waiting and parking prohibitions. Return and reverse: definition, stages, conditions, obligations and prohibitions. Specific technical knowledge. General knowledge of construction and operation management tractors agricultural tractor. Preparation for operation. Use and proper maintenance of tractors.
ASSESSMENT METHOD(S): colloquium (answers to colloquium 60%, final answers to practical works 40%)

ELEMENTS OF MECHANICAL ENGINEERING

ECTS CREDITS: 3
YEAR/SEMESTER: Ist year / IInd semester
HOURS PER WEEK: 2 hours course, 2 hours practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Exposition of notions regarding: the principles of Newtonian mechanics; mechanical energy of the material point and the system of material points; the structure of mechanical systems; machine elements.
COURSE CONTENTS: motion and rest, principles of Newtonian mechanics, motion of a material point under the action of certain types of forces, mechanical energy of the material point and the system of material points, structure of a mechanical system, mechanisms with articulated bars, mechanisms with gear wheels, transmissions through belts, shafts, bearings.
ASSESSMENT METHOD(S): colloquium (answers to colloquium 60%, final answers to practical works 40%)

TROPICAL CROPS

ECTS CREDITS: 3
YEAR/SEMESTER: Ist year / IInd semester
HOURS PER WEEK: 2 hours course, 2 hours practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): To gain a comprehensive understanding of the main characteristics of tropical climate. To familiarize students with the most important tropical plant species. To classify fruit-growing species adapted to tropical climates and understand their economic and agricultural significance. To analyze how various biotic (living organisms) and abiotic (environmental) factors influence the growth, ripening, and processing of tropical products.

COURSE CONTENTS: Introduction to Tropical Horticulture and Its Importance. Agricultural Practices in Tropical Ecosystems. Crops Used in Beverage Industry: Cacao and Tea. Sugarcane Cultivation and Processing. Citrus Fruits: Varieties and Cultivation. Avocado: Cultivation and Uses. Aromatic Fruits and Their Cultivation. Rubber Tree: Cultivation and Industrial Use. Oil-Producing Plants in Tropical Regions. Other Tropical Fruits: Mango, Papaya, Guava, etc. Date Palm: Cultivation and Significance. Root Vegetables and Leguminous Crops in Tropical Agriculture. Banana Plantations: Varieties and Cultivation Techniques. Pineapple: Cultivation, Harvesting, and Uses.
ASSESSMENT METHOD(S): colloquium (answers to colloquium 60%, final answers to practical works 40%)

PHYSICAL EDUCATION II

ECTS CREDITS: 1*
COURSE COORDINATOR:
YEAR/SEMESTER: Ist year / IInd semester
HOURS PER WEEK: 1 hour of seminar
NUMBER OF WEEKS: 14
TYPE OF COURSE: complementary discipline
COURSE OBJECTIVE(S): Discipline aims at forming the theoretical, practical and methodical skills for individual or group practice for a healthy lifestyle; Awareness of students about the role and importance of practicing physical exercise.
COURSE CONTENTS:
Gymnastics: Front and Band Exercises; Gymnastics Aerobics / Fitness; Application trails combined with treadmills; Application paths combined with equilibrium, escalation, climbing exercises; Sports games: basketball; Sports game: football; Bilateral games under similar competition conditions.
ASSESSMENT METHOD(S):
Admitted/Rejected
(Assessment through practical tests 80%, continuous assessment throughout semester 20%)

2ND YEAR OF STUDY

ENERGETICAL BASE AND MACHINERY III

ECTS CREDITS: 4
YEAR/SEMESTER: IInd year / Ist semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Increasing knowledge related to the construction and operation of agricultural machinery and equipment and complex influences established between their working bodies with soil and plants. Increasing knowledge on how to optimize the operating parameters of aggregates formed and their role in establishing differentiated technologies. The system for car according to the characteristics of the cultivated plants biological, ecological and environmental factors values.
COURSE CONTENTS: Machinery for the control of diseases and pests; Forage Harvester; Harvesters cereals, legumes and vegetable seeds; Vegetable Harvesters, Harvesters potatoes; Beet harvesting machines; Fruit pickers, machinery and equipment for conditioning and storage of agricultural and horticultural products.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (answers to exam 60%, final answers to practical works 40%)

GENETICS I

ECTS CREDITS: 4
YEAR/SEMESTER: IInd year / Ist semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works

NUMBER OF WEEKS: 14
TYPE OF COURSE: fundamental discipline
COURSE OBJECTIVE(S): This discipline presents students heredity and variability mechanisms bodies and their mode of transmission from parents to offspring. Deepens the theoretical bases which will be needed in the subject of plant breeding, as well as other subjects and show the means of obtaining new varieties of plant and animal production and quality.
COURSE CONTENTS: Genetics science of heredity. The cytoplasm and the components of genetic function, nucleus, chromosome, mitosis, meiosis and sporulation gametogenesis. Fertilization of plants. The formation of reproductive cells in higher animals. Sexual process and life cycle in higher plants. Life cycle in higher animals. Fungi life cycle. Bacterial life cycle. The virus life cycle. Mendelian laws of heredity. Theory of hereditary factors and genetic analysis principles. Monohibridarea. Law segregation genes. Law segregation independent hereditary factors. Probability and Mendelian segregation ratios. Cytological mechanism of segregation characters. Deviations from Mendelian segregation ratios. Deviations apparent and real - allelic interactions. Incomplete dominance, co-dominant. The concept of penetrance and expressivity of the gene. Preferential segregation of chromosomes in meiosis. Failure to separate (non-disjunction) chromosomes in meiosis. Nonrandomized formation of the zygote. Lethal genes. Pleiotropic. The interaction of non-randomly genes. The complementarity of genes. Epistasis and polymers. Action modifier genes. The interaction genotype - environment. Genetic heredity of quantitative characters. Phenotypic variance. Genetic variance components. Dominance genetic variance. The genetic variant of the interaction. Heritability. Chromosomal theory of heredity. Heredity chained gene (linkage). The mutual exchange of genes between homologous chromosomes (crossing-over). Chromosome maps. Determination of the linkage group of genes in the chromosome and position. Genetic sex. Chromosomal sex determination mechanism. Types of genetic determinism to sex parthenogenetic organisms. Heredity sex in higher plants.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (answers to exam 60%, final answers to practical works 40%)

AGROCHEMISTRY I

ECTS CREDITS: 5
YEAR/SEMESTER: IInd year / Ist semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): To get students accustomed with major soil nutrient issues as well as with fertilization, both, chemical and organic. Soil recovery is another important objective.
COURSE CONTENTS: Soil chemical feature description: soil total exchangeable capacity, the sum of exchangeable bases, soil acidity, methods of determination. Major nutrients: nitrogen, phosphorus, potassium; their importance, cycling supplying. Fertilizers, classification, rates, influence.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (answers to exam 60%, final answers to practical works 40%)

AGROTECHNICS I

ECTS CREDITS: 5
YEAR/SEMESTER: IInd year / Ist semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Knowledge of abiotic and biotic factors of vegetation, the modern crop rotation systems and conventional and unconventional tillage.
COURSE CONTENTS: The study of the factors of vegetation abiotic (light, heat, water, air and nutrients) and biotic (microorganisms in soil), the relationship between these factors, soil and cultivated plants and agro-technical methods of regulating, presentation elements crop rotation, classification, importance and organization in different climatic conditions, description of different tillage farming machinery (plug, milling agricultural harrow, ripper, leveling combiner, cultivator, roller, chisel, paraplow, complex aggregates etc.) and traditional systems (conventional) and non-conventional tillage.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (answers to exam 60%, final answers to practical works 40%)

