ROMÂNIA

MINISTERUL EDUCAŢIEI ŞI CERCETĂRII

UNIVERSITATEA DIN CRAIOVA

FACULTATEA DE AGRONOMIE

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PACKAGE OF COURSES

Bachelor study program: MASTER'S PROGRAM: ENVIRONMENTAL PROTECTION IN AGRICULTURE (PMA)

This is the package of course of bachelor study program from the Universityof Craiova/the Faculty of Agronomy/
The Department of Land surveys – Management - Mechanization

1ST YEAR OF STUDY

MODERN SYSTEMS OF AGRICULTURE

CREDITS: 5
YEAR/SEMESTER: Ist year / Ist semester
HOURS PER WEEK: 1 hour of course, 2 hours of practical works
NUMBER OF WEEKS: 14
COURSE TYPE: specialization discipline
COURSE OBJECTIVES: Familiarizing of students with the main farming systems; Development of skills in terms of sustainability of agricultural systems.
TOPICS: Introduction, definition and attributes of the agricultural system; Agriculture system with alternate rotation; Conventional culture system; No tillage farming system (not till); Sustainable farming system.
TEACHING LANGUAGE: Romanian
KNOWLEDGE ASSESSMENT: answers to colloquium 60%, final answers to Laboratory works 40%
ASSESSMENT TYPE: Colloquium

ECOMARKETING

CREDITS: 5
YEAR/SEMESTER: Ist year / Ist semester
HOURS PER WEEK: 1 hour course, 1 hour practical course
NUMBER OF WEEKS: 14
COURSE TYPE: complementary discipline
COURSE OBJECTIVES: defines the basic notions, concepts, theories and models of management and marketing in non-polluting organic agriculture and sustainable agriculture; applies the principles specific to organic farming, sustainable agriculture and environmental protection, agricultural land appraisal and agricultural fund management.
TOPICS: defines eco-marketing, notion of quality, presents eco-marketing strategy, characterizes the eco-marketing mix, presents the characteristics of the organic products market.
TEACHING LANGUAGE: Romanian
KNOWLEDGE ASSESSMENT: Final theoretical colloquium 50%, Reports during the semester 50%.
ASSESSMENT TYPE: Colloquium

BIOENGINEERING AND BIOTECHNOLOGIES APPLIED IN AGRICULTURE I

CREDITS: 5
YEAR/SEMESTER: Ist year / Ist semester
HOURS PER WEEK: 2 hours course, 2 hours practical course
NUMBER OF WEEKS: 14
COURSE TYPE: specialization discipline
COURSE OBJECTIVES: Knowledge of processes of initiation of plant cultures in vitro; Knowledge of the processes of obtaining and using somaclonal variability as a new source of valuable characters for the modern improvement of agricultural plants; Acquiring knowledge about the main types of in vitro cultures and their practical applications in agriculture.
TOPICS: Recent Achievements and Prospects for Engaging Bioengineering and Biotechnologies in Agriculture; In vitro superior plant culture; Types of in vitro cultures; The culture of meristems. Classification and practical applications in agriculture.

TEACHING LANGUAGE: Romanian
KNOWLEDGE ASSESSMENT: Exam answers 50%, Reports during the semester 50%.
ASSESSMENT TYPE: Exam

THE BASIS OF ORGANIC FARMING I

CREDITS: 5
YEAR/SEMESTER: Ist year / Ist semester
HOURS PER WEEK: 1 hour course, 1 hour seminar
NUMBER OF WEEKS: 14
COURSE TYPE: specialization discipline
COURSE OBJECTIVES: Knowledge of the theoretical and practical peculiarities of ecological agriculture and the ecological methods of plant protection against weeds, diseases and pests; Radiography of organic farming worldwide, in European Union and Romania.
TOPICS : The scientific basis of organic farming; Theoretical and practical features; The advantages and disadvantages of organic farming; Organic production rules in the plant, livestock and beekeeping system; The basis of organic farming in different types of agroecosystems.
TEACHING LANGUAGE: Romanian
KNOWLEDGE ASSESSMENT: Answers to exam 50%, Reports during the semester 50%
ASSESSMENT TYPE: Exam

