



ROMANIA
MINISTRY OF EDUCATION AND RESEARCH
UNIVERSITY OF CRAIOVA
FACULTY OF HORTICULTURE



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PACKAGE OF COURSES
Bachelor study program: LANDSCAPE

This is the package of course of bachelor study program of Landscape from the University of Craiova / the Faculty of Horticulture / The Department of Horticulture and Food Science.

FIELD: HORTICULTURE
PROGRAMME TITLE: LANDSCAPE
STUDIES
BACHELOR'S DEGREE

1ST YEAR, 1ST SEMESTER

COURSE TITLE: INFORMATICS

CODE: D29PEL101

ECTS CREDITS: 4

TYPE OF COURSE: Fundamental

COURSE OBJECTIVE(S): Acquiring the knowledge and skills necessary to use the computer as a working tool. Creating skills in using program packages dedicated to specific tasks: word processing, tables, charts, databases. Ability to solve problems specific to the specialization by using dedicated IT packages. Creating computer models for solving horticultural problems.

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 INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Verification (answers to exam 70%, final answers to Laboratory works 30%).

COURSE TITLE: BOTANY I

CODE: D29PEL102

ECTS CREDITS: 5

TYPE OF COURSE: Fundamental

COURSE OBJECTIVE(S): Ability to correlate the morphological and structural notions of plants with landscape value in the technological process, in order to obtain productive performance results. Understanding and acquiring knowledge of plant morphology and anatomy.

COURSE CONTENTS: Objective and methods of investigation. Botanical subdivisions. Development of botany in the world and in

Romania. Structure of course. Plant cytology. The prokaryotic and eukaryotic cell. Eukaryotic plant cell. Cell division. Plant histology. Definition of tissues. Classification: meristematic and definitive tissues: protective, fundamental, conductive, mechanical, secretory and glandular. Organography. The plant organ. Vegetative and reproductive organs (morphology, anatomy and types).

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Exam (final theoretical exam 70%, final practical exam 30%).

COURSE TITLE: PEDOLOGY

CODE: D29PEL103

ECTS CREDITS: 5

TYPE OF COURSE: Fundamental

COURSE OBJECTIVE(S): The knowledge of natural factors of earth formation, evolution way and main properties. Characterization of earth types in Romania and the establishment of their suitability for different cultures and use ways. Laboratory determination of main properties of soils.

COURSE CONTENTS: The object and role of Pedology and their importance in the development of agricultural production. Factors of pedogenesis and their role in the formation of soils. Formation and composition of mineral parts of soils. Formation and composition of organic parts of soils. Formation and composition of soil profile. Physical and physical-mechanical properties of soil. Hydro physical, aeration and thermic properties of soil. Chemical properties of soil. Classification and description of soils in Romania. Mapping and classification of agricultural fields.

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Exam (exam answers 80%, final answers for workshops 20%).

COURSE TITLE: AGROCHEMISTRY

CODE: D29PEL104

ECTS CREDITS: 5

TYPE OF COURSE: Speciality

COURSE OBJECTIVE(S): Knowledge of the chemical composition of plants in order to establish the necessary elements nutritive for their nutrition and doses of chemical fertilizers and organic

Knowledge of the agrochemical soil in order to harmonize existing soil nutrients in crop plants and filling requirements deficit by fertilizers. Knowledge of the acids soil, alkaline and those anthropogenic degraded to establish measures to improve their agrochemical and fertilization

COURSE CONTENTS: Purpose and development of agrochemistry, agrochemicals, Fundamentals of fertility in relation to horticultural plant biology, The soil as a source of nutrients for horticultural plants, Ionic composition improvement and raising the productive potential of acids soils, saline and alkaline, Fertilizers as a means to increase horticultural production and maintenance of soil fertility, Control of soil fertility status for horticultural plants by agrochemical methods, Principles and methods of rational use of fertilizers in fruit growing, viticulture and vegetables.

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Exam (answers to exam 80%, final answers to Laboratory works 20%).

COURSE TITLE: DRAWING AND GRAPHICS

CODE: D29PEL105

ECTS CREDITS: 5

TYPE OF COURSE: Fundamental

COURSE OBJECTIVE(S): Knowledge and understanding: the use of computer as a working instrument. Explanation and interpretation: informatics' modeling of some engineering processes; forming and developing the capacity of spatial thinking in modeling industrial shapes. The role of information nowadays. The approach, on different complexity levels, of graphic instruments necessary to a correct accomplishment of technical documentation; exemplification of interactions with other programs for the information included in the models created by AutoCAD.

COURSE CONTENTS: Concepts of computerized integration of industrial activities. AutoCAD interface. Representation types and techniques in engineering graphics. Editing models and selection sets. The main editing drives in two-dimensional space. Hachure and annotation models. Blocks and attributes. External references. Quotation of drawings. Display methods. Tri-dimensional representation. 3D editing. Modeling of solids. Interaction ways with other packets of programs.

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Exam (answers to exam 70%, workshop 30%).

COURSE TITLE: DESCRIPTIVE GEOMETRY AND PERSPECTIVES
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CODE: D29PEL106

ECTS CREDITS: 4

TYPE OF COURSE: Fundamental

COURSE OBJECTIVE(S): Ensuring the necessary knowledge concerning the involvement of landscape domain in the representation system of perspective and descriptive geometry. The acquisition of a professional language necessary to the interdisciplinary imposed working.

COURSE CONTENTS: Perspective geometry, draught, and double projection. The representation of point. The representation of axis. The plan. Methods of projecting transformations (methods of descriptive geometry). Representation of geometric solids. Visualizing a volume from different three-element reunion. Sectioning of geometric solids. Developing of geometric solids. Maximum inscribed volumes and tangent solids. Intersections of surfaces and geometric solids. Rotation of volumes. Perspectives.

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Verification (final exam answers 70%, periodical assessment through tests 30%).

COURSE TITLE: ENGLISH LANGUAGE

CODE: D29PEL107

ECTS CREDITS: 2

TYPE OF COURSE: Complementary

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 Horticulture, 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 ment 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: 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 INSTRUCTION: English

ASSESSMENT METHOD(S): Checking (exam answers 80%, theoretical and practical checking 20%).

COURSE TITLE: FRENCH LANGUAGE

CODE: D29PEL217

ECTS CREDITS: 2

TYPE OF COURSE: Complementary

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 Horticulture, Landscape Specialization, but also for those who want to learn vocabulary in context. Practice of important Landscape 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 meant 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 INSTRUCTION: French

ASSESSMENT METHOD(S): Checking (exam answers 80%, theoretical and practical checking 20%).

COURSE TITLE: PHYSICAL EDUCATION

CODE: D29PEL108

ECTS CREDITS: 1

TYPE OF COURSE: Complementary

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.

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Assessment through practical tests 80%, continuous assessment throughout semester 20%

1ST YEAR, 2ND SEMESTER

COURSE TITLE: MATHEMATICS

CODE: D29PEL209

ECTS CREDITS: 4

TYPE OF COURSE: Fundamental

COURSE OBJECTIVE(S): The knowledge of fundamental concepts of the theory of probabilities, of the rules of probability calculation, of the main probability schemes, of the notion of variates. The knowledge of the main notions of mathematical statistics, the analyzing of a phenomenon with the help of mathematical statistics (the statistical analysis of the phenomenon).