PEDOLOGY II

ECTS CREDITS: 4
YEAR/SEMESTER: IInd year/ Ist semester
HOURS PER WEEK: 2 hours course, 2 hours practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Knowledge of the natural formation in Romania soils, soil classification according to Romanian System of Soil Taxonomy (SRTS) -2012, characterization of the soils, determining fertility, their suitability for different cultures and ways of use and measures to increase their productive potential. Knowledge and soil characteristics by determining who appreciate quality and their productive potential.
COURSE CONTENTS: he natural formation of soils in Romania. The relief, climate and vegetation. Romanian soil classification. Romanian System of Soil Classification (SRCS-1980). Romanian System of Soil Taxonomy (SRTS-2003 and 2012).
Soils in class protisoluri: litosolul; regosolul; psamosolul; aluviosol; entiantrosolul. Soils in class cernisoluri: kastanoziomul, black earth, faeoziomul, rendzinic.
Soils in class umbrisoluri and cambisoil: nigrisolul, humosiosolul, eutricambosoil, districambosoil.
Soils in class Luvisols: preluvosoil; luvosoil; planosolul; alosolul.
Soils in class spodisoluri: prepodzolul; podzolit; criptopodzolul. Soils in class pelisoluri and andisoluri: pelosolul; vertosolul; andosolul.
Soils in class hidrisoluri: stagnosolul; gley; limnosolul. Soils in class salsodisoluri: solonceacul, Soloneţul. Soils in class histisoluri and antrisoluri: histosols, folisolul, erodosolul, antrosolul.
Bonitatrea mapping of soils and agricultural land under natural conditions and improved. Technological characterization of soils in Romania. The importance of knowing soil for agricultural practice.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): colloquium (answers to colloquium 60%, final answers to practical works 40%)

PHYTOPATHOLOGY I

ECTS CREDITS: 4
YEAR/SEMESTER: IInd year / Ist semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): description of the structural, morphological, ecological, physiological and systematic characters of microorganisms and their activity in agricultural ecosystems, of diseases and pests of agricultural crops and of methods of combating them, identification of microorganisms and explanation of their role in the soil and their interaction with agricultural plants, diseases and pests of agricultural crops and the phytosanitary products necessary to combat them.
COURSE CONTENTS: Phytopathology -obiect study ties with other science branches, definition and disease classification. Stages in the development of a disease. Parasitic properties of pathogens. Symptoms of plant diseases. Damage and losses. The effect of pathogens on the plant. The effect of environmental factors on the development of infectious diseases in plants. Pathogens' spread routes. General characteristics of phytoplasmas. General characteristics of phytopathogenic bacteria. Plant mycoses. Methods and means used in combating plant diseases.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (answers to exam 60%, final answers to practical works 40%)

ETHICS AND ACADEMIC INTEGRITY

ECTS CREDITS: 2
YEAR/SEMESTER: IInd year / Ist semester

HOURS PER WEEK: 1 hour of course
NUMBER OF WEEKS: 14
TYPE OF COURSE: complementary discipline
COURSE OBJECTIVE(S): presenting and explaining the concepts and defining elements of ethics and academic integrity through a quantitative and qualitative analysis of the phenomena specific to this discipline; initiating students in the field of ethics and academic integrity; quantitative and qualitative analysis of phenomena specific to ethics and academic integrity; integrating knowledge acquired in other disciplines in the training system of this master's degree in the development of individual reports and case studies.
COURSE CONTENTS: The legislative framework and ethical standards applicable to professional ethics specific to the academic environment and good conduct in scientific research; Plagiarism, self-plagiarism and other deviations from the norms of good conduct in scientific research, technological development and innovation; Ethics in the teaching process in academia. Ethics in research; conflict of interest. Code of Honor of academic integrity. Instruments of judicial governance of students. Incidents of racial and sexual harassment; Corruption – concept, prevention, fight; The hidden cost of favors - conflict of interest; Transparency – a panacea? Ethical careers; whistleblowers vs. ethics counselors; Professional codes of ethics; Errors, mistakes and sanctions; Ethical issues of teaching one's own discipline; Ethical problems between colleagues, Ethical issues related to money; Confidentiality, Relationship with the client; Code of Ethics and Professional Dentistry of the UCV.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): colloquium (answers to colloquium 60%, evaluation during the semester 40%).

AGRICULTURAL BIOTECHNOLOGIES

ECTS CREDITS: 2
YEAR/SEMESTER: IInd year / Ist semester
HOURS PER WEEK: 1 hour of course, 1 hour of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Knowledge of biotechnologies for weed control, Permaculture agriculture, Organic agriculture, Sustainable agriculture.
COURSE CONTENTS: History of GM technology. Future of GM technology. Ecological or organic agriculture. Permaculture, concept, principles.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S):
colloquium (answers to colloquium 60%, final answers to practical works 40%)

CERTIFICATION OF ECOLOGICAL PRODUCTS

ECTS CREDITS: 2
YEAR/SEMESTER: IInd year / Ist semester
HOURS PER WEEK: 1 hour of course, 1 hour of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Knowledge of registering in the organic farming system and completing the specific documentation required to obtain organic product certification.
COURSE CONTENTS: Definitions of terms used in the conversion and certification of products. Registration of the activity of operators/groups of operators in organic farming. Objectives and principles of organic production. Applicable rules in organic farming. Conversion to organic production (legal framework, stages, criteria for different areas). Certification of organic products.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S):
colloquium (answers to colloquium 60%, final answers to practical works 40%)

PHYSICAL EDUCATION III

ECTS CREDITS: 1*
YEAR/SEMESTER: IInd year / Ist semester
HOURS PER WEEK: 1 hour of seminar
NUMBER OF WEEKS: 14
TYPE OF COURSE: complementary discipline
COURSE OBJECTIVE(S): Discipline aims at forming the theoretical, practical and methodical skills for individual or group practice for a healthy lifestyle; Awareness of students about the role and importance of practicing physical exercise.
COURSE CONTENTS:
Fitness - optimization of physical condition; utilitarian-applicative skills; Exercises for the development of general strength; Exercises for speed development; Exercises for the development of coordination capacity; Sports games: handball, table tennis; Bilateral games under similar competition conditions.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): A/R (Assessment through practical tests 80%, continuous assessment throughout semester 20%)

GENETICS II

ECTS CREDITS: 5
YEAR/SEMESTER: IInd year / IInd semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: fundamental discipline
COURSE OBJECTIVE(S): presents the heredity and variability mechanisms bodies and their mode of transmission from parents to offspring. Deepens the theoretical bases which will be needed in the subject of plant breeding, as well as other subjects and show the methods of obtaining new varieties of plants and animal production and quality.
COURSE CONTENTS: Extrachromosomal heredity. Heredity plastid. Mitochondrial heredity. Heredity symbiotic. The male sterility in maize. The phenomenon of male fertility restoration. Heredity in the reproductive bodies. Heredity asexual reproduction. Heredity in sexual reproduction. Sexual incompatibility in plants. Autofecundării genetic effect. The theory of pure lines. Inbreeding. Heterosis. Peculiarities of manifestation and practical importance of heterosis. Theories about the nature of heterosis. The molecular basis of heredity Heredity in the reproductive bodies. The chemical nature and identification of genetic material. Structure and replication of DNA. Regulatory genes. The chemical composition and structure of the DNA. The biochemical mechanism of biosynthesis of DNA replication. Structure and replication of RNA. The types of RNA. Synthesis of RNA. Genetic recombination in viruses. Genetic recombination in bacteria. Genetic transformation in bacteria. Bacterial conjugation. Transduction. Sexducţia. Genetic recombination in eukaryotes. Genetic engineering. Variability bodies. The forming of genetic recombination. Hereditary variations. The forming of genetic recombination.
Theoretical and practical importance of recombination mutations.
Changes in chromosome structure. Shortcoming. Deletion. Duplicate. The inversion. Transposition and translocation. The effect of the position of the genes. Induction detection and important changes. Variations in the number of chromosomes. Types of numerical chromosomal changes. Man and mutagenesis. Euploid. Haploid. Polyploidy. Autopoliploidia. Alopoliploidia. Aneuploidy. Aneuploizilor importance. Monosomic analysis. Polyploidy. Her role in the development and creation of new genotypes. Population genetics. Basic principles of variational statistics. Establishing quantitative and qualitative genetic parameters through statistical methods. Reproducing the genetic structure of perfect self-pollinating. The factors that determine the genetic structure of polulaţiilor (mutation, isolation, migration, the number of individuals, genetic drift, selection). Homeostasis genetics and evolution.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (answers to exam 60%, final answers to practical works 40%)