THE INTEGRATED CROP PROTECTION

CREDITS: 5
YEAR / SEMESTER: Ist year / Ist semester
HOURS PER WEEK: 1 hour of course, 1 hour of practical works
NUMBER OF WEEKS: 14
COURSE TYPE: specialization discipline
COURSE OBJECTIVES: Knowledge and study of pathogens and harmful species, monitoring the evolution of attack levels and damage rates, and the use of preventive and control methods to keep them under the PED, the use of forecast and warning and phytosanitary quarantine
TOPICS: Integrated control-definition, object, importance to the agricultural practice and Food Safety; Methods of combating diseases and pests and their interaction; Developmental equations of various pathogens and pests and their use in plant protection practice; General information about the epidemiology of plant parasitic diseases.
TEACHING LANGUAGE: Romanian
KNOWLEDGE ASSESSMENT: Answersto exam 60%, Final answers to Laboratory works 40%
ASSESSMENTTYPE: Exam

MACHINING SYSTEMS FOR MINIMAL WORK OF THE SOIL

CREDITS: 5
YEAR/SEMESTER: Ist year / IInd semester
HOURS PER WEEK: 1 hour course, 2 hours practical course
NUMBER OF WEEKS: 14
COURSE TYPE: specialization discipline
COURSE OBJECTIVES: Establishment of soil work systems according to the agro-technical requirements imposed on the works to be performed by the agricultural machines and equipment and on the diversity of the physical and mechanical properties of the materials.
TOPICS: Studying the trends in the construction of agricultural tractors and agricultural machinery, their control and regulation systems; Study of modern systems for tracking the working parameters used in the construction of sowing machines; Methods and means of exploiting agricultural aggregates with minimal noxes.
TEACHING LANGUAGE: Romanian

KNOWLEDGE ASSESSMENT: Final theoretical exam 60%, Reports during the semester 40%.
ASSESSMENT TYPE: Exam

BIOENGINEERING AND BIOTECHNOLOGIES APPLIED IN AGRICULTURE II

CREDITS: 5
YEAR / SEMESTER: Ist year / IInd semester
HOURS PER WEEK: 1 hour of course, 2 hours of practical works
NUMBER OF WEEKS: 14
COURSE TYPE: specialization discipline
COURSE OBJECTIVES: Acquiring knowledge on the role of transgenesis in agriculture to ensure food security; Knowing the direct and indirect methods of gene transfer to plants and animals; Acquiring knowledge about the main transgenic plants and animals with improved agronomic qualities.
TOPICS: Implications of bioengineering and agricultural biotechnologies in ensuring food security. Perspectives; Molecular basis of transgenesis or recombinant DNA technology; Transgenic organisms and their role in ensuring sustainable food security.
TEACHING LANGUAGE: Romanian
KNOWLEDGE ASSESSMENT: Answers to colloquium 50%, Reports during the semester 50%
ASSESSMENT TYPE: Colloquium

SUSTAINABLE WASTE MANAGEMENT IN AGRICULTURE

CREDITS: 5
YEAR / SEMESTER: Ist year / IInd semester
HOURS PER WEEK: 1 hour of course, 1 hour of practical works
NUMBER OF WEEKS: 14
COURSE TYPE: complementary discipline
COURSE OBJECTIVES: Explaining the principles and strategic objectives regarding the management of waste resulting from agricultural activities, to reduce the impact on the environment and promote sustainability. Theoretical and practical training of master's students regarding the identification of waste generating sources in agriculture; the impact of waste on the environment, humans and animals; strategies for sustainable waste management in agriculture through collection, storage, treatment, reuse and biotechnological valorization, for sustainable agriculture and environmental protection.
TOPICS: Current environmental issues. Agricultural waste and the sources that generate it. Types of agricultural waste. The impact of agricultural waste on the environment and biodiversity. Strategies for sustainable management of agricultural waste. Distribution of competencies in waste management planning. Legislative aspects. Objectives of sustainable waste management in agriculture. Evolution of agricultural waste generation in Romania - case studies. Selective collection and storage of waste. Principles and methods for sustainable treatment of agricultural waste - case studies. Strategies for efficient reuse and recovery of agricultural waste - case studies. Involvement of biotechnology in sustainable waste management in agriculture.
TEACHING LANGUAGE: Romanian
KNOWLEDGE ASSESSMENT: Answers to colloquium 50%, Reports during the semester 50%
ASSESSMENT TYPE: Colloquium
ASSESSMENT TYPE: Colloquium