COURSE CONTENTS: Matrix calculation. Elements of linear programming. Events and probabilities. Variate. Basic notions of mathematical statistics. Characteristic values of some statistic series. Statistics indicators. Statistical processing of experimental data.

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Verification (exam answers 70%, final answers for workshops 10%, periodical assessment through practical tests 10%, continuous assessment throughout semester 10%).

COURSE TITLE: BOTANY II

CODE: D29PEL210

ECTS CREDITS: 4

TYPE OF COURSE: Fundamental

COURSE OBJECTIVE(S): The ability to clearly decipher the diversity of the living world, to highlight both the transition from the lower to the higher (evolution) and the downward of some groups from others (phylogeny). The ability to identify the correlation between the characteristics and knowledge of the species of plants of landscape value studied in the specializations of the following years of study, their systematic classification in the higher taxonomic units.

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; Bryophytes - Non-vascular plants; Tracheophytes (Cormobionta, Tracheobionta) - Plantae vasculares: The origin and meaning of tracheophytes evolution; General characters; Systematic. Phyl. Pteridophyta (Ferns) and Spermatophyta (gymnosperm and angiosperms); General characters, scientific and practical importance. Representatives.

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Exam (final theoretical exam 70%, final practical exam 30%).

COURSE TITLE: TOPOGRAPHY AND CADASTRE

CODE D29PEL211

ECTS CREDITS: 4

TYPE OF COURSE: Fundamental

COURSE OBJECTIVE(S): The elaboration of an action plan, on long or short term, of the landscape development of a space; Execution of measurements for distances and surfaces; Laying down topographic plans; The use of topographic machines; Updating plans and maps; The measurement of level differences and the calculation of height points; The forming of height plans and the indication of contours; The explanation of calculation formulae specific to tracing and control works; Choosing the best solutions according to the actual field situations, in order to trace and control the engineering works. Projecting and forming of support networks for topographic elevation, land register elevations and other engineering works. Topographic elevations necessary to the elaboration of topographic and thematic plans and maps.

COURSE CONTENTS: Basic general and topographic notions. Measurement units in topography. The topographic circle and the trigonometric functions; Orientations and neutral axes; Errors in topography; Marking and signaling points; Measurement of angles and distances; The method of closed plan traversing; The method of supported plan traversing; Elevation of details; Intersection and retro-intersection; Establishing plans; Calculation and detachment of surfaces; Leveling; Methods of geometric leveling; Trigonometric leveling; Surfaces' leveling; Representation of relief.

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Exam (final exam answers 50%, periodical assessment through tests

20%, continuous assessment throughout semester 30%).

COURSE TITLE: CHEMISTRY

CODE D29PEL212

ECTS CREDITS: 4

TYPE OF COURSE: Fundamental

COURSE OBJECTIVE(S): Familiarization with notions related to the structure of atom and classification of elements; Understanding the electronic configuration of elements, and their atomicity. Acquiring the necessary knowledge in order to understand the different types of chemical bonds.

COURSE CONTENTS: Atoms. Atomic structure. Classification of elements. Molecules. Chemical bonds. Chemical thermodynamics. Chemical equilibriums. Solutions. Ionic equilibriums. Notions of chemical kinetics. Catalysis. Colloid status of matter. Oxidation and reduction.

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Exam (exam answers 70%, final answers for workshops 30%).

COURSE TITLE: BIOPHYSICS AND AGROMETEOROLOGY

CODE: D29PEL213

ECTS CREDITS: 4

TYPE OF COURSE: Fundamental

COURSE OBJECTIVE(S): Knowledge of specific applications living and research equipment 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 thermodynamics. 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 INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Exam (answers to exam 60%, periodic answers to practical work 20%, results to periodic control works 20%).

COURSE TITLE: THE HISTORY OF GARDENS AND LANDSCAPES**CODE:** D29PEL214**ECTS CREDITS:** 4**TYPE OF COURSE:** Fundamental**COURSE OBJECTIVE(S):** The knowledge of the evolution of concepts in the art of gardens, focusing on general compositional features of different styles, under the context of specific geographic, historic, economic, social and cultural conditions.**COURSE CONTENTS:** The importance of studying the history of landscape architecture; a short presentation of the evolution of concepts in the art of gardens. Gardens of Antiquity: Mesopotamian Gardens; Gardens of Ancient Egypt; Persian Gardens; Ancient Greek Gardens; Ancient Roman gardens. The art of gardens in Middle Age (5th – 11th centuries): Byzantine Gardens; Medieval Gardens of Western Europe; Islamic Gardens; Spanish Arab Gardens. The Gardens of Middle East- Chinese Gardens; Japanese Gardens. The art of gardens during Renaissance and Baroque. Landscape gardens. Mixed style in the art of gardens. Contemporary trends in garden and landscape art. Gardens and parks in Romania.**LANGUAGE OF INSTRUCTION:** Romanian**ASSESSMENT METHOD(S):** Exam (50% exam answers; 50% participation during seminar talks, presentation seminar theme).**TITLUL CURSULUI: LANDSCAPE GEOGRAPHY****Code:** D29PEL215**CREDITE:** 4**TYPE OF COURSE:** Fundamental**COURSE OBJECTIVE(S):** Knowledge and understanding of the concept of geographical landscape, by exploring the diversity of landscapes on a global scale and deepening knowledge of the bioclimatic zones in which human activity takes place. Students will acquire the ability to analyze the structure, functionality and dynamics of landscapes, in correlation with natural and anthropogenic factors.**COURSE CONTENTS:** Study of landscape typologies and spatial transformation processes, with emphasis on the interaction between natural and socio-economic components. Application of modern methods of investigating landscape ensembles in order to eliminate/reduce dysfunctions and critical states affecting landscape structures. Integration of geographical knowledge in the process of spatial planning and land use

planning, for the purpose of sustainable and balanced development of the landscape.

LANGUAGE OF INSTRUCTION: Romanian**ASSESSMENT METHOD(S):** Exam (50% exam answers; 50% participation in seminar discussions, presentation of the research topic).**COURSE TITLE: PRACTICE****CODE:** D29PEL216**ECTS CREDITS:** 4**TYPE OF COURSE:** Speciality**COURSE OBJECTIVE(S):** The purpose of the practical training is to form aptitudes and skills appropriate to the specific activities of horticulture and landscape.**COURSE CONTENTS:** Identification of different plants found in the field by means of dicotomic keys. Identification of the main morphological types of roots, stems, leaves, flowers and fruits. Recognition and description of the soil profile, study of soil properties in the field. Characterization of the nutritional status of plants. Fertilization of plants grown on nutrient substrates. Development of skills related to technical drawing and design. Knowledge of landscape heritage, discovery of characteristic elements of the urban landscape.**LANGUAGE OF INSTRUCTION:** Romanian**ASSESSMENT METHOD(S):** Verification (100% final oral evaluation conducted by the practice committee, along with continuous assessment during each practical session).**COURSE TITLE: ENGLISH LANGUAGE****CODE:** D29PEL107**ECTS CREDITS:** 2**TYPE OF COURSE:** Complementary**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 Horticulture, 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 ment 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: 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 INSTRUCTION: English

ASSESSMENT METHOD(S): Checking (exam answers 80%, theoretical and practical checking 20%).