AGROCHEMISTRY II

ECTS CREDITS: 5
YEAR/SEMESTER IInd year / IInd semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): ownership by future professionals practical measures agrochemicals which must be taken in order to optimize the nutrition and fertilization of soils and plants, to increase the quantity and quality of the synthesis materials and organic matter plant activities which fall naturally within the context of modern agriculture, high yield and productivity indicators senior agricultural technologies.
COURSE CONTENTS: Definition, classification, fertilizers nationally and globally. The main characteristics of fertilizers. Nitrogen from nature. The role of nitrogen in the plant life. Nitric nitrogen fertilizer, ammonium nitrate and ammonium, amide, nitrogen solutions, sparingly soluble nitrogen fertilizers. The use of nitrogen fertilizers and efficiency. Phosphorus in nature and in the soil. The retention and fixation in soil phosphorus, phosphorus in plant life. Soluble phosphorus fertilizers in conventional solvents and strong acids. Water-soluble phosphorus fertilizers. The use of phosphorus fertilizers and efficiency. Agrochemistry potassium fertilizers. Agrochemistry second-order macro fertilizers. Agrochemistry fertilizers Fe, B, Cu. Agrochemistry fertilizers with trace elements Mn, Mo, Zn. Agrochemistry complex fertilizers. Storage and transport of chemical fertilizers. Humiferous acting organic fertilizer. Organic fertilizer with weak action and action humiferous humiferous. Epochs and methods for the application of organic fertilizers. The condition fertility methods agrochemicals. The dosing of fertilizers, fertilizers rational criteria for field crops. Rational criteria for fertilizer in agriculture. Chemistry of agriculture and ambient pollution. Nitrates Directive.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (answers to exam 60%, final answers to practical works 40%)

AGROTECHNICS II

ECTS CREDITS: 5
YEAR/SEMESTER: IInd year / IInd semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Study of the weeds in the methods of fighting and their description and presentation technique herbicide differentiated agricultural technique.
COURSE CONTENTS: Presentation of weeds in agricultural and horticultural crops (damage caused by weeds, specific biological sources weeds, classification threshold economic damage, use of weeds), the disclosure preventive methods for combating weeds and the curative methods for the control thereof (agro, physical, biological and chemical) technique herbicides, persistence and recovery of herbicides, herbicide recommended for the main agricultural and horticultural crops, agricultural technique differentiated areas, grassland, forestry, land slope, sand, haloform, with excess moisture and flooded , irrigated.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (answers to exam 70%, final answers to practical works 30%)

PHYTOPATHOLOGY II

ECTS CREDITS: 4
YEAR/SEMESTER: IInd year / IInd semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): description of the structural, morphological, ecological, physiological and systematic characters of microorganisms and their activity in agricultural ecosystems, of diseases and pests of agricultural crops and of methods of combating them, identification of microorganisms and explanation of their role in the soil and their interaction with agricultural plants, diseases and pests of agricultural crops and the phytosanitary products necessary to combat them.

COURSE CONTENTS: Wheat diseases; Barley, rye, and oat diseases; Corn diseases; Grain legumes diseases: beans, peas, soybeans; Sunflower diseases; Rapeseed diseases; Potato and sugar beet diseases; Vegetable diseases; Fruit tree and shrub diseases; Grapevine diseases.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (answers to exam 60%, final answers to practical works 40%)

ENTOMOLOGY

ECTS CREDITS: 4
YEAR/SEMESTER: IInd year / IInd semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Learning and accumulating knowledge on some aspects of systematics, morphology, anatomy, biology, ecology, attack mode, host plants, control as well as the recognition of major pests of horticultural plants.
COURSE CONTENTS:
Introductive notions, External morphology of insects, Insects anatomy and physiology, Insects biology, Insects ecology, Insects systematics, General features of mites, crustaceans, nematodes, molluscs and damaging vertebrate, Prevention methods of control against animal pests of agricultural plants.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (answers to exam 60%, final answers to practical works 40%)

PRACTICE

ECTS CREDITS: 3
YEAR/SEMESTER: IInd year / IInd semester
HOURS PER WEEK: 30 hours of project
NUMBER OF WEEKS: 3
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S):
The purpose of practical training is to develop skills and competences appropriate to the activities of the agriculture field. Acquiring the applied skills of the knowledge obtained at the specialized courses, regarding the identification of the agricultural species, their cultivation, the recognition and control of diseases and pests, the soil microbiology, the harvesting and the preservation of the production.
COURSE CONTENTS:
Identification and control of the main diseases specific to agricultural plants; Identification and pest control of agricultural plants; Soil microbiological analysis; Biological features and culture technology of some floral species; Horticultural crop culture in vitro; Practical knowledge of the fields of activity in Agiculture plants, crops, fruit trees, vegetables, aromatics and medicinal plants under morphological, structural, multiplication and lifecycle, and practical skills training.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): colloquium (the practice book and the exam answers 100 %)

FARM BUILDINGS

ECTS CREDITS: 4
YEAR/SEMESTER: IInd year / IInd semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Knowledge the functional composition of a building, determining the principal components of the related items and causes mechanical stress generating states. Highlighting ways of arrangement between the different types and categories of construction, the rational design of enclosures and

determining the quality of farm buildings. Presentation of the properties and types of building materials, structural parts, constructive types, sizing solutions used in the building construction equipment.
COURSE CONTENTS: Getting building technology. Stages of construction. Construction materials. Elements of building physics. Infrastructure construction. Superstructure construction. Structures resistance. The specific technology. Non-structural elements and finishes. Installations for farm buildings
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): colloquium
(answers to colloquium 60%, final answers to practical works 40%)

CADASTER

ECTS CREDITS: 4
YEAR/SEMESTER: IInd year / IInd semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Knowledge the land and the need for rational use of; Explaining the ways of reality field research on real estate; Drawing the forms and cadastral records according to legal status; Making responsibly in compliance of all documents cadastral
COURSE CONTENTS: Cadastre: Components of the cadastre; Administrative-territorial division of Romania. Delimitation of territorial-administrative unit; Identifying owners: Operation ID holders; Cadastral plan: General provisions. Cadastral plan overall. Basic cadastral plan; The criteria for division of land after destinations. How land use; Land use categories; Reambularea cadastral plans. Preparing technical project reambulare. Reambularea measurements of angles and distances or angles; Reambularea numerical measurements; Correction borders; Cadastral numbering: numbering cadastral tarlalelor; The numbering of cadastral parcels; Numbering cvartalelor and plots within settlements; Calculation of areas by graphical methods; The calculation by numerical and analytical areas; Cadastral registers: the Register of cadastral parcels; Register alphabetical owners; Cadastral register of owners; Register property bodies; Summary sheet of the cadastral parcels.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): colloquium
(answers to colloquium 60%, final answers to practical works 40%)

WEED MANAGEMENT

ECTS CREDITS: 4
YEAR/SEMESTER: IInd year / IInd semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Specific knowledge regarding appropriate weed control strategies. Detailed presentation of the main weeds in agricultural crops. Knowledge of the ecological characteristics and principles used in the management of natural resources and environmental conservation.
COURSE CONTENTS: Relationships between crops and weeds. - definition of the concept of weeds, factors that influence competition and the size of the damage caused by weeds. Weeds in agricultural crops. Biological characteristics of weeds. Damage caused by weeds. The main annual and perennial weeds in the south of the country and their relationships with the type of soil and its texture. Preventive measures to combat weeds. Curative measures to combat weeds. Herbicides: Definition, classification, their structure. Decision criteria in adopting treatments to combat weeds in agricultural crops. Mode of action of herbicides. Chemical control of weeds.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S):
colloquium (answers to colloquium 60%, final answers to practical works 40%)