NUTRIENT MANAGEMENT AND ENVIRONMENTAL QUALITY

CREDITS: 5 (Course) and 5 (Project)
YEAR / SEMESTER: Ist year / IInd semester
HOURS PER WEEK: 2 hour of course, 2 hour of project
NUMBER OF WEEKS: 14
COURSE TYPE: specialization discipline

COURSE OBJECTIVES: Students gain knowledge about the role of nutrients in plant life and nutrient needs, as well as optimizing and optimizing fertilization systems for the main plant species to obtain superior agricultural and horticultural production qualitatively and quantitatively while maintaining and increasing soil fertility; Students should know the main characteristics of natural organic and mineral agrochemical resources used in agricultural practice;
TOPICS: The role of nutrients in the process of growing and developing crop plants; Role of nitrogen, phosphorus, potassium, magnesium, calcium, iron, manganese, zinc, molybdenum; Principles, methods (techniques) for the rational use of fertilizers in agriculture.
TEACHING LANGUAGE: Romanian
KNOWLEDGE ASSESSMENT: Exam, project answers 100%
ASSESSMENT TYPE: Exam, Project

SPECIAL TECHNOLOGY FOR OBTAINING AGRICULTURAL PRODUCTS

CREDITS: 5
YEAR / SEMESTER: Ist year / IInd semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
COURSE TYPE: specialization discipline
COURSE OBJECTIVES: The quality of the products is appreciated taking into account more characteristics: physical, chemical and technological. Emphasis is on hygienic, ecological and biological quality. Production systems are optimized in such a way that they are viable from the point of view economical, reproducible, capable of ensuring use of the territory with a minimum of consumption.
TOPICS: The main biological, ecological and technological factors that make organic farming more productive; Organic farming framework technology: cropping, fertilization, soil work, seed and sowing, care, harvesting, conditioning, certification, storage of cereal crops.
TEACHING LANGUAGE: Romanian
KNOWLEDGE ASSESSMENT: Answers to exam 60%, Final answers to works and homework 40%
ASSESSMENT TYPE: Exam

THE BASIS OF ORGANIC FARMING II

CREDITS: 5
YEAR/SEMESTER: Ist year / IInd semester
HOURS PER WEEK: 1 hour course, 2 hours practical course
NUMBER OF WEEKS: 14
COURSE TYPE: specialization discipline
COURSE OBJECTIVES: Familiarization with specific national and European legislation; Conversion to organic farming: stages, Certification Organisms and specific requirements.
TOPICS: Conservation of water in the soil and its rational use in organic farming; National and international legislative framework; Standards and organisms in organic farming. IFOAM, NOP and JAS standards; Control and certification organism sodies. Certification of organic farms.
TEACHING LANGUAGE: Romanian
KNOWLEDGE ASSESSMENT: Answers to exam 50%, Reports during the semester 50%
ASSESSMENT TYPE: Exam

2ND YEAR OF STUDY

SPECIAL TECHNOLOGY FOR OBTAINING ECOLOGICAL HORTICULTURAL PRODUCTS

CREDITS: 5
YEAR/SEMESTER: IInd year / Ist semester
HOURS PER WEEK: 2 hours of course, 2 hours of practical works
NUMBER OF WEEKS: 14
COURSE TYPE: specialization discipline
COURSE OBJECTIVES: Assimilating the most appropriate methods to minimize pollutants; Development of differentiated technologies for ecological vegetables.
TOPICS: Ecotechnologies of vegetable species; Description and knowledge of organic cultivation of certified vegetable crops; Organic production of vegetable seedlings: preparation of the substrate; methods of sowing.
TEACHING LANGUAGE: Romanian
KNOWLEDGE ASSESSMENT: Answers to exam 50%, Reports during the semester 50%
ASSESSMENT TYPE: Exam