COURSE TITLE: FRENCH LANGUAGE

CODE: D29PEL217

ECTS CREDITS: 2

TYPE OF COURSE: Complementary

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 Horticulture, Landscape Specialization, but also for those who wfant to learn vocabulary in context. Practice of important Landscape 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 INSTRUCTION: French

ASSESSMENT METHOD(S): Checking (exam answers 80%, theoretical and practical checking 20%).

COURSE TITLE: PHYSICAL EDUCATION

CODE: D29PEL218

ECTS CREDITS: 1

TYPE OF COURSE: Complementary

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.

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Assessment through practical tests 80%, continuous assessment throughout semester 20%

2ND YEAR, 1ST SEMESTER

COURSE TITLE: ECOLOGY AND ENVIRONMENT PROTECTION

CODE: D29PEL319

ECTS CREDITS: 5

TYPE OF COURSE: Fundamental

COURSE OBJECTIVE(S): the knowledge of the structure, functions and relationships in the natural and anthropological ecosystems, the knowledge of the impact of anthropological activities upon environment, the knowledge of environmental protection ways.

COURSE CONTENTS: laws and ecologic principles, the Ecosystem (structure, functions, dynamics), Environmental degradation, Protecting nature.

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Verification (exam answers 60%, final answers in workshops 40%).

COURSE TITLE: PLANT PHYSIOLOGY

CODE: D29PEL320

ECTS CREDITS: 5

TYPE OF COURSE: Fundamental

COURSE OBJECTIVE(S): Knowledge and interpretation of the physiological processes of plants; deepening knowledge regarding the physiology of the plant cell, as well as how to achieve water exchange between the plant cell and the external environment; knowledge of how the processes of absorption, transport and elimination of water and mineral substances occur under the

influence of environmental factors, but also of the physiological role of water and mineral elements in the processes of plant growth and development; knowledge of the mechanisms of development of the processes of photosynthesis, respiration, growth and development of plants, establishing connections and correlations between these physiological processes and environmental factors.

COURSE CONTENTS: Plant cell physiology. Structure and physiological functions of structural subunits in the cell. Water exchange between the plant cell and the external environment. Diffusion, osmosis and imbibition. Plasmolysis and cellular turgor. Suction force of the plant cell. Water regime of plants. Water content of plants. Absorption, transport and elimination of water by plants through transpiration and guttation. Influence of external and internal factors on transpiration. Mineral nutrition. Methods of researching mineral nutrition in plants. Absorption, transport and excretion of mineral substances in plants. Factors influencing the absorption of mineral elements. Physiological role of mineral elements in plants. Photosynthesis. Methods of studying photosynthesis. Mechanism of photosynthesis. Factors influencing photosynthesis. Synthesis, conduction and storage of organic substances in plants. Aerobic respiration. Methods for determining aerobic respiration. Mechanism of respiration and factors influencing respiration. Anaerobic respiration. Types of fermentations and their practical importance. Plant growth. Seed germination and growth of plant organs. External factors influencing plant growth. Plant development. Vernalization and photoperiodism. Physiology of flowering and fruiting. Orientation and growth movements in plants. Passive and active movements of plants.

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Exam (exam answers 70% course and 30% practical course).

COURSE TITLE: ENTOMOLOGY I

CODE: D29PEL321

ECTS CREDITS: 5

TYPE OF COURSE: Specialty

COURSE OBJECTIVE(S): Knowledge and in-depth study of aspects regarding the systematics, morphology, anatomy, biology, ecology, methods of attack, hosts, control and recognition of pests of floral, dendrological and ornamental plants.

COURSE CONTENTS: Introductory notions, External morphology of insects, Anatomy and physiology of insects, Biology of insects, Ecology

of insects, Systematic of insects, General features of acaroids, crustaceans, nematodes, mollusks and vermin vertebrata, Prevention methods to control animal vermin of horticultural plants.

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Exam (final evaluation, conversation, debate - oral 60%; Homework/projects 20%; Testing of practical skills during the semester -20%).

COURSE TITLE: PHYTOPATHOLOGY I

CODE: D29PEL322

ECTS CREDITS: 5

TYPE OF COURSE: Specialty

COURSE OBJECTIVE(S): Learning and accumulating knowledge on some aspects of biological characteristics of the main types of pathogens, the role of interaction parasite- plant, host-environment in the pathogenesis process, mechanisms of plant resistance to diseases and protection means for plants in the context of integrated control.

COURSE CONTENTS: General notions about diseases (disease classification, interface of plant host –parasite and successive phases of disease), Changes in the plants during the pathogenesis process (biochemical, physiological and anatomical- morphological). Parasitism from its origins to the present and its consequences; Parasitic traits of pathogens, Pathogen agents epidemiology, conservation and transmission of infectious inoculum, Plant resistance to diseases (before the infection, after the infection). General characteristics of phytopathogenic viruses, mycoplasmas and phytopathogenic bacteria, of phytopathogenic fungi, General prevention technologies and intergated control of horticultural plant diseases, Protection measures of the agro-ecosystem and the prevention of poisoning in phyto-sanitary works.

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Exam (answers at the exam 70%, final answers at practical laboratory works 30%).

COURSE TITLE: FLORICULTURE I

CODE: D29PEL323

ECTS CREDITS: 5

TYPE OF COURSE: Specialty

COURSE OBJECTIVE(S): The purpose of the discipline is to provide students with specialized knowledge and practical skills regarding the biology, ecology and culture technology of floricultural plants. The discipline aims to familiarize students with notions regarding the suitability of various indoor and outdoor

conditions, propagation methods, production of floricultural seedlings, general aspects of cultivation technologies in the field and protected areas.

COURSE CONTENTS: Definition, object of study, history and importance. Current status of ornamental plant cultivation. Morphological and biological characteristics. Classification of flowering plants (or 'floral species'). The requirements of flowering plants regarding ecological factors and the mutual relationships that influence the development of the biological cycle. Propagation of flowering plants (generative and vegetative). Technology for growing ornamental plants in the field and in protected environments. Harvesting, conditioning, preservation, and marketing of ornamental plants (cut flowers and potted plants).

LANGUAGE OF INSTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (60% based on written exam answers; 40% based on test results and active participation in practical activities).

COURSE TITLE: LANDSCAPE DESIGN

CODE: D29PEL324

ECTS CREDITS: 5

TYPE OF COURSE: Specialty

COURSE OBJECTIVE(S): Theoretical and practical training of students in the specific field through: understanding the working techniques and conceptual stages specific to landscape spaces; general knowledge of the stages of approaching a landscape architecture project.

COURSE CONTENT: Principles of design of private gardens. Principles of design of public spaces. Site analysis, establishing the context. Typologies of urban landscape spaces – specific functions and components. Essential characteristics of landscape spaces -

differentiators. Users of public spaces – socio-spatial design. Public space design norms – dimensions, slopes, stairs, furniture, conceptual details

LANGUAGE OF INSTRUCTION: Romanian
ASSESSMENT METHOD(S): Verification (50% final test, 10% exercises along the way, 40% worksheets during the semester).

COURSE TITLE: PHYSICAL EDUCATION

CODE: D29PEL325

ECTS CREDITS: 1

TYPE OF COURSE: complementary

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: Long jump technique; 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 competitions conditions.

