

Plant protection MSc

Course title	Coordinator	Credit	Lecture hours	Practice hours	Assessment	Semester	Contents
Pesticide Chemistry I.	Balláné dr. Kovács Andrea	2	15	15	ESE	1	The aim of the subject to let the students to know the physical and chemical properties, the biological efficiency of pesticides.
Pesticide Chemistry II.	Balláné dr. Kovács Andrea	2	15	15	ESE	2	Characterisation and classification of zoocides. Insecticides: Natural insecticides, synthetic pyrethroids, organophosphate insecticides, carbamate insecticides
Molecular Biology	Dr. Karaffa Erzsébet	2	15	15	ESE	3	The purpose is to familiarize the student with those concepts that are basic to detailed study of the structure and function of nucleic acids and mechanisms of gene expression as well as concepts recombinant DNA technology
Environmental protection and toxicology	Dr. Nagy Antal	2	15	15	ESE	1	Trends in the use of pesticides. International regulation (authorization and disallowance) of pesticides. Acute toxicity and mutagenicity of pesticides.
Soil Conservation	Dr. Kátai János	1	15		ESE	1	The soil is a natural resource, which has vertisale functions. The role and importance of soil in the countries of EU. The soil has an important part of natural setting.
Plant Protection Ecology	Dr. Bozsik András	3	30	15	ESE	1	Notion, definition and partition of ecology. Ecology and environmental conservation. Is it possible to maintain the diversity of nature? Are there biological equilibrium? Factors of the environment
Plant protection economy and marketing	Dr. Bai Attila	2	30		ESE	2	to give basic knowledge for the students about the establishment of enterprises, the principals of economical decision making and commercial basics as well as alternative agricultural activities (energy crops, investment analysis, bioenergy production)
Rural development and business management	Dr. Nagy Géza	2	30		ESE	2	the development of rural policy in EU (background, reasons for development, legislation, instruments and measurements)
General Plant Pathology I.	Dr. Kövics György	3	30	15	ESE	1	Characteristics of plant pathogenic Prokaryotes, including Bacteria and Phytoplasmata. Characteristics and classification of plant pathogenic fungi
General Plant Pathology II.	Dr. Kövics György	2	15	15	ESE	2	Introduction. Parasitism and disease development. Effects of pathogens on plant physiological functions. Genetics of plant disease. How pathogens attack plants? How plants defend themselves against pathogens?
Plant Protection Entomology-I.	Dr. Bozsik András	3	30	15	ESE	1	Notion, definition, object, parts of plantprotection zoology. Basics, categories of taxonomy. The binomial nomenclature. Morphology, physiology, embryonic and postembryonic development, types of larvae and pupas, diapause (dormancy) of insects. Origin of insects
Plant Protection Entomology-II.	Dr. Bozsik András	2	15	15	ESE	2	The student should be able to know (theoretically and practically) the afore written scientific knowledge tailored mainly for Central Europe. This knowledge consists of the morphology, physiology, development, taxonomy, ecology of the pests
Herbology I.	Dr. Dávid István	2	15	15	ESE	1	Definition of weeds, harms of weeds. Life types of weeds. Reproduction and dormancy of weeds. Identification of weed species. Identification of weed seedlings and seeds.