THE INTEGRATED CONTROL OF ENVIRONMENTAL POLLUTION IN AGRICULTURE

CREDITS: 5
YEAR/SEMESTER: IInd year / Ist semester
HOURS PER WEEK: 1 hour of course, 2 hours of practical works
NUMBER OF WEEKS: 14
COURSE TYPE: specialization discipline
COURSE OBJECTIVES: Identifying of measures and methods to reduce the pollution of the environment with nitrates and pesticides and maintaining a cleaner environment; Use of modern methods of scientific investigation in the field of environmental protection
TOPICS: Water pollution, wastewater; Classification of water pollution; Waste water and their components. Biological wastewater treatment; Physical and chemical treatment of waste water; Sediment treatment; Waste management resulting from agricultural activities. Recycling of organic waste and fractions. Recycling of plastics.
TEACHING LANGUAGE: Romanian
KNOWLEDGE ASSESSMENT: Answers to exam 60%, Final answers to works and homework 40%
ASSESSMENT TYPE: Exam

THE USE OF AGROFORESTRY PRACTICES FOR THE PROTECTION OF AGRICULTURAL ECOSYSTEMS

CREDITS: 5

YEAR/SEMESTER: IInd year / Ist semester
HOURS PER WEEK: 1 hour of course, 2 hours of practical works
NUMBER OF WEEKS: 14
COURSE TYPE: complementary discipline
COURSE OBJECTIVES: Student's knowledge of the biological, ecological, technical and economic bases of agro-forestry systems; Design and management of agro-forestry systems.
TOPICS: The biological, ecological, technical and economical bases of agro-forestry systems; The management of agro-forestry systems; Economic efficiency of agro-forestry systems; Elaborate a feasibility study to establish an agro-forestry system
TEACHING LANGUAGE: Romanian
KNOWLEDGE ASSESSMENT: Answers to exam 60%, Presentation feasibility study report 40%
ASSESSMENT TYPE: Exam

THE NON-POLLUTION EXPLOATATION OF AGROTURISTICS RESOURCES

CREDITS: 5
YEAR/SEMESTER: IInd year/ Ist semester
HOURS PER WEEK: 1 hour of course, 1 hour of practical works
NUMBER OF WEEKS: 14
COURSE TYPE: complementary discipline
COURSE OBJECTIVES: Identify the tourist potential of a hillside / mountain area and develop a database to design a farm / agro-tourism enterprise that complies with all environmental protection standards; Acquiring European concepts: agrotourism, ecotourism, rural tourism.
TOPICS:Agroturism and rural tourism in Romania; Legislation, tourist application in the rural area; Actions and measures improved for the development of rural tourism; The village and real opportunities in the field of agriculture and rural tourism.
TEACHING LANGUAGE: Romanian
KNOWLEDGE ASSESSMENT: Answers to colloquium 50%, Final answers to works and homework 50%
ASSESSMENT TYPE: Colloquium

AGROECOLOGY

CREDITS: 5
YEAR / SEMESTER: IInd year / Ist semester
HOURS PER WEEK: 1 hour of course, 2 hours of practical works
NUMBER OF WEEKS: 14
COURSE TYPE: specialization discipline
COURSE OBJECTIVES: Acquiring knowledge about the main types of agroecosystems and their productivity; Knowledge of the particularities and ecological principles used in the management of natural resources and the preservation of the environment.
TOPICS: Agricultural Ecosystem (Agroecosystem); The concept of agroecosystem. Origin and evolution of agroecosystems; Environmental concepts and principles in managing natural resources and preserving the environment; Ecodevelopment (Sustainable Development - Sustainable Development).
TEACHING LANGUAGE: Romanian

KNOWLEDGE ASSESSMENT: Answers to colloquium 50%, Reports during the semester 50%
ASSESSMENT TYPE: Colloquium

ETHICS AND ACADEMIC INTEGRITY

ECTS CREDITS: 5
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): final examination (answers to colloquium 60%, evaluation during the semester 40%).
ASSESSMENTTYPE: colloquium

PROFESIONAL PRACTICE FOR ELABORATION OF DISSERTATION

CREDITS: 20
YEAR / SEMESTER: IInd year / IInd semester
HOURS PER WEEK: 16 hours of project
NUMBER OF WEEKS: 12

PREPARATION OF THE DISSERTATION PAPER

CREDITS: 10
YEAR / SEMESTER: IInd year / IInd semester
NUMBER OF WEEKS: 2