AGROCHEMICAL MAPPING AND PREPARATION OF FERTILIZATION PLANS

ECTS CREDITS: 4
YEAR/SEMESTER: IInd year / IInd semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Knowledge of the scientific foundations underlying the preparation of fertilization plans, in order to rationally use fertilizers, Knowledge of the main measures to maintain and increase soil fertility and the method of calculating doses of chemical and organic fertilizers
COURSE CONTENTS: Methods for evaluating the fertility status of agricultural lands, Control of soil fertility status and plant nutrition status through agrochemical processes, Development of agrochemical study and recommendations for amendment and fertilization of agricultural lands, Fertilization systems for agricultural crops.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S):
colloquium (answers to colloquium 60%, final answers to practical works 40%)

PHYSICAL EDUCATION IV

ECTS CREDITS: 1*
YEAR/SEMESTER: IInd year / IInd semester
HOURS PER WEEK: 1 hour of seminar
NUMBER OF WEEKS: 14
TYPE OF COURSE: complementary discipline
COURSE OBJECTIVE(S): Discipline aims at forming the theoretical, practical and methodical skills for individual or group practice for a healthy lifestyle; Awareness of students about the role and importance of practicing physical exercise.
COURSE CONTENTS:
Gymnastics: Front and Band Exercises; Gymnastics Aerobics / Fitness; Application trails combined with treadmills; Application paths combined with equilibrium, escalation, climbing exercises; Sports games: basketball; Sports game: football; Bilateral games under similar competition conditions.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): A/R (Assessment through practical tests 80%, continuous assessment throughout semester 20%)

3RD YEAR OF STUDY

HORTICULTURE TECHNOLOGIES -VITICULTURE

ECTS CREDITS: 3
YEAR/SEMESTER: IIIrd year / Ist semester
HOURS PER WEEK: 1 hour of course, 1 hour of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Acknowledging the importance, the current and future status of viticulture both as science and practical business; Awareness of the morphological, anatomical and physiological traits of grapevines for the understanding of the mechanisms leading to the grapevine growth and ripening; Awareness of grapevine requirements under given climate factors with the purpose of establishing grapevine cultivating areas and production guidelines, which are required for the development of quality and efficient viticulture; Learning about climate categories in viticulture with view to linking climate factors with growth, ripening and maturation phases of grapevines.

COURSE CONTENTS:
Definitions, importance, particularities, History and development of the viticulture;
Morphological and anatomical vine particularities; Biological and physiological vine particularities;
Ecological particularities; Viticultural climatology; Establisment of varieties cultivation areas and production directions
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): colloquium
(answers to colloquium 50%, final answers to practical works 50%)

PASTURE CROPS AND FOODERS I

ECTS CREDITS: 4
YEAR/SEMESTER: IIIrd year / Ist semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Knowledge of grasses and leguminous species to develop and use technologies Extent and intensive production server; Pratologie study of the underlying improvement and effective operation of permanent grassland
COURSE CONTENTS: Feed definition and classification. Lawn. Pratologia. Nomenclature and classification. Spread the importance and production meadows. Pratologie scientific research. Achievements and software perspective. Grasslands as an ecosystem. Factors influencing grassland vegetation. Human intervention changes in grassland ecosystems, anthropogenic changes. The main types of meadows in Romania. Economic value. Spread. Grassland plains and low hills. Meadows hills and highlands. Mountain pastures. Alpine meadows. Lawn meadows, valleys and depressions. On salty pastures. Grasslands on sands. Mechanical works Cultural applied on lawns. Peculiarities of application of fertilizers on lawns. Systems for fertilizing lawns. The application of the amendments. Temporary pastures. Using grazing pastures. The principles of rational use of pastures. Determination of pasture production. Determination of grazing. Technical grazing.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (answers to exam 60%, final answers to practical works 40%)

PHYTOTECHNY I

ECTS CREDITS: 4
YEAR/SEMESTER: IIIrd year / Ist semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Providing theoretical and practical knowledge for future specialists to establish the range of suitable phyto plant cultivation in agricultural areas of the country. The contents of discipline ultimately aims to achieve a highly skilled specialist, providing theoretical and practical training.
COURSE CONTENTS: he study of the plants grown in the Romanian equipment in relation to environmental factors and the methods by which these factors can be conducted. Phyto plant biology knowledge, the factors that determine their productivity and the degree of acquiring the technology of cultivation. Crop establishment of the practical aspects of each culture that is suitable in various agricultural areas of the country.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (answers to exam 60%, final answers to practical works 40%)

HORTICULTURE TECHNOLOGIES - LEGUMICULTURE I

ECTS CREDITS: 4
YEAR/SEMESTER: IIIrd year / Ist semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline

COURSE OBJECTIVE(S): Designing technology of cultivation of vegetable species to various environmental and socio-economic conditions of present and future for Romania. Theoretical and practical knowledge of the interpretation of the calculation factors necessary for programming, assessment and evaluation of production, the norm of the seed / ha, the number of plants / ha, the amount of fertilizer, pesticides, etc.
COURSE CONTENTS: Farming as a branch of science and practice, objectives, importance. Vegetable development worldwide and in Romania. The origin and evolution of vegetable plants. The biological bases of the vegetable plant ecology vegetable plant cultivation. The requirements to the factors of vegetable plants and direct light and heat by technological measures. The requirements to the factors vegetable plant food, water and air and directing the technological measures. Construction used in gardening. The selection and arrangement of land for vegetable crops. Crop and rational use of land for gardening. Soil preparation work in the fields, greenhouses and solariums. Preparation and sowing seeds. Vegetable seedling production. Planting seedlings of vegetables field and shelter. Works care general applied vegetable crops. Works care general applied vegetable crops. Harvesting, conditioning and storage of vegetable production.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (answers to exam 60%, final answers to practical works 40%)

HORTICULTURE TECHNOLOGIES - POMICULTURE I

ECTS CREDITS: 4
YEAR/SEMESTER: IIIrd year / Ist semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Knowledge of biological, physiological and ecological species of trees and bushes, in order to understand the mechanisms that influence their growth and fruiting and fruit to develop technologies compatible with sustainable pomiculture
COURSE CONTENTS: The culture of trees and shrubs. Importance of growing trees and shrubs. Current situation and development trends in horticulture. Fruit species of temperate climate. Botanical classification, and classification habitus fruit fruit tree species. Organografia fruit species. Hipogee and epigenous bodies. The lifecycle of fruit species. Periods age of trees and shrubs. Behavior seedling and grafted into the lifecycle. Relations between epibiont and hipobiont. The annual cycle of fruit species. Phenophases initial vegetative organs and fruits. Sleep. Phenophases final fruit bodies. Alternating fruition, causes and manifestations. Measures to eliminate alternation of fruition. The ecology of trees and shrubs. Peculiarities agroecosystem orchards. Fruit trees and bushes to the requirements of light and temperature. The requirements of fruit trees and bushes to water, air and edaphic environment to. Relief and distribution of ecological factors. Fruit regions of Romania. Fruit tree seedlings production technology - Nursery trees. Factors by which to place nursery. Nursery sectors, internal organization and prepare the ground. The organization and operation of the seed plantations. Production technology rootstock plantations. Technology to obtain rootstocks, trees and shrubs by vegetative propagation: propagation by cuttings, layering and grafting. School of tree - the field I, II and III. Methods of reducing the time to produce fruit tree seedlings. Fruit plantations. System performance culture trees in our country. The criteria for choosing the place and location of species and varieties for plantations. Planting trees and their care after planting. Classification forms the crown used in the tree. Characterization and canopies with high volume and shaft, with the shaft large volume. Characterization of the small volume of the crown and the shaft. Characterization and flattened shaft canopies. Characterization and formation of flattened crowns with crown shaft and artistic. Technical operations used to guide growth and fruitfulness trees. Cutting trees necessity. Works forming crowns, maintenance and correction of crowns. Mechanization tree pruning. Maintenance work the soil and orchards. Fertilization orchards. Irrigation of orchards, protecting trees against climate accidents. Irrigate crops. Adjusting the load of fruit. Fall prevention of fruit before harvest. Hormonal regulation of ripening and improve fruit quality. Fruit harvesting
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (answers to exam 60%, final answers to practical works 40%)