LANGUAGE OF INSTRUCTION: Romanian
ASSESSMENT METHOD(S): Assessment through practical tests 80%, continuous assessment throughout semester 20%.

2ND YEAR, 2ND SEMESTER

COURSE TITLE: ARBORICULTURE I

CODE: D29PEL426

ECTS CREDITS: 4

TYPE OF COURSE: Specialty

COURSE OBJECTIVE(S): Knowledge of the importance of growing ornamental trees and bushes. Knowledge of the main biological, ecological, ornamental and technological features of ornamental trees and bushes in the sense of familiarizing with the possibilities of using in green areas.

COURSE CONTENTS: The biological bases of ornamental arboriculture. The technological bases of ornamental arboriculture. Production of planting material for ornamental species. The presentation of morphologic and landscape characters, ecology and ways of using ornamental wood species in green areas.

LANGUAGE OF INSTRUCTION: Romanian
KNOWLEDGE INSTRUCTION: Exam (7 % of the exam answers, 30% of the final answers to workshops).

COURSE TITLE: ENTOMOLOGY II

CODE: D29PEL427

ECTS CREDITS: 4

TYPE OF COURSE: Specialty

COURSE OBJECTIVE(S): Knowledge and thoroughness of some aspects concerning the systematic, morphology, anatomy, biology, ecology, attack ways, hosts, control and recognition of pests of floral and ornamental plants.

COURSE CONTENTS: Introductory notions, External morphology of insects, Anatomy and physiology of insects, Biology of insects, Ecology of insects, Systematic of insects, General features of acaroids, crustaceans, nematodes, mollusks and vermin vertebrata, Prevention methods to control animal vermin of horticultural plants.

LANGUAGE OF INSTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (exam answers 70%, practical abilities throughout semester 10%, final answers to workshop tests 20%).

COURSE TITLE: PHYTOPATHOLOGY II

CODE: D29PEL428

ECTS CREDITS: 3

TYPE OF COURSE: Specialty

COURSE OBJECTIVE(S): Knowledge of the diseases that are of economic importance, of taxonomy, ecology, epidemiology, prevention and of the therapy regarding the key pathogenic agents to the main flower and ornamental plants.

COURSE CONTENTS: Virosis, Mycoplasmosis and bacteria to flower plants. Diseases produced by mushrooms from the Oomycete and Ascomycete classes to some flower plants. Diseases produced by mushrooms from the Uredinomyces and Ustilaginomyces classes to some flower plants. Diseases produced by anamorphic mushrooms to some flower plants. Bacterial virosis and the main mycosis of ornamental bushes. Vine diseases. Virosis, Bacteria and mycosis to some ornamental trees.

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Exam (70% of exam answers, 30% of answers to workshops).

COURSE TITLE: VEGETABLE GROWING

CODE: D29PEL429

ECTS CREDITS: 4

COURSE TYPE: Specialty

COURSE OBJECTIVES: Knowledge of vegetable species and their cultivation for ornamental purposes for the development and use of sustainable horticultural production technologies. Determination of areas for cultivation of vegetable species for ornamental purposes and production directions, prerequisites for the development of quality vegetable farming, under conditions of economic efficiency

COURSE CONTENT: Knowledge and in-depth study of the botanical, biological and ecological particularities of vegetable species in relation to cultivation technologies. Acquisition of organizational and decision-making capacity in the design, arrangement and maintenance of a "utilitarian garden".

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): exam answers 60%; creation and presentation of a project for arranging a utilitarian garden 40%

COURSE TITLE: MICROPROPAGATION

CODE: D29PEL430

CREDITS: 4

TYPE OF COURSE: Specialty

COURSE OBJECTIVE(S): The objectives of this discipline are to understand the fundamental concepts of in vitro plant tissue cultures, including their definition, history, and fields of application, as well as to become familiar with laboratory organization and the operational stages of micropropagation techniques. The course aims to develop competences in regenerating plants from vegetative and reproductive structures, from cell and tissue cultures, including through somatic embryogenesis, as well as creating and utilizing variability. A key objective is to learn methods for in vitro conservation of plant material.

COURSE CONTENTS: In vitro plant tissue cultures (definition, history, fields of application). Tissue culture laboratory. Operational stages in micropropagation techniques and morphophysiological processes. Regeneration of plants from vegetative structures. Somatic embryogenesis. Creating and utilizing variability. In vitro conservation.

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Assessment (60% written examination, 40% periodic evaluation).

COURSE TITLE: FLORICULTURE II

CODE: D29PEL431

ECTS CREDITS: 4

TYPE OF COURSE: Specialty

COURSE OBJECTIVE(S): Knowledge of flower species cultivated in the field and greenhouses. Factors that influence the productivity and quality of flower plants. Knowledge of the establishment and maintenance works of floral crops. Ways of use in outdoor and indoor spaces, according to ecological requirements, growth particularities and decorative features.

COURSE CONTENTS: Annual, biennial, perennial hemicryptophyte and geophyte flower species used in different floral compositions in green spaces. Crops in greenhouses. Species grown in the soil of the greenhouse for the production of cut flowers. Species decorative through flowers, leaves, fruits, cultivated in pots (biological particularities, morphological and decorative features, ecological requirements, culture technology, use).

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Exam (exam answers 60%, final answers to practical works 40%).

COURSE TITLE: ETHICS AND ACADEMIC INTEGRITY**CODE:** D29PEL432**ECTS CREDITS:** 2**TYPE OF COURSE:** Complementary**COURSE OBJECTIVE(S):** Familiarizing with issues, concepts and ethical issues and professional deontology. Ensuring the knowledge and skills necessary for a research activity in accordance with the requirements of university ethics and deontology. Acquiring knowledge to draw up scientific communications**COURSE CONTENTS:** Principles and values of academic ethical conduct Academic responsibilities and rights. Documentation techniques, source identification. Forms of citing sources. Communication of research results. Plagiarism, forms, ways of identification. Other forms of lack of academic integrity and ethics. The consequences of lack of ethics and academic integrity**LANGUAGE OF INSTRUCTION:** Romanian**ASSESSMENT METHOD(S):** Assessment (answers to exam 100%).**COURSE TITLE: SPECIALIZED PRACTICE****CODE:** D29PEL433**ECTS CREDITS:** 5**TYPE OF COURSE:** Speciality**COURSE OBJECTIVE(S):** The purpose of the practical training is to form aptitudes and skills appropriate to the specific activities of landscape. Acquiring the practical skills of the knowledge obtained at the specialized courses, regarding the identification of ornamental woody species and flower species used in landscaping, design, graphic representation, understanding and analysis of sites, stages of landscaping concepts.**COURSE CONTENTS:** Identification of ornamental tree species by leaves and habitus using visual characteristics. Identification of ornamental tree species by flowers and habitus using visual characteristics. Recognition of flower species used in landscaping. Maintenance work applied to flower crops. Creating a design concept on a given site.**LANGUAGE OF INSTRUCTION:** Romanian**ASSESSMENT METHOD(S):** Verification (100% answers to the final evaluation).**COURSE TITLE: PHYSICAL EDUCATION****CODE:** D29PEL434**ECTS CREDITS:** 1**TYPE OF COURSE:** Complementary**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: Long jump technique; 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 competitions conditions.**LANGUAGE OF INSTRUCTION:** Romanian**ASSESSMENT METHOD(S):** Assessment through practical tests 80%, continuous assessment throughout the semester 20%.**3RD YEAR, 1ST SEMESTER****COURSE TITLE: FRUIT GROWING****CODE:** D29PEL535**ECTS CREDITS:** 5**TYPE OF COURSE:** Speciality**COURSE OBJECTIVE(S):** The course aims to develop competences in classifying and characterizing fruit species, understanding their biological and annual cycles, the vegetative and fruiting phenophases, as well as the ecological factors influencing growth and fruit production. It also focuses on developing skills for organizing and establishing orchards, managing growth and fruiting through pruning and canopy shaping, maintaining orchards (soil work, fertilization, irrigation, pest and disease control), and harvesting. Additionally, the course covers knowledge of ornamental fruit species and cultivars for their integration into orchards and landscape design.**COURSE CONTENTS:** Classification and characterization of fruit species; biological and annual cycles; vegetative and fruiting phenophases. Ecological factors and zoning of fruit species. Establishment and organization of orchards: site selection, species and rootstock choice, planting. Management of growth and fruiting through pruning and canopy shaping. Orchard maintenance: soil work, fertilization, irrigation, pest and disease control, harvesting. Ornamental fruit species and cultivars for integration into orchards and landscape design.**LANGUAGE OF INSTRUCTION:** Romanian**ASSESSMENT METHOD(S):** Exam (60% written examination, 40% periodic evaluation).**COURSE TITLE: ARBORICULTURE II****CODE:** D29PEL536

