John von Neumann University Faculty of Horticulture and Rural Development

(HU KECSKEM03) ***2025-2026 academic year***

FALL

Course unit	Semester	ECTS	Department	Tutor
Basics of viticulture	fall	3	Department of Horticulture	Ferenc Baglyas, PhD
Basic knowledge of fruit growing and nursery	fall	3	Department of Horticulture	Anikó Kajtár-Czinege
Microbiology and tissue culture	fall	3	Department of Agricultural Science	Virág Mihálka, PhD
Environmental management, sustainable development	fall	3	Department of Agricultural Science	Judit Pető, PhD
Basic ornamental cultivation	fall	3	Department of Horticulture	Károly Ecseri PhD
Basics of vegetable growing	fall	3	Department of Horticulture	Barbara Szantner
Botany 1.	fall	3	Department of Horticulture	Károly Ecseri PhD
Crop production	fall	3	Department of Agricultural Science	Attila Hüvely, PhD
Economics	fall	3	Department of Agricultural Economy and Rural Development	Katalin Herbály, PhD
International economics	fall	3	Department of Agricultural Economy and Rural Development	Katalin Herbály, PhD
Green infrastructure in the climate change	fall	3	Department of Agricultural Economy and Rural Development	Edit Hoyk, PhD

Basics of viticulture

To provide basic knowledge for the practical horticulturist of vineyards that can be used to manage both private farms and integrated vineyards for efficient and productive production.

Basic knowledge of fruit growing and nursery

The students will learn about fruit species, their grouping, flowering, fertility and yield characteristics of fruit plants, their association, cultivation systems and the basics of fruit nursery propagation.

Microbiology and tissue culture

Provides basic knowledge of the microbiology science field. Students get acquainted with the basic microbiological concepts, the structure, basic life processes and systematization of microbes. Students will be aware of the role and significance of microorganisms in agricultural production.

Environmental management, sustainable development

The teaching of the subject draws attention to the high level of coordinated protection of the environment and its elements and processes, to ensure sustainable development. It focuses on the conservation, maintenance of natural resources and on the reasonable, economical and resource-intensive use of them.

Basic ornamental cultivation

Students will learn about the attributes of Hungarian and international ornamental plant production sector, characteristic of ornamental plant production and trade, conditions of production. The aim of these course is to provide basic knowledge of remarkable annuals, biennials, lawn (morphology, production, application, maintenance), the used flower bed forms and planting systems.

Basics of vegetable growing

The aim of the course is the students get to know the relevance of field vegetable cultivation. To learn technological basic knowledge for field cultivation of vegetables.

Botany 1.

Students will learn about the most important botanical relationships and regularities within the framework of the subject. Master the cytological, histological, morphological bases and test methods. Get a skill learned in the process of application of plant organs. The course contributes to the development of the biological approach.

Crop production

Our most important arable crops cultivation methods, their role in agriculture and their importance. Describe the situation of Hungarian crop production in the European Union.

Economics

This course offers an introduction to the market system, emphasizing the importance of needs and scarcity, and also the economic interactions among households, business firms and the government. Topics include supply, demand, and equilibrium. You will learn how how prices help coordinate market activities, and how people respond to changes in price. You will also study the relationship between price and supply, examine the elasticity of supply and demand, and gain a strong understanding of the essential subjects of taxes and subsidies. The course covers the optimum choice of consumers, and the market models, as well. Macroeconomics is a course that introduces students to the principles that apply to an economic system as a whole. The course places particular emphasis on the study of national income and price-level determination. It also develops students' familiarity with economic performance measures, the financial sector, stabilization policies, economic growth and the roles of the government. Students learn to use graphs, charts, and data to analyse, describe, and explain economic concepts on national level.

International economics

One of the key aims of the course is to discover the origins of today's major international economic institutions. Besides that, students will learn about how these groups function as well as their successes and failures. Students will have the opportunity of in-depth exploration of the key theoretical trends that have developed in the study of international relations and regional integration, highlighting the problem of trans-nationalization, regionalism and multi-level governance. Participation in the course does not require any preconditions, however, basic economic knowledge would be an advantage.

Green infrastructure in the climate change

Clime change is one of the biggest challenges nowadays. Mitigation and adaptation to this process is essential. Cities are very sensitive, especially in summer, because of the heat waves, droughts and excessive rainfalls – which can cause flash floods. Green infrastructure is the best adaptation tool against harmful effects of the climate change. During the course, we discuss the characteristics and importance of green infrastructure from different aspects. It means for example types, design options, shading ability, water retention, etc.