LAND IMPROVEMENTS I

ECTS CREDITS: 3
YEAR/SEMESTER: IIIrd year / Ist semester
HOURS PER WEEK: 1 hour of course, 1 hour of practical works

NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Knowledge and understanding of the importance of land reclamation works; Knowledge and understanding of phenomena such as soil erosion and landslides; Knowledge and understanding of regional planning elements and all works and measures to prevent and combat soil erosion and landslides.
COURSE CONTENTS: Introduction - General problems. Subject discipline. The importance and characteristics of land reclamation works. Brief history of land improvement. Water cycle. Correlation reclamation preserve and improve the environment. Some general concepts specialty. Soil erosion. Definition, importance and spread of erosion in the world and in Romania. The mechanism of erosion by water. Determinants of soil erosion. The damage caused by erosion. Studies required for the project works to combat soil erosion. Mapping and soil erosion research. Preventing and combating soil erosion on sloping arable land.Prevention of soil erosion and vine plantations. Prevention and prevention of soil erosion in orchards. Prevention of soil erosion and pastures. Prevention of erosion and depth. Erosion depth configurations, their development and to combat erosion ball work. Prevention and wind erosion. Landslides. Measures to prevent and combat them.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): colloquium
(answers to colloquium 50%, final answers to practical works 50%)

PHYTOSANITARY CONTROL

ECTS CREDITS: 4
YEAR/SEMESTER: IIIrd year / Ist semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVES: description of the structural, morphological, ecological, physiological and systematic characters of microorganisms and their activity in agricultural ecosystems, of diseases and pests of agricultural crops and of methods of combating them, identification of microorganisms and explanation of their role in the soil and their interaction with agricultural plants, diseases and pests of agricultural crops and the phytosanitary products necessary to combat them, development of projects for the forecast and warning of the appearance of pathogens and pests for agricultural holdings;
TOPICS: Phytosanitary control - generalities. Forecast and Warning in Phytosanitary Control. Diagnosis in Phytosanitary Control. Types of symptoms caused by the attack of pathogens and pests in agricultural crops and in warehouses. Epidemiology of plant diseases. Establishment and lifting of Phytosanitary Quarantine. Conducting a phytosanitary inspection. Phytosanitary passport. Phytosanitary certificate. Measures established following phytosanitary control. Phytosanitary monitoring and the Integrated Plant Protection System. Security in Phytosanitary Control.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S):
colloquium (answers to colloquium 60%, final answers to practical works 40%)

PRECISION AGRICULTURE EQUIPMENT

ECTS CREDITS: 4
YEAR/SEMESTER: IIIrd year / Ist semester
HOURS PER WEEK: 2 hours of course, 1 hour of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Analysis of the tools and equipment used in conservative (unconventional) soil cultivation technologies: the system with reduced work (minimum work or minimum tillage); the system with work on ridges (ridge tillage); the system of works in narrow strips; the system without work (zero work, no till, direct sowing). Establishing the tools and equipment used in sustainable agriculture depending on the agrotechnical requirements imposed on the works that agricultural machines and equipment must perform as well as the diversity of the physical and mechanical properties of the materials.

COURSE CONTENTS: Precision agriculture tools and methods. Sensors used in precision agriculture. Equipment for agriculture 4.0. GPS equipment. Automatic control of machines. Variable application of agricultural inputs. Agricultural drones. Equipment for controlling irrigation systems. Equipment for field orientation and assisted driving. Equipment for hyperspectral imaging in agriculture.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): colloquium
(answers at the colloquium 50 %, final answers at practical laboratory works 50 %)

RURAL ECONOMY

ECTS CREDITS: 4
YEAR/SEMESTER: IIIrd year / Ist semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Knowledge of the concepts of economic structure, property, capital, human resources, investment. Understanding the organization of specific activities of the rural economy - agricultural production, service sector, etc. Description of principles, axes and specific measures Common Agricultural Policy (CAP); Explaining and interpreting how the CAP should be adopted at national level, depending on regional characteristics (type of agricultural production, environment fence traditions and rural development, etc.) and the Romanian agricultural production.
COURSE CONTENTS: Complex development of rural areas, agriculture component of the economic, agrarian structure, economic strands of the agricultural production system, economic efficiency of agricultural production, service sector in rural areas, agricultural policies.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): colloquium
(answers at the colloquium 60%, final answers at practical laboratory works 40%)

IMPROVEMENT AND AGRICULTURE OF DEGRADED LAND

ECTS CREDITS: 4
YEAR/SEMESTER: IIIrd year / Ist semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Specific knowledge on appropriate strategies to combat land degradation.
Detailed presentation of the main factors that cause the appearance of degraded agricultural lands.
Consolidation and deepening of practical knowledge on establishing indices for enhancing the production capacity of degraded lands.
COURSE CONTENTS: The peculiarities and impact of some agrotechnical measures in improving soil fertility. Agrotechnical and land improvement works in the steppe zone. Agrotechnical and land improvement works in the forest-steppe and forest zone. Agrotechnical and land improvement works on slopes. Agrotechnical and land improvement works on sandy, halomorphic and excessively humid lands. Agrotechnical and land improvement works on drained and impounded lands. Agrotechnical and land improvement works on saline lands. Agrotechnical and land improvement works on cleared lands. The peculiarities of applying agrotechnical measures in areas affected by drought. Agrotechnical measures and works for the valorization of lands affected by compaction.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): colloquium
(answers at the colloquium 50 %, final answers at practical laboratory works 50 %)

PASTURE CROPS AND FOODERS II

ECTS CREDITS: 4
YEAR/SEMESTER: IIIrd year / IInd semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline

COURSE OBJECTIVE(S): Knowledge the species of annual and perennial Leguminosae grasses to develop and use technologies Extent and intensive production server; Silage fodder crops and underlying elements of obtaining a silage quality for a balanced diet of animals
COURSE CONTENTS: Perennial forage (alfalfa, red clover, sainfoin, trefoil). Annual forage legumes (peas, forage, feed grain, vetch and meslin spring and autumn meslin). Forage grasses (fodder maize, Sudan grass, sorghum, ryegrass, rye, oats, barley). Fodder roots (beet, fodder kale, carrot feed). Pumpkin fodder cucurbits. Other fodder plants: colza, forage kale. Fodder crops successive irrigation conditions. Fodder crops successive irrigation conditions. Grass barn.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (answers to exam 60%, final answers to practical works 40%)

PHYTOTECHNY II

ECTS CREDITS: 4
YEAR/SEMESTER: IIIrd year / IInd semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Providing theoretical and practical knowledge for future specialists to establish the range of suitable phyto plant cultivation in agricultural areas of the country. The contents of discipline ultimately aims to achieve a highly skilled specialist, providing theoretical and practical training.
COURSE CONTENTS: he study of the plants grown in the Romanian equipment in relation to environmental factors and the methods by which these factors can be conducted. Phyto plant biology knowledge, the factors that determine their productivity and the degree of acquiring the technology of cultivation. Crop establishment of the practical aspects of each culture that is suitable in various agricultural areas of the country.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (answers to exam 60%, final answers to practical works 40%)

HORTICULTURE TECHNOLOGIES - LEGUMICULTURE II

ECTS CREDITS: 4
YEAR/SEMESTER: IIIrd year / IInd semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): This discipline refers to special vegetable and deepens the concepts regarding the biology, ecology and culture technology for each species studied.
COURSE CONTENTS: The biological characteristics and environmental requirements of the vegetable plant; Culture technology in the field and in protected areas for each vegetable species studied.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (answers to exam 60%, final answers to practical works 40%)