ECTS CREDITS: 5

TYPE OF COURSE: Speciality

COURSE OBJECTIVE(S): Knowledge of the assortment of ornamental woody plants (trees, shrubs, subshrubs), with emphasis on decorative properties, biological, ecological and technological particularities. Knowledge of the various ways of using these species in the arrangement of green spaces.

COURSE CONTENTS: The presentation of morphologic and landscape characters, ecology and ways of using ornamental wood species in green areas. Species of resinous trees and bushes. Species of decorating deciduous trees through leaves and habitus. Species of decorating deciduous trees through flowers. Species of ornamental bushes and sub-bushes.

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Exam (60% of exam answers; 40% activity during the semester, references/homework/projects).

COURSE TITLE: LANDSCAPE ARCHITECTURE

CODE: D29PEL537

ECTS CREDITS: 5

TYPE OF COURSE: Specialty

COURSE OBJECTIVE(S): Knowledge of the specialized terminology and the principles regarding the decoration of green areas. Knowledge of the main types of green areas and their features. Acquire the fundamental notions regarding the theory, art and technique of landscape. The general presentation of the notions regarding the projection, decoration and maintenance of green areas.

COURSE CONTENTS: The importance and functions of green spaces. Evolution and styles in landscape architecture. Classification of green spaces. Composition principles used in Landscape Architecture. Structural elements of green spaces. General concepts for designing green spaces. General notions about green spaces arrangement and maintenance.

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Exam (70% of exam answers, 30% of final answers to workshops).

COURSE TITLE: LANDSCAPE DESIGN AND URBAN PLANNING I
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CODE: D29PEL538

ECTS CREDITS: 5

TYPE OF COURSE: Speciality

COURSE OBJECTIVE(S): The course introduces the theoretical and methodological

foundations of urban and territorial planning. It examines the historical evolution of the discipline, highlighting key concepts, planning models, and paradigms that have influenced the development of cities and regions. Students will acquire knowledge and analytical skills related to morphological, functional, and socio-spatial analysis, learning to interpret urban structures and territorial dynamics through contemporary planning methods and principles of sustainable design.

COURSE CONTENTS: Introductory notions: definition, scope, and course structure; reading and interpreting urban maps. Environmental elements: interrelations and impact analysis from local to global scale. The evolution of cities: overview and historical development of human settlements. Analysis of the built environment: fundamental components—street, plot, building, green space—and their spatial interrelations. Urban morphology: the socio-spatial city—concepts emphasizing public space and landscape as key factors for urban quality of life. Circulation networks, plot structure, built fabric, public space, green infrastructure. Study of urban life: contemporary methods of urban analysis and interpretation—quantitative approaches, observational urban analysis, participatory methods.

LANGUAGE OF INSTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (final exam 50%; continuous evaluation - exercises along the way: 20%; final project sheets: 30%).

COURSE TITLE: TERRITORIAL AND URBAN LANDSCAPE
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CODE: D29PEL539

ECTS CREDITS: 5

TYPE OF COURSE: Specialty

COURSE OBJECTIVE(S): Development of an integrated perspective on landscape planning and design at urban and territorial scales through an understanding of the fundamental concepts, functions, and roles of green and blue spaces in the context of the transition toward sustainable cities and resilient territories. The course aims to develop the competencies required for analyzing, interpreting, and formulating innovative and sustainable solutions for green and blue infrastructure, in harmony with the cultural, ecological, and social specificities of each territory.

COURSE CONTENTS: Introduction to Territorial and Urban Landscape Architecture. The role of landscape architecture in sustainable development. The urban dimension of landscape architecture in the 21st century: participatory green spaces, multifunctional green areas, green infrastructure spaces, therapeutic and wellness landscapes, green spaces for sustainable transport,

and for technological innovation. The territorial dimension of landscape architecture: ecological corridors, natural parks, regional green space networks, peri-urban forests, and protective forest zones. Examples of sustainable urban design practices. Examples of emblematic urban green spaces in the 21st century. Case study: Analysis of a real urban or territorial site. Formulation of a design concept based on the identified context and needs. Planning of functions and spatial zoning (2D composition, circulation, accessibility, etc.). Development and optimization of the 3D model: terrain, vegetation, urban furniture, and textures using specialized software. Creation of a conceptual scale model expressing the landscape design idea, in accordance with the compositional plan and digital 3D model. Designing green spaces in the cities of the future.

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Exam (answers to exam 30%, digital and scale model project 50%, classes participation during the course 20%).

COURSE TITLE: EXPERIMENTAL DESIGN

CODE: D29PEL541

ECTS CREDITS: 5

TYPE OF COURSE: Speciality

COURSE OBJECTIVE(S): Knowledge of the role, importance and particularities of biostatistics and research in horticulture. Research objectives, the design and organization of research in horticulture. Fundamental elements of trials, methods and techniques used in horticultural research. Statistical parameters and methods of calculus and analysis.

COURSE CONTENTS: Role, importance and particularities of biostatistics, biometry and horticultural research

Research objectives in horticulture. Design and organization of research in horticulture. Extraction of samples for analysis. Measurement errors in trials. Design of different types of trials. Methods of setting up monofactorial and polyfactorial trials (randomized blocks, Latin square, Latin rectangle, and balanced square lattice).

Parameters and estimators in statistics (variance, standard deviation, coefficient of variation, correlation, regression). Statistical hypothesis testing, F, *t* and Duncan tests. Analysis of variance. Interpretation and exploitation of results in experiments in ecology.

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Checking (50% of the final grade represent the response to the written theoretical questions and 50% of the final grade the answers to laboratory tests).