SPRING

Viticulture technologies	spring	3	Department of Horticulture	Ferenc Baglyas, PhD
Fruit growing technologies.	spring	3	Department of Horticulture	Anikó Kajtár-Czinege
Microelements in agriculture	spring	3	Department of Agricultural Science	Judit Pető, PhD
Open field ornamental cultivation	spring	3	Department of Horticulture	Károly Ecseri PhD
Open field vegetable growing	spring	3	Department of Horticulture	Barbara Szantner
Animal husbandry	spring	3	Department of Agricultural Science	Attila Hüvely, PhD
Project writing	spring	3	Department of Agricultural Economy and Rural Development	Katalin Herbály, PhD
Principles of tourism	spring	3	Department of Agricultural Economy and Rural Development	Katalin Herbály, PhD
Environmental economics	spring	3	Department of Agricultural Economy and Rural Development	Katalin Herbály, PhD
Cross-cultural management	spring	3	Department of Agricultural Economy and Rural Development	Katalin Herbály, PhD
Rural tourism	spring	3	Department of Agricultural Economy and Rural Development	Edit Hoyk, PhD

Viticulture technologies

Based on the basic knowledge learnt in the previous semester students learn the viticulture technology that can be used to manage both private farms and integrated vineyards for efficient and productive production.

Fruit growing technologies

Students will learn about plantation establishment, agro- and phytotechnical basics of fruit plantations, methods of yield estimation and control, harvesting, storage, making goods and marketing in general.

Microelements in agriculture

The course shows the importance of microelements - mainly in agriculture, the processes influencing the quantity and the form of microelements in the soil, factors influencing the uptake of microelements by plants and the role and importance of these elements in animals and the human body as well. Microelements play role in most biochemical processes, contribute to human health and on the other hand, deficiency symptoms or toxic events. The question is complicated, the aim of this course to bring students closer to understanding the importance of micronutrients.

Open field ornamental cultivation

The aim of the course is to provide knowledge about the importance of ornamental tree nursery production, condition of establishment, propagation and growing technologies of woody ornamental plants. Moreover the morphology, ecology and application of trees and shrubs is presented, which plays significant role in trade. The course also covers the field cultivation technology of herbaceous perennials, as well as knowledge of the most important taxa.

Open field vegetable growing

The aim of the course is the students get to know the relevance of field vegetable cultivation. To learn technological knowledge for field cultivation of important vegetables. Students should be able to coordinate, execute and commodity production in the field technologies.

Animal husbandry

To familiarize students with the specific skills of detailed livestock breeding in addition to general animal husbandry knowledge. The purpose of the semester is to enable students to master the characteristics of the main types of cattle, sheep, pig and poultry species, the main characteristics of breeding, keeping and laying the individuals in the given utilization direction, and to understand the main breeding and production indicators.

Project writing

The purpose of the course is to study the short summary of the Regional Policy of the European Union in order to understand the background of EU Funds. Project development and successful proposal writing depends on the drafting of high-quality proposal texts. This course is designed to go in depth on selected parts of EU projects. Furthermore, to provide the knowledge, skills and abilities for students to know how to establish required text parts. Finally, students must be able to improve and fine application texts to match evaluator's expectations. The aim of the course is also to adapt the theoretical knowledge in practice

Principles of tourism

The purpose of the course is to explain the history of tourism and the characteristics of the tourism market. The other aim is to develop an understanding of the importance of the travel and tourism industry to host destinations, to communities and to the economy globally and locally. It describes the positive and negative impacts of tourism and the importance of sustainability. Students will understand how the travel and tourism industry responds to change, including technological advances. The aim of the course is also to adapt the theoretical knowledge in practice.

Environmental economics

The theory of externalities and market failure will provide the basis for applying microeconomic concepts to the study of environmental improvement. Analytical tools, particularly benefit-cost analysis, will be explained and applied to problems with environmental dimensions. Criteria and strategies used in the development and implementation of environmental policies will be defined and summarized. The past and present state of environmental well-being with respect to air, water and waste management will be summarized. Theoretical and policy formulations will be pursued with respect to environmental management issues such as air and water quality, and solid and hazardous waste.

Cross-cultural management

One of the main goals of the course is to understand the perspectives of other cultures and resolve possible conflicts. Topics include the nature and dimensions of culture, issues relating to cross-cultural problem solving, the dynamics of multi-cultural teams, and managing global teams across cultures. The course examines issues, related to cultural diversity within the workforce and the problems inherent in the management of a firm's activities on an international scale. This course evaluates the practice of management and negotiation in an international cross-cultural context. The challenges of managing international business relationships are critically analysed by case studies that will provide practical competencies for students, as well.

Rural tourism

Students should get acquainted with the significant processes that fundamentally determine the current conditions of rural tourism. The course gives information about connections between horticulture, agriculture and rural development, and the role of tourism in rural development.