HORTICULTURE TECHNOLOGIES - POMICULTURE II

ECTS CREDITS: 4
YEAR/SEMESTER: IIIrd year / IInd semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): The knowledge of the particularities of morphological, and environmental impact of different species and varieties of trees and shrubs; The knowledge of the culture of differentiated technologies species and varieties of trees and shrubs.
COURSE CONTENTS: Apple culture. Hair Culture. Culture quince. Plum culture. Cherry culture. CHERRY culture. Apricot culture. Culture peach. Almond crop. Culture walnut. Culture hazel. Strawberry. Culture raspberry and blackberry. Culture currant, Agris and blueberry.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (answers to exam 60%, final answers to practical works 40%)

LAND IMPROVEMENTS II

ECTS CREDITS: 4
YEAR/SEMESTER: IIIrd year / IInd semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Understanding the land improvement's objectives, methods / techniques: hydraulics; the water basin management – earthen dams; irrigation principles and irrigation systems design and management; drainage systems design and management; the flood control structures design and maintenance. Understanding the irrigation, drainage and flood control systems/structures design/calculations and their execution and maintenance methods.
COURSE CONTENTS: Water circuit in nature – precipitations, infiltration, evaporation, runoff and water storage in basins / dams; irrigation principles, systems design and management – crop water requirements computing; drainage principles, systems design and management; flood principles, flood control structures design and management
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (answers to exam 60%, final answers to practical works 40%)

AGRICUTURAL PLANTS BREEDING I

ECTS CREDITS: 4
YEAR/SEMESTER: IIIrd year / IInd semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Gaining detailed knowledge on processes underlying plant improvement. Knowledge of the main methods for the preparation of new genotypes for the species grown
COURSE CONTENTS: The importance of the object and link to other subjects: The origin and evolution of cultivated plants; Center of origin, or source of germplasm improvement gene: The biological material found in the culture; Of spontaneous biological material; Biological material created by the breeder. Plant reproduction modes: Sexual reproduction; Asexual reproduction. Classical plant breeding methods: selection; Hybridization sexual; inbreeding; heterosis; polyploidy; male sterility; Mutagenesis. Modern methods of improvement: cell hybridization; In vitro culture of plant cells and tissues; Androgeneza and experimental ginogeneza; In vitro culture of immature embryos. Methods of examination of biological material in the process of improvement.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): colloquium
(answers to colloquium 60%, final answers to practical works 40%)

PRACTICE

ECTS CREDITS: 3
YEAR/SEMESTER: IIIrd year / IInd semester
HOURS PER WEEK: 30 hours of project
NUMBER OF WEEKS: 3
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S):

Knowledge of the main biological, ecological of the meadows plants and technological features of the pasture in the sense of familiarizing with the possibilities of using in mountains and hill areas.
The practical training aims to apply the theoretical knowledge acquired in specialized courses in the field of agriculture and horticulture;
Application of technological sequences depending on species or variety particularities.
COURSE CONTENTS: Knowledge of the importance of the meadows and of the structure of pasture in Romania. Training, maintenance and fructifying groves in stormy horticultural species;
Cuts training, maintenance and fruiting shrubs and trees from nuts; Training, maintenance and fructification in vineyards; Applying green operations to horticultural species (vegetables, vines, fruit trees, dendrological plants, flowers, etc.); Working on seasonal agriculture and horticultural species (seeding, planting, transplanting, pinching, books in it, grafted, etc.).
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): colloquium (examination practice - 90% and the drawing - completing the specification of the practice - 10%)

MEDICINAL AND AROMATIC PLANTS

ECTS CREDITS: 3
YEAR/SEMESTER: IIIrd year / IInd semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Knowing the species and varieties of medicinal and aromatic plants, the production and use of sustainable agricultural production technologies.
COURSE CONTENTS: The importance of medicinal plants. Short history. The role of medicinal and aromatic plants in the concept of organic farming. The active principles that explain the pharmacological action of medicinal and aromatic plants. Growth factors influence the quantity and quality of plant raw material. Medicinal plant cultivation technology. Medicinal plants cultivated, spread, active ingredients, pharmacological relationships plant - growth factors, cultivation technology.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): colloquium
(answers to colloquium 60%, final answers to practical works 40%)

EXPERIMENTAL TECHNIQUE

ECTS CREDITS: 3
YEAR/SEMESTER: IIIrd year / IInd semester
HOURS PER WEEK: 2 hours of course, 1 hour of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): To prepare students for establish a field or laboratory experiment. To analyze researching data.
COURSE CONTENTS: Field experience and elements of an experience. Classification experiences; methods of settlement of experiences in the field. Factors influencing production test plot. Works, observations and measurements made in the field of experience. Research conducted in the laboratory. Vegetation in the house. Experience in the horticultural field errors experienced exploitation and interpretation of experimental data. Practical applications of agricultural experimental technique and interpretation of these data Recovery by analysis of variance experiences placed after block method. Recovery and the interpretation of the experimental data by analysis of variance experiences placed after block method. Recovery and the interpretation of the experimental data by analysis of variance experiences exposed after subdivided parcels method. Krigging the interpolation method using data from the field. Description and use program.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): colloquium
(Answers at the exam 60%, final answers at practical laboratory works 40%)

ARABLE SOIL QUALITY MANAGEMENT

ECTS CREDITS: 3
YEAR/SEMESTER: IIIrd year / IInd semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Knowledge of general aspects regarding the restoration, maintenance and increase of soil fertility and the adoption of appropriate management to maintain the quality of arable soils. Knowledge of technological measures for the purpose of preserving soil quality, depending on certain physical, chemical, biological and mineralogical characteristics of the soil.
COURSE CONTENTS: Soil formation and degradation processes. Soil fertility and methods of its management. Methods and procedures for determining the productive capacity of land. Classification of agricultural land into quality classes. Factors contributing to the occurrence of land degradation and desertification processes. Sustainable agricultural land management practices. Soil pollution - sources, prevention and control. European legislation on the sustainable use of soil resources. Evaluation of the implementation of environmental policies.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): colloquium
(answers to colloquium 60%, final answers to practical works 40%)

4TH YEAR OF STUDY

AGRICUTURAL PLANTS BREEDING II

ECTS CREDITS: 4
YEAR/SEMESTER: IVth year / Ist semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Gaining detailed knowledge of technologies for obtaining new cultivars of plants to crop species.
COURSE CONTENTS: Improving wheat. Improvement of corn. Improving peas. Improving beans. Improving spouses. Improving sunflower. Improving the potato. Improving alfalfa. Improving clover. Improving oats. Improving rye. Improving perennial grasses.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (answers to exam 60%, final answers to practical works 40%)

CROPS IRRIGATION

ECTS CREDITS: 3
YEAR/SEMESTER: IVth year / Ist semester
HOURS PER WEEK: 2 hours of course, 1 hour of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Aquire knowledge of the processes and process parameters for water retention in the soil, agricultural water consumption of the plant, the irrigation system elements and agro-technical peculiarities of the main agricultural crops Irrigator; knowledge of the relationship between soil-water-plant soil and hydrological balance, as elements based irrigation system; presenting the specific features of agro-irrigation regime of crops, groups of field crops and horticultural feed.
COURSE CONTENTS: Technical irrigation runoff. Sprinkler irrigation technique. Technical irrigation picurare. Tehnica subterane. Alegerea irrigation watering methods. Using complex watering plants. Conditions for irrigation of agricultural plants. Horticultural irrigation regime of plants. Technology field crops under irrigation. Secondary prevention and combating salinization. Fitting irrigated

LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (answers to exam 60%, final answers to practical works 40%)