3RD YEAR, 2ND SEMESTER

COURSE TITLE: LANDSCAPE DESIGN AND URBAN PLANNING II

CODE D29PEL643

ECTS CREDITS: 5

TYPE OF COURSE: Speciality

COURSE OBJECTIVE(S): In the second part of the course, the focus shifts toward urban management, with particular emphasis on the planning and design of open public spaces. Students will explore contemporary theories and practices related to ecological and nature-based solutions, as well as strategies aimed at improving quality of life through the enhancement and expansion of public spaces. The course also covers the legislative frameworks and methodological tools required for the implementation of urban regulations — from strategic planning to the preparation of detailed technical documentation.

COURSE CONTENTS: Fundamentals of public administration: typologies, responsibilities, and institutional relations. Concepts of urban management and planning: strategic and operational approaches. Urban planning documentation: types, European trends, and working methodologies. Urban ecology and climate-responsive design. Nature-based and ecological solutions. Urban sociology and community dynamics. Management of natural and built heritage. Landscape and environmental planning

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Exam (final exam: 50%; continuous assessment – exercises during the semester: 10% course, 10% seminar; boards for the final project: 30%).

COURSE TITLE: URBAN NETWORKS

CODE: D29PEL644

ECTS CREDITS: 4

TYPE OF COURSE: Speciality

COURSE OBJECTIVE(S): Students' initiation in the urbanistic networks of populated centers. Knowledge of the laws of hydrostatics, hydrodynamics and hydrokinematics. Knowledge of the water quality and quantity necessary in inhabited places. Knowledge of water supplying works and water distribution. Knowledge of sewerage works, sewerage schemes and systems.

COURSE CONTENTS: Introductory notions. Hydrostatics. Hydrokinematics. Hydrodynamics. Water flowing through porous areas. The quantity and quality of the water needed in inhabited places. Water collection. Water transport. Constructions for water storage. Water distribution. Improvement

of water quality. Sewerage works. Sewerage schemes and systems. Sewerage networks. The cleaning of used water.

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Exam (70% of exam answers; 30% of the final check to workshops).

COURSE TITLE: MANAGEMENT OF LANDSCAPE DEVELOPMENTS

CODE: D29PEL645

ECTS CREDITS: 4

TYPE OF COURSE: Speciality

COURSE OBJECTIVE(S): Development of theoretical and practical competencies necessary for the sustainable management of landscape developments in both urban and rural environments. The course aims to train specialists capable of evaluating, organizing, and monitoring the maintenance of green spaces, while integrating ecological, aesthetic, and functional principles into the decision-making process.

COURSE CONTENTS: Introduction to Landscape Management - maintenance and conservation of public and private green spaces. Techniques and practices for vegetation care according to season and plant species. Maintenance of structural elements and landscape infrastructure. Sustainability and ecological practices in green space maintenance. Evaluation and monitoring of green spaces. Legislation and standards for green space maintenance. Case study: The evolution of landscape design in Europe. Initiation, design, and three-dimensional (3D) modeling of a landscape project using specialized software and field applications. Development of a management plan outlining strategies and stages for maintaining the designed landscape. Discussion topic: Sustainability versus aesthetics - which should take precedence in landscape management?

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Exam (answers to exam 40%, 3D or drawn project 30%, classes participation during the course 30%).

COURSE TITLE: TECHNIQUES OF LANDSCAPE WORKS

CODE: D29PEL646

ECTS CREDITS: 4

TYPE OF COURSE: Speciality

COURSE OBJECTIVE(S): Development of theoretical and practical competencies necessary for the planning, organization, and implementation of landscape works in various urban and rural contexts. The course aims to train specialists capable of applying advanced execution

techniques, managing resources efficiently, and ensuring the sustainability of landscape developments.

COURSE CONTENTS: Introduction to Landscape Construction Techniques. Contracting for public and private landscape works: legal procedures and required documentation. Content and preparation of green space design and implementation projects. Planning and organization of landscape works: preliminary operations and establishment of green areas. Execution of landscape works: planting techniques, installation of irrigation and drainage systems, construction of paths, pavements, and other landscape infrastructures, installation of urban furniture and decorative structures. Case studies: High Line Park – New York City, USA; Gardens by the Bay – Singapore; and Park Güell – Barcelona, Spain. Development of a detailed site organization and work schedule plan based on a landscape design project. Practical and field exercises based on landscape design plans.

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Exam (answers to exam 50%, continuous assessment throughout semester 30%, classes participation during the course 20%).

COURSE TITLE: BUILDING MATERIALS AND LANDSCAPE CONSTRUCTIONS

CODE: D29PEL647

ECTS CREDITS: 5

TYPE OF COURSE: Complementary

COURSE OBJECTIVE(S): The course explores the properties, uses and aesthetic integration of building materials in landscape architecture. Natural and synthetic materials such as wood, stone, ceramics, metal, glass and rubber are examined, highlighting their role in the design and sustainability of open spaces. Through interactive lectures and visual presentations, students will analyze the relationship between materiality, functionality and environmental context, including inclusive design, lighting strategies and water and vegetation management in public spaces.

COURSE CONTENT: Wood in the outdoor environment. Stone and ceramics – specific uses in outdoor paving and landscape structures. Metal as a structural and decorative material. Special materials – rubber, glass, paints and surface coatings. Pavement layers and textures – materials, assembly and sustainability. Public lighting – principles, technologies and visual comfort. Materials and technical details for inclusive spaces. Urban furniture. Water in public spaces – management and design principles. Vegetation as a material – color, texture and integration with built

elements. Sustainability of building materials – ecological performance and life cycle. Case study: the relationship between design concepts and building materials.

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD: Exam (continuous assessment – exercises during the semester: 10% course, 10% seminar, final exam: 40%, final project – board presentation: 40%).

COURSE TITLE: VITICULTURE

CODE: D29PEL648

ECTS CREDITS: 4

TYPE OF COURSE: Speciality

COURSE OBJECTIVE(S): Knowledge of the main morphological, biological, ecological and technological features of vine in the sense of familiarizing with the possibilities of ornamental culture.

COURSE CONTENTS: The biological bases of viticulture. The technological bases of viticulture. The production of vine seed material. The main types of vines and their agribiological and technological features. Ornamental viticulture.

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Exam (70% of exam answers, 30% of final answers to workshops).

COURSE TITLE: SPECIALTY PRACTICE

CODE: D29PEL649

ECTS CREDITS: 4

TYPE OF COURSE: Speciality

COURSE OBJECTIVE(S): The purpose of the practical training is to form aptitudes and skills appropriate to the specific activities of landscape. Acquiring the practical skills of the knowledge obtained at the specialized courses, regarding the principles of design and arrangement of green spaces, methods and techniques for executing landscape projects on the ground, the use of various techniques for creating models, the ability to propose effective solutions for the maintenance and improvement of green spaces, critical analysis of real sites with an understanding of traffic flows, cultural and natural context.

COURSE CONTENTS: Presentation of the components of green spaces. Styles used in landscape architecture. Evaluation, planning and monitoring of landscaping works in the real environment. Creation of physical models, which will reflect the concepts and solutions proposed in the projects drawn by students. Knowledge of representation techniques in urban planning and landscaping.

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Verification (100% final evaluation before a specialty committee).

4TH YEAR, 1ST SEMESTER

COURSE TITLE: COMPUTER AIDED DESIGN I

CODE: D29PEL751

CREDITS: 5

TYPE OF COURSE: Speciality

COURSE OBJECTIVES: Using the AutoCAD Graphics Environment. To create students the necessary skills to generate two-dimensional (three-dimensional) models for the correct transposition of space objects on the drawing.