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Herbology II.	Dr. Dávid István	2	15	15	ESE	2	Identification of weed species. Identification of weed seedlings and seeds. Effects of crop production techniques on weed associations. Mechanical, agrotechnical, biological and chemical weed control techniques.
Applied plant biotechnology and resistance biology	Dr. Fári Miklós	2	15	15	ESE	2	Students need to study the history, different methods, molecular genetic, genetic, physiological and technological background, theoretical and practical perspectives of application, national and international results of plant biotechnology.
Plant protection technical advice	Dr. Pető Károly	2	30		ESE	4	The most important aim is students possess those basic knowledge which are in strong connection with Advisory methods and knowledge system and decision making of specialty
Mechanics in Plant Protection	Dr. Hagymássy Zoltán	2	15	30	ESE	2	Main type of the sprayers, The flow system of the sprayers, Sprayer pumps
Crop cultivation	Dr. Csajbók József	2	15	15	ESE	1	Students can pick up detailed academic knowledge about the complex relationships between the crop production technology and crop protection, and get some practical experiences related to this area
Horticulture	Takácsné dr. Hájos Mária	2	15	15	ESE	2	Knowledge the modern growing technology of more considerable horticultural plant, ability to choice the optimal growing place, skill to define the factors which determine the quality and their application in the growing.
Diagnostoc Methods in Plant Pathology	Dr. Kövics György	2	15	30	ESE	1	Classifications of symptomes. Symptomatological survey (diseases on herbarium, pictures, and preparations). Open field practices in Demonstration Gardens to develop symptome-based disease diagnostic skills
Prognostic in Plant Protection	Dr. Radócz László	2	15	15	ESE	3	Demonstrate the different levels of plant protectional forecasting. Methods for forecasting weeds, pests and pathogens in different plant cultures
Informatics in Plant Protection	Dr. Herdon Miklós	2	15	15	ESE	4	Database management knowledge. Internet services. Fundamentals of GIS (concepts, spatial information systems, characteristics, modelling, data collecting, hardware and software tools, analysis, visualization, application areas)
Integrated Pest Management	Dr. Radócz László	3	45	15	ESE	3	To learn the most important principles of integrated plant- and fruit protection. To present the most important pests and pathogens of the important plant cultures as well as to study the basic technologies (mechanical, agrotechnical, chemical, biological) against them.
Plant Protection in Forestry	Dr. Csóka György	2	15	15	ESE	2	Forests of the World, Europe and Hungary. Main data and trends about the Hungarian Forestry. Why do wee need forest protection? The most important special expressions, definitions
Plant Protection law and Administration	Dr. Tarcali Gábor	2	30		ESE	4	Introduction and historical overview. The pest management professional organozation, the plant protection authorities. Effective pest control legislation, control of pests
Detailed Plant Pathology I.	Dr. Kövics György	3	30	15	ESE	3	Nonparasitic and infectious diseases of main continental climate plants including cereals, fodder plants, fabaceous plants, potato, sugarbeet, field vegetables, tobacco.
Detailed Plant Pathology II.	Dr. Kövics György	2	15	30	ESE	4	Nonparasitic and infectious diseases of main continental climate fruits