CROPS IRRIGATION- PROJECT

ECTS CREDITS: 2
YEAR/SEMESTER: IVth year / Ist semester
HOURS PER WEEK: 1 hour of project
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S)acquire knowledge of the processes and process parameters for water retention in the soil, agricultural water consumption of the plant, the irrigation system elements and agro-technical peculiarities of the main agricultural crops Irrigator; knowledge of the relationship between soil-water-plant soil and hydrological balance, as elements based irrigation system; presenting the specific features of agro-irrigation regime of crops, groups of field crops and horticultural feed.
COURSE CONTENTS: Technical irrigation runoff. Sprinkler irrigation technique. Technical irrigation picurare. irrigation watering methods. Using complex watering plants. Conditions for irrigation of agricultural plants. Horticultural irrigation regime of plants. Technology field crops under irrigation. Secondary prevention and combating salinization. Fitting irrigated
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): Project 100%

MANAGEMENT

ECTS CREDITS: 3
YEAR/SEMESTER: IVth year / Ist semester
HOURS PER WEEK: 2 hours of course, 1 hour of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Knowledge of concepts related to the economic terms of its organization, its functionality, of the implementation of modern management techniques and methods, etc. Explanation of specific management concepts: an economic, resource and production factor, decision, strategy, economic analysis.
COURSE CONTENTS: Introduction of management, performance management activity in modern management, holdings and adapt to the social and economic environment, management of material and technical resources from farms, human resources management and financial management of the production activity on farms, decision-making system and analyze the functioning of the farm.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (answers to exam 60%, final answers to practical works 40%)

MANAGEMENT - PROJECTS

ECTS CREDITS: 2
YEAR/SEMESTER: IVth year / Ist semester
HOURS PER WEEK: 1 hours of project
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Knowledge of concepts related to the economic terms of its organization, its functionality, of the implementation of modern management techniques and methods, etc. Explanation of specific management concepts: an economic, resource and production factor, decision, strategy, economic analysis.
COURSE CONTENTS: Establishing the crop rotation system. Elaborating the technological sheet. Establishing the need for mechanical means. Establishing the need for labor. Elaborating support plans (supply, fertilization, sowing, maintenance, marketing).
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (Project 100%)

PHYTOTECHNY III

ECTS CREDITS: 5
YEAR/SEMESTER: IVth year / Ist semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Providing theoretical and practical knowledge for future specialists to determine the range of suitable phyto plants growing in agricultural areas of the country. The study of the plants grown in agricultural areas in relation to the Romanian environmental factors and the methods by which these factors can be conducted. Phyto plant biology knowledge, the factors that determine their productivity and the degree of acquiring the technology of cultivation
COURSE CONTENTS: Sunflower, canola, mustard, castor, poppy, sesame Safflower, flax oil, hemp, flax fiber, cotton.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (answers to exam 60%, final answers to practical works 40%)

GENERAL ZOOTECHNICS

ECTS CREDITS: 4
YEAR/SEMESTER: IVth year / Ist semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Deepening knowledge about elements Definition of the concept of species, breed, artificial insemination, animal breeding and feeding fodder. Increasing knowledge on optimizing the general principles for assessing the animal outside, and drawing rations. Establishing methods of artificial insemination, the composition of rations and animal breeding and animal feeding principles.
COURSE CONTENTS: Biology livestock. Morphological, physiological and productive animals. Breeding livestock. Improving livestock. Base feed and feeding livestock.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): colloquium
(answers to colloquium 60%, final answers to practical works 40%)

CONDITIONING AND PRESERVING AGRICULTURAL PRODUCTS

ECTS ECTS CREDITS: 4
YEAR/SEMESTER: IVth year / Ist semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Deepening knowledge of conditioning technologies, long-term preservation and storage of agricultural products. Presentation Technologies storage for each species grown. Detailed presentation of the main technological measures on reception, physical analysis and qualitative assessment of how agricultural bases and silos reception.
COURSE CONTENTS: Receipt of agricultural products and the importance of quality seeds, processes that occur in the seed mass. Construction for storage of agricultural products. The subdivision of agricultural products. Storage of agricultural products. The conditioning and sorting of the seeds. Drying of the seeds. Seed storage methods. Features of preservation of the main crops.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): colloquium
(answers to colloquium 60%, final answers to practical works 40%)

RENEWABLE ENERGY

ECTS CREDITS: 3
YEAR/SEMESTER: IVth year / Ist semester

HOURS PER WEEK: 1 hour of course, 2 hours practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Knowledge of the forms of energy used in agricultural activities, the possibilities of obtaining and transforming them into mechanical, electrical and thermal energy. Understanding the objectives and importance of mechanization in agriculture.
COURSE CONTENTS: Solar energy and its use. Wind energy. Biogas production and use. Geothermal energy. Hydraulic energy. (hydropower). Other forms of energy (nuclear energy).
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): colloquium
(answers to colloquium 60%, final answers to practical works 40%)

AGROTURISM

ECTS CREDITS: 3
YEAR/SEMESTER: IVth year / Ist semester
HOURS PER WEEK: 1 hour of course, 2 hours practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S):
Analysis and characterization of the systems and policies of agricultural production in Romania and effective implementation of PAC measures for sustainable rural development. Developing projects appropriate agro farms development axes and specific measures of the PAC environmental and social impact positively depending on the specific environmental conditions.
COURSE CONTENTS: Agrotourism, ecotourism, rural - concepts and objectives. Rural and ecological tourism. Initiatives and programs to develop rural tourism in the European Union. PACs supporting measures the activity of tourism. Accommodation at the farm. Camping area, Hotelaria rural villages rural family holiday. Tourism demand. The organizational structure of rural tourism in Romania. Offer agritourism. Organizational structures in European countries. Rules of hygiene, safety and traceability tourism. Making agricultural products and their marketing. Research Methods rural settlements with special potential - "tourist villages". Agrotourism and rural tourism components of sustainable development of rural areas-the components of a project to establish a private farms.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): colloquium
(answers to colloquium 60%, final answers to practical works 40%)

FORECAST WARNING AND PHYTOSANITARY QUARANTINE

ECTS CREDITS: 3
YEAR/SEMESTER: IVth year / Ist semester
HOURS PER WEEK: 1 hour of course, 2 hours practical works
NUMBER OF WEEKS: 14
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Knowledge of phytosanitary quarantine organisms, phytosanitary risk, as well as measures in the field of phytosanitary quarantine. Description of forecasting and warning techniques and methods. Argumentation of the opportunity to use data obtained through forecasting through warnings to agricultural producers.
COURSE CONTENTS: Forecast and Warning, the influence of climatic conditions on the occurrence and development of attacks caused by pathogens and pests in agricultural crops. Meteorological stations, meteorological data recording technique. Highlighting the numerical density of pests and phytopathogenic agents. Forecast of the mass appearance of pathogens and pests of crop plants. Short-term forecast. Long-term forecast. Ecological criterion for forecasting and warning. Bioclimatograms. Biological and phenological criterion for forecasting and warning. General notions about phytosanitary quarantine. Establishment and lifting of Phytosanitary Quarantine. Measures, methods and means of protection against the introduction and spread of phytosanitary quarantine organisms harmful to plants and plant products.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): colloquium

(answers to colloquium 60%, final answers to practical works 40%)

FINANCING MEASURES FOR AGRICULTURE AND RURAL DEVELOPMENT

ECTS CREDITS: 2
YEAR/SEMESTER: IVth year / IInd semester
HOURS PER WEEK: 1 hours of course, 1 hour of seminar
NUMBER OF WEEKS: 10
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Knowledge of how to finance agricultural activities as a starting point in going through the technologies without which the current activity cannot be carried out, regardless of the form of ownership, profile or size of the enterprise. Knowledge of the method, stages and documents necessary for accessing non-reimbursable financing sources by preparing projects addressed to bodies/organizations that offer this opportunity.
COURSE CONTENTS: Organization development planning. Grants granted by various institutions or NGOs. Common Agricultural Policy (CAP). National Strategic Plan.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): colloquium
(answers to colloquium 60%, final answers to practical works 40%)