TOPICS: Basic Elements. Presentation of AutoCAD interface. Configuration and use of drawing tools. Coordinate systems; Specifying distances by coordinates; Interpreting cursor modes and explaining prompts. Setting up a desktop; Use AutoCAD modes as drawing tools. Selection of objects; Editing using control points. Draw Draw Drawing Drawing Drawing Drawing Commands. Modify graphical menu - editing commands. Hatching; Adding text; Listing the drawings. Organization of objects with blocks and groups. Managing Layers and Blocks. Modeling and creating 3D images.

TEACHING LANGUAGE: Romanian

KNOWLEDGE ASSESSMENT: Exam (answers to exam 70%, final answers to Laboratory works 30%).

COURSE TITLE: DESIGN IN LANDSCAPE ARCHITECTURE

CODE: D29PEL752

ECTS CREDITS: 5

TYPE OF COURSE: speciality

COURSE OBJECTIVE(S): Developing students' ability to conceive and elaborate landscape design projects through the coherent integration of aesthetic, ecological, and functional principles, adapted to the natural, cultural, and social context of the site, with the aim of creating sustainable, expressive, and balanced landscape arrangements.

COURSE CONTENTS: Design in Landscape Architecture - An overview of the historical evolution of landscape design. Contemporary styles in landscape architecture: current trends in the design of public and private green spaces. Contemporary urban space design: squares, parks, community gardens, and green walls as elements of a sustainable urban landscape. Residential landscape design: fundamental principles and customized solutions for private green spaces.

Expression of local identity in landscape design: enhancing culture, nature, and the memory of place. Case study: Analysis of design approaches in public green spaces in Craiova. Concept and modeling: Three-dimensional modeling and scale model construction of a green space. Applied project: From concept to final composition - creation of a conceptual scale model and a digital 3D project. Evaluation: Assessment of models and group discussion on design themes.

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Exam (answers to exam 40%, scale model project 40%, classes participation during the course 20%).

COURSE TITLE: LANDSCAPE RESTORATION AND REHABILITATION

CODE D29PEL753

ECTS CREDITS: 5

TYPE OF COURSE: Speciality

COURSE OBJECTIVE(S): The course introduces the theoretical and practical principles of landscape restoration and heritage rehabilitation, focusing on the relationship between historical gardens, built heritage, and their cultural value. Students will study international charters and conventions on restoration, the concept of architectural and landscape value, and the evolution of design styles in relation to the built environment.

The course also covers heritage legislation, types of protected sites, and possibilities for intervention, financing, and project implementation through programs and foundations. Practical components include site studies, surveys, inventories, and critical analysis of historical layers, as well as the evaluation of material degradation and conservation methods.

COURSE CONTENTS: Principles of restoration – charters and conventions; fundamental notions. The concept of architectural and ensemble value. History of landscape design – garden styles in relation to the built environment; criteria for identifying stylistic elements. Legislation and protection – protected site, sub-ensemble, and ensemble definitions. Legal frameworks and intervention possibilities; funding programs and foundations. Site study – survey, inventory, construction phases, and critical value analysis. Analysis of local context and strategies for cultural site enhancement. Historical gardens of Romania – typologies, evolution, and current condition. Components of historical gardens and material degradation – causes and effects

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Exam (Participation and class activity – discussions and

exercises: 20%. Interactive discussions and final project presentation: 30% seminar ongoing drawings: 10%. Final project boards: 40%

COURSE TITLE: GIS

CODE: D29PEL754

ECTS CREDITS: 5

TYPE OF COURSE: Speciality

COURSE OBJECTIVE(S): To develop the necessary competencies for starting a GIS project. Acquisition of diverse types of spatial data.

Editing spatial data.

Integrating spatial data into a GIS project.

Performing spatial analyses in a GIS environment

COURSE CONTENTS: Introduction, basic GIS concepts, geographical reality and its representation, conceptual models, data structures.

Presentation of types and sources for spatial data acquisition (maps, Digital Elevation Models (DEMs), satellite imagery, geostatistical data, thematic data like CORINE, and geographic portals like INSPIRE, GEOSS).

Geographic projections, datum, coordinate systems, georeferencing, GPS.

Primary data acquisition methods (field measurements, GPS, photogrammetry, remote sensing).

Secondary data acquisition methods (scanning, digitization/vectorization, editing, classification).

Future data acquisition methods (automatic classification and extraction of elements of interest, sensors).

Stages of realizing a project in the GIS environment – from concept to implementation.

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Exam (70% of exam answers, 30% of final answers to workshops).

COURSE TITLE: MANAGEMENT

CODE: D29PEL755

ECTS CREDITS: 5

TYPE OF COURSE: Specialty

COURSE OBJECTIVE(S): Knowledge of the notions of the economic agent in terms of its organization, its functionality, the way of implementation of the modern management techniques and methods.

COURSE CONTENTS: Basic concepts of management and their applicability in landscaping. Operational management in the context of modern management. Optimization of production capacity and efficient use of resources in landscaping activities. Development of the technical and material base for landscaping works and maintenance of green spaces. Organization and management of horticultural and landscaping

production activities. Technical and economic forecast applied in landscaping projects. Human resources management in profile companies. Labor standardization and performance evaluation in landscaping maintenance and execution activities.

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Verification (answers to the final verification – 70%, final evaluation of the seminar activity – 30%).

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Exam (answers to the final verification 70%, final answers to seminars 30%)

COURSE TITLE: FLORAL ART

CODE: D29PEL756

ECTS CREDITS: 5

TYPE OF COURSE: Speciality

COURSE OBJECTIVE(S): Knowledge of the history of floral art; the materials used in the creation of floral arrangements; the styles, principles and ways of arranging flowers. The choice, association and placing of floral plants in order to use them in different types of floral decorations for interior or exterior design.

COURSE CONTENTS: The art of arranging flowers in different historical epochs. The vegetal material used in floral arrangements. Harvesting, maintenance and processing of fresh or dry vegetal material. Pots, materials, accessories and techniques used in floral art design. Western floral art – the principles of floral composition and the used styles. Eastern floral art – basic principles of arrangements. Ikebana. Indoor plants - assortment, placement criteria, floral compositions from whole plants. Bonsai. Use of flowers in culinary art. AI in floral art: opportunities for the floral design industry.

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Exam (70% of answers to exam; 30% of involvement in practical activities).

4TH YEAR, 2ND SEMESTER

COURSE TITLE: COMPUTER AIDED DESIGN II

CODE: D29PEL857

ECTS CREDITS: 3

TYPE OF COURSE: Specialty

COURSE OBJECTIVE(S): The development of advanced skills in using digital tools and specialized software for the design, modeling, and three-dimensional representation of landscape arrangements, with the aim of translating design concepts into coherent, functional, and expressive

graphic solutions.