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Detailed Plant Protection Zoology I.	Dr. Bozsik András	3	30	15	ESE	3	Taxonomy, development, importance, damage, ecological characterization, forecasting and control possibility of the most important animal pests of major crops in Central Europe
Detailed Plant Protection Zoology II.	Dr. Bozsik András	2	15	30	ESE	4	Taxonomy, development, importance, damage, ecological characterization, forecasting and control possibility of the most important animal pests of major crops in Central Europe
Weed management I.	Dr. Dávid István	2	15	15	ESE	3	Identification of weed species. Methods of herbicidal treatments, types of adjuvants. Penetration and translocation of herbicides
Weed management II.	Dr. Dávid István	2	15	15	ESE	4	Identification of weed seedling. Weed control on arable lands and in horticulture
Practical IPM	Dr. Radócz László	3	30	15	ESE	3	To demonstrate that the practical plant protection is an integrated part of the plant production. It is important to have a viewpoint not only pesticide application is the only solution to the plant protection challenge
Practical IPM	Dr. Radócz László	2	15	30	ESE	4	To demonstrate that the practical plant protection is an integrated part of the plant production. It is important to have a viewpoint not only pesticide application is the only solution to the plant protection challenge
Food safety and quality assurance	Borbélyné dr. Varga Mária	1	15		ESE	2	Food safety and risk analysis
Plant Protection in Biofarms	Dr. Kövics György	1	15		ESE	3	The roles and characteristics of bio-/biodynamic-/organic-/eco-/farming. Biofarms around the world. Sustainability of the health of soils, ecosystems and people
Introduction to Tropical Plant Protection (Entomology, Plant Pathology, IPM)	Dr. Bozsik András	2	30	15	ESE	2	The nature and extent of pest damage in the tropics and the roles of various pest: nematodes, insects, mites, vertebrates, pathogens, and weeds. Introduction to the animal pests of tropical crops
Introduction to Tropical Plant Protection (Entomology, Plant Pathology, IPM)	Dr. Kövics György	2	15	15	ESE	3	The nature of tropical diseases. Introduction to the major diseases of some important subtropical and tropical cultures
Introduction to Tropical Plant Protection (Entomology, Plant Pathology, IPM)	Dr. Radócz László	2	15	15	ESE	4	Introduction to the Integrated Pest Management both theoretically and practically. Weeds and management
Intercultural communication	Dr. Troy B. Wiwczaroski	2	30		ESE	1	Intercultural Knowledge and Awareness, Understanding, Intrapersonal, Interpersonal, and Group Communication Skills, Critical-Thinking Skills
Practical intercultural communication skills	Dr. Tar Ildikó	2		30	AW5	1	The aims of this module are to Introduce the theoretical framework underpinning intercultural competence provide opportunities for individual and group self-reflection on existing communication, social and interpersonal skills to build intercultural competence to build knowledge, mind-set and behaviors to enhance intercultural competence
Professional English skills I.	Dr. Troy B. Wiwczaroski	2		30	AW5	2	to develop and to hone professional oral business communication skills, i.e. public speaking skills and competencies, on a sound basis of theoretical and practical knowledge

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Professional English skills II.	Dr. Troy B. Wiwczaroski	2		30	AW5	3	This course focuses on training students to command the basics of where written and oral communication intersect in the business world, i.e. designing, writing and presenting HR-related materials, e.g. advertisements for positions, CVs and cover letters, as well as business reports, case studies, public administration documents and PR-type activities
Academic language skills I.	Dr. Troy B. Wiwczaroski	2		30	AW5	2	This course introduces students to the mechanics of more formal academic writing. Organization, tone, stylistics, thesis statements, proper methods of citation and documentation are included
Academic language skills II.	Dr. Troy B. Wiwczaroski	2		30	AW5	3	This course introduces students to the mechanics of using scientific vocabulary and phraseology in more formal academic writing
Planning and evaluation of Plant Protection Trials	Dr. Bozsik András	2	15		ESE	1	Testing of insecticides. Laboratory experiments: test animals, treatment methods, dose – response connection, assessing of the mortality (LC, LD50, LT50), evaluation methods. Field experiments
Mushrooms and fungal toxicology	Dr. Radócz László	2	15	15	ESE	3	This subject provides an overview of eatable and poisonous fungi. The structure of their fruiting bodies and mycetism
Protection of Stored Products	Dr. Bozsik András	2	15		ESE	4	Economical and public health importance of common animal pests of stored products. Opportunity of spreading, expansion, life history, life circumstances. Sampling and forecasting methods
Cultural entomology	Dr. Bozsik András	2	15		ESE	4	Famous examples and works of all kinds of connection of entomology and culture like philosophy, history, religion, folklore, mythology, literature, music, art of the human heritage from Egyptian mythology to European literature or from American Indian art to modern tattooage will be studied
PCR in Mycology	Dr. Karaffa Erzsébet	2	15	15	ESE	4	The purpose of this semester of Molecular Biology is to familiarize the student with those concepts that are basic to detailed study of the structure and function of nucleic acids and mechanisms of gene expression as well as concepts recombinant DNA technology
Entomological methodology	Dr. Nagy Antal	2	15	15	ESE	4	The frequently used sampling methods and strategies in entomological studies. The effectiveness and selectivity of different methods and limit of their use