MARKETING

ECTS CREDITS: 4
YEAR/SEMESTER: IVth year / IInd semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 10
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Knowledge of the concepts of market, product, price, distribution, advertising, etc., understanding the organization of specific marketing activities, technically and organizationally
COURSE CONTENTS: Introduction to marketing, agri-food market, the Outlook for marketing, marketing mix, negotiation.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (answers to exam 60%, final answers to practical works 40%)

PHYTOTECHNY IV

ECTS CREDITS: 4
YEAR/SEMESTER: IVth year / IInd semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 10
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Designing technology of cultivation for various ecological and socio-economic conditions of present and future for Romania. Theoretical knowledge and practical interpretation of the calculation factors necessary for planning, assessment and evaluation of production of standard seed, the amount of fertilizers, pesticides, etc.
COURSE CONTENTS: Root crops and tuberculifere: Beet sugar; potato; Chicory. Narcotic plants tobacco. Herbs: Hops; anise; Cumin, coriander; Fennel.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (answers to exam 60%, final answers to practical works 40%)

ANIMAL NUTRITION

ECTS CREDITS: 4
YEAR/SEMESTER: IVth year / IInd semester
HOURS PER WEEK: 2 hours of course, 2 practical works
NUMBER OF WEEKS: 10
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S):

Knowledge of the use of conventional feed resources and our farmed animals, which allows for animal products with valuable properties for human health. Conoaşterea modern technologies of feeding animals of different species, developing an efficient and competitive livestock. Expunererea notions regarding: preparation and checking of feed rations; assimilation methods for determining the nutritive value of animal feed; knowing the peculiarities of eating behavior and the factors that influence food consumption from different species;
COURSE CONTENTS: Domestic animal nutrition. Morphology and physiology of the digestive system in animals. Peculiarities of digestion in livestock. And biological nutritional value of feed. Assessment of nutritional value of the feed on the basis of the gross chemical composition. Findings based on nutritive value of forage digestibility, effect of energy production and their effect. Fodder base. Forages and their use in animal feed. Classification feed. Green fodder, nutritional characteristics and use. Fibrous feeds, coarse and silage, nutritional characteristics and use. Root tuberculifere and grains, nutritional characteristics and use. Pulses, oilseeds, industrial residues, nutritional characteristics and use. Animal feed, mineral and synthetic. Gurajeri additives. Mixed fodder. Technology from production flow.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (answers to exam 60%, final answers to practical works 40%)

PROCESSES AND TECHNOLOGICAL PROCESSES IN THE FOOD INDUSTRY

ECTS CREDITS: 4
YEAR/SEMESTER: IVth year / IInd semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 10
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Addressing modern processing technologies main products achieved in the area of livestock to customize and optimize production processes in order to adopt effective management approaches for profitable production.
COURSE CONTENTS: Categories of animals exploited for food. And receiving transport to the slaughterhouse animals; General technology for processing slaughtered animal; Methods for preserving meat and meat products; Processing technology of meat products; Organizing the network of milk processing; Transport and delivery of milk and milk products; Primary processing of milk; Drinking milk processing technology in industrial units; Dairy processing technology; Structure, chemical composition and physical characteristics of the eggs; Processing technology to harness eggs. Processing of bee products.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): colloquium
(answers to colloquium 60%, final answers to practical works 40%)

PROCESSING OF CEREALS AND CROPS

ECTS CREDITS: 3
YEAR/SEMESTER: IVth year / IInd semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 10
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Course content emphasizes the importance of the role and the need to respect modern technologies for processing agricultural raw materials of vegetable, cereals and crops to achieve quality products necessary for human nutrition and industry.
COURSE CONTENTS**:** Modern Addressing of the processing technologies main agricultural products produced in the private agricultural sector.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): colloquium
(answers to colloquium 60%, final answers to practical works 40%)

SEEDS PRODUCTION AND PLANTING MATERIAL

ECTS CREDITS: 4
YEAR/SEMESTER: IVth year / IInd semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works

NUMBER OF WEEKS: 10
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Presenting methodologies for seed production, knowledge of rules and procedures for control and certification of seeds.
COURSE CONTENTS: The formation of fruit and seeds. Seed production. Specific names and biological categories used in the production of seeds and planting material, general technical rules on seed production and planting material. The production of seeds and seedlings from the main crops, crop seed control. Processing of seeds and planting material processing control, sampling, testing and certification of seeds and planting seed crop certification. The sale of seeds and seedlings, laws and regulations on seed and seedlings.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): colloquium
(answers to colloquium 60%, final answers to practical works 40%)

PRACTICE AND ELABORATION OF DIPLOMA PROJECT

ECTS CREDITS: 10
YEAR/SEMESTER: IVth year / IInd semester
HOURS PER WEEK: 30 hours of project
NUMBER OF WEEKS: 4
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Performance of scientific multidisciplinary / interdisciplinary research projects using innovative methods with significant impact on the development of agriculture sector; Ability of drawing conclusions and suggesting solutions / recommendations for academic research and practice in agriculture sectors, based on the research studies performed.
COURSE CONTENTS:
Finalisation of Diploma Project plan and references; Specialty literature reviews based on academic specialty resources recommended by the research supervisor or other sources considered as being relevant by the student; Finalisation and implementation of the research methodology intended for the achievement of objectives; Preparation and drafting of the Diploma Project; Presentation of results and conclusions of the research studies.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): admitted / rejected, thesis presentation and defense - 100%

POLITICAL ECONOMY

CREDITS: 2
YEAR/SEMESTER: IVth year / IInd semester
HOURS PER WEEK: 1 hour of course / 1 hour of seminar
NUMBER OF WEEKS: 10
COURSE TYPE: complementary disipline
COURSE OBJECTIVE(S): Knowledge of the concepts of economic structure, property, capital, human resources, investment, etc; Explaining the concepts of market economy: transportation, supply and demand, production factors, market and competition, etc.
Presentation of the report available on the market between resources and production factors, circumstances and decision, policy and strategy, degree of development and resources (financial, human, material), etc.
COURSE CONTENTS: The economic activity and types of economies; The factors of production and their use; Supply and demand. Competition and its forms; Prices. Salary and profit; Income, consumption, investment
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): colloquium (answers to exam 60%, final answers to practical works 40%)

LAW AND AGRICULTURE LEGISLATION

ECTS CREDITS: 2
YEAR/SEMESTER: IVth year / IInd semester
HOURS PER WEEK: 1 hour of course, 1 hour of seminar
NUMBER OF WEEKS: 10

TYPE OF COURSE: complementary discipline
COURSE OBJECTIVE(S): Transmission to students the basic knowledge, theoretical and practical, on: the legal system in general, the main regulations applicable in the field of land and agriculture.
COURSE CONTENTS: Notions of the general theory of the right; And industry specific law defining elements agricultural (land); Ownership of land in Romania.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): colloquium (answers to exam 60%, final answers to practical works 40%)

INTEGRATED PLANT PROTECTION

CREDITS: 2
YEAR/SEMESTER: IVth year / IInd semester
HOURS PER WEEK: 1 hour of course / 1 hour of practical works
NUMBER OF WEEKS: 10
TYPE OF COURSE: specialization discipline
COURSE OBJECTIVE(S): Knowledge and study of pathosystems and harmful species, monitoring the evolution of attack levels and damage levels and using a complex of prevention and control methods to maintain them under PED, using prognosis and warning and phytosanitary quarantine.
COURSE CONTENTS: Integrated pest control - definition, object, importance for agricultural practice and food safety. Methods of controlling diseases and pests and their interaction. Criteria used in establishing the optimal times for carrying out treatments. Development equations of various species of pathogens and pests and their use in plant protection practice. Generalities about the epidemiology of parasitic plant diseases. Integrated pest and disease control systems.
LANGUAGE OF INTRUCTION: Romanian
ASSESSMENT METHOD(S): colloquium
(answers to colloquium 60%, final answers to practical works 40%)