COURSE CONTENTS: Comparative Analysis of Digital Landscape Design Software: Overview of key features and functionalities in Realtime Landscaping Architect, Twinmotion, 3D Home Architect – Landscape Design, and Instant Landscaping. 2D Digital Design: Creation of landscape layouts through insertion and configuration of structural and plant elements; setting object properties and default parameters (texture, dimensions, behavior). Advanced Graphic Editing Techniques: Object selection, movement, proportional scaling, rotation, mirroring, duplication, and deletion; point editing and alignment/distribution commands for spatial organization. Real-Time Capabilities and Dynamic Rendering: Switching between 2D and 3D views, live object updates, walkthrough visualizations, and project animations. Vegetation Integration: Use of plant libraries, graphic symbols for trees and shrubs, automatic labeling, customization of plant properties, and generation of planting legends. Architectural and Water Elements: Insertion of buildings, terraces, pergolas, pools, and fountains with animated water effects; adaptation to site topography. Visual Presentation and Export: Creation of perspectives, panoramas, and walkthrough videos; final project export, generation of material reports and lists, and graphic output settings.

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Exam (answers to exam 30%, final 3D project 50%, classes participation during the course 20%).

COURSE TITLE: ENVIRONMENTAL LEGISLATION AND COMMUNITY POLICIES

CODE: D29PEL858

ECTS CREDITS: 3

TYPE OF COURSE: Speciality

COURSE OBJECTIVE(S): Knowledge and understanding of the premises regarding the emergence and implementation of environmental policies; explanation of implementation methods and support instruments; promotion of sustainable development and projects specific to environmental policies; promotion of high-performance and sustainable horticulture; development of a positive attitude toward environmental policies.

COURSE CONTENTS: Introduction to environmental policy in Romania and the European Union. Objectives and principles. Instruments of environmental policy. Strategies in environmental policy, institutions with responsibilities in the field, legislation. Concepts

regarding environmental protection in the European Union and Romania. Sustainable development.

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Checking (60% written examination, 40% periodic evaluation).

COURSE TITLE: PLANT BREEDING

CODE: D29PEL860

ECTS CREDITS: 3

TYPE OF COURSE: Speciality

COURSE OBJECTIVE(S): Knowledge of the role, importance and need for genetic improvement of horticultural plants for sustainable human society. The role and importance of horticultural genetic resources for use in plant breeding. Establishment of specific breeding objectives and horticultural plant genetic improvement. Conventional and modern methods of transformation and selection of new genotypes and their implications. Knowledge of the most important breeding results of major ornamental crops. Knowledge and learning the peculiarities of the production of horticultural seed and planting material according to the Romanian legislation and EU directives.

COURSE CONTENTS: Organization and management of breeding works in horticultural crops. Breeding of *Rosa*, *Dianthus*, *Tulipa*, *Gladiolus*, *Chrysantemum*, *Hippeastrum*, *Rhododendron*, *Syringa*, *Magnolia*, *Prunus*, *Malus*, *Thuja* - current requirements, guidelines and trends in improving the cultivars. Biological basis and breeding objectives, cytology, germplasm resources. Production of seed and planting material. Protection of plant breeding rights.

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Exam (70% of the final grade represent the response to the written theoretical questions and 30% of the final grade the answers to practical laboratory questions).

COURSE TITLE: LAWNS IN PARKS AND GARDENS

CODE: D29PEL861

ECTS CREDITS: 3

TYPE OF COURSE: Speciality

COURSE OBJECTIVE(S): Knowledge of the importance of lawn in the decoration of parks and gardens, the species of plant from lawn composition and their morphological, biological characteristics and requirements for environmental factors. Acquiring the knowledge necessary for the application of land preparation works, for the establishment and maintenance of lawns.

COURSE CONTENTS: Lawns in landscaping -

history and importance. Lawn classification by purpose, type, shape, composition. Morphological, biological characteristics and ecological requirements of plant species used for lawn establishment. Lawn establishment technology. Lawn maintenance and restoration.

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Exam (exam answers 60%, presentation of papers, projects 40%).

COURSE TITLE: MARKETING

CODE: D29PEL862

ECTS CREDITS: 2

TYPE OF COURSE: Speciality

COURSE OBJECTIVE(S): Knowledge of the market notions: product, price, distribution, advertising, etc; understanding the type of organizing specific activities of marketing from the organizational and technical point of view.

COURSE CONTENTS: Introductory notions of marketing. The market of food products. Prevision in marketing. Marketing mix. Negotiations.

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Checking (70% of answers to exam, 30% of answers to workshops).

COURSE TITLE: PRACTICE FOR GRADUATION PROJECT

CODE: D29PEL863

ECTS CREDITS: 10

TYPE OF COURSE: Speciality

COURSE OBJECTIVE(S): Students ability to perform independent work of documentation and research, to generate data and original conclusions. The ability to propose solutions based on the results of the analysis performed, in accordance with the field of interest. The diploma project must meet certain minimal requirements of content, form and scientific level.

COURSE CONTENTS: Establishing the structure and bibliography of the paper as a result of the study of the specialized literature. Finalizing the research methodology in order to achieve the proposed objectives. Editing of the paper. Preparing presentations to support the diploma project. Presentation of the study results.

LANGUAGE OF INSTRUCTION: Romanian

ASSESSMENT METHOD(S): Checking (presentation of the diploma project 100%).

COURSE TITLE: COMPOSITION AND FORM STUDY

CODE: D29PEL865

ECTS CREDITS: 3

TYPE OF DISCIPLINE: Specialty

COURSE OBJECTIVE(S): Developing students' ability to understand, analyze and apply the principles of composition and form in landscaping. The course aims to form an aesthetic and functional vision of green spaces, by integrating visual elements and compositional rules, in order to create coherent, harmonious and sustainable arrangements.

COURSE CONTENT: Introduction to landscape composition. Principles of spatial composition in landscaping. Gestalt theory applied to landscape composition. Study of form and morphology of the landscape. Morphology and perception of form in landscaping. Form and functionality in landscape design. Materialization of form in landscape design. The relationship between forms, textures and colours in green spaces. Aesthetic synergy. Composition and emotion – sensory design. Dynamics of form in the landscape. Seasonality and compositional changes in the landscape. Impact of environmental factors on the evolution of forms over time. Case study: composition analysis in parks, public gardens, urban squares. Three-dimensional modeling and modeling. Types of Models. Applicative project: from concept to final composition. Building a conceptual model. Study of proportions and relief in the model. Integration of natural and artificial forms in the model. Use of colors and textures in the model.

LANGUAGE OF INSTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (answers to the exam 40%, model project 40%, presence/involvement during the course 20%).

shelterbelts. Ornamental plants used for decorating intermediate spaces.

LANGUAGE OF INSTRUCTION: Romanian
ASSESSMENT METHOD(S): Exam (60% of exam answers; 40% activity during the semester, papers/homework/projects).

COURSE TITLE: VEGETAL COMPOSITIONS IN LANDSCAPE DESIGN

CODE: D29PEL866

ECTS CREDITS: 3

TYPE OF COURSE: Speciality

COURSE OBJECTIVE(S): Knowledge of the basic principles and design elements in landscaping. Knowledge of the vegetal elements and the ways of framing them into the exterior and interior decoration. Knowledge of the new trends in plants design for outdoor, indoor, and intermediate spaces.

COURSE CONTENTS: General principles in creating plant compositions. Flower plants used for exterior design. Selection and association criteria for creating plant compositions. Outdoor floral compositions: flower beds, borders, platbands, mosaics, arabesques, etc. Tree plants used for exterior decoration. Selection and association criteria for ornamental woody species. Hedges in landscape design – evolution, classification, assortment. Topiary art. Alignments and