

## RURAL DEVELOPMENT ENGINEERING MSc

**Course Name:**

Rural Development Engineering MSc

**Degree:** Master in Rural Development Engineer

**Contact person:**

Dr. Dóra Demeter Dr. Nagyné PhD.

associate professor

[ndemeter.dora@uni-eszterhazy.hu](mailto:ndemeter.dora@uni-eszterhazy.hu)



**Education goals**

The studies aim at training agricultural engineers in rural development capable of, due to their expertise gained, supervising production, distribution and regulation processes securing the optimal use of resources as well as organisation and management processes in connection to production and services. They are also eligible for fulfilling planning-development engineer, researcher and manager posts as well as further studies in doctoral schools.

**Making use of professional knowledge**

Graduates will be able to fulfil managerial, organisational, magisterial and administrative posts at state-owned and civil organisations which are responsible for managing, supervising and organising agriculture on the central, regional and local level. They can participate in the management and administration of EU bodies as well as in implementing agricultural policies. They can take part in managerial and organisational tasks at institutions in the system of relations between the European Union and the state-run public budgetary sector as well as agriculture. They can participate in working out and implement strategies on land utilisation, eco-production and integrated production methods and, what is more, to write and coordinate projects connected to developing rural regions.

**Length of the programme:** 4 semesters (22 months)

**Total credit:** 120

**Admission criteria**

Admission to the studies in the Masters course is subject to the student obtaining a minimum of 60 credits in the fields listed. The lacking credits, following the acknowledgement of the minimum of 60 credits, to the 84 credits, should be obtained by the students collaterally with the Masters course, as according to the academic and examination regulation of the higher education institute.

-Finally, with fulfilling credits described above, any BSc courses with BSc and MSc qualifications as well as college or university level BSc courses according to Act No. 80 of 1993 on the higher education can be considered, that are approved by the credit transfer committee of the higher education institute based on the comparison of studies on which credit assignment is based.

**Procedure for transfer of credits**

With full credit values the followings can be taken into account: BSc in Agricultural Engineering in Agribusiness and Rural Development, BSc in Agricultural Engineering in Agricultural Computing and Policy Administration.

To the access, the students should have at least 84 credits to be acknowledged based on the comparison of studies for credit assignment as defined in the law on the higher education based on their previous studies in the following fields: sciences, agriculture, economics, rural development and policy administration studies.

**Prerequisite of issuing the diploma**

A successful final exam as well as a C-type accredited language examination at least on intermediate-level or an equivalent GCSE or a certificate are necessary in a foreign language that have specialist literature in the given profession.

## RURAL DEVELOPMENT ENGINEERING (MSC)

### CURRICULUM

#### Semester 1

Subject	Course Type	Number of classes/week		Credit value	Evaluation	Course leader
		theory	practice			
Analysis-methodology	FS	1	2	4	Practice-based grade	Dr. Csaba Lénárt
Fundamentals of Management Accounting	FS	2	1	4	Examination	Dr. Ilona Szabó Helgertné
Agricultural, Rural and Environmental Policy	PCS	3	2	6	Examination	Dr. Dóra Demeter Dr. Nagyné
Rural Economics	PCS	2	2	5	Examination	Dr. Norbert Bozsik
Rural sociology and community development	FS	2	1	3	Examination	Dr. Míra Alma Demszky
Urban Development	PCS	2	2	5	Examination	Dr. Gábor Koncz
<b>Total number of contact classes</b>		<b>12</b>	<b>10</b>	<b>27</b>		

## Semester 2

Subject	Course Type	Number of classes/week		Credit value	Evaluation	Course leader
		theory	practice			
Human Resources Management	FS	2	2	5	Examination	Dr. Andrea Herneczky
The Legal Environment of Business	FS	2	0	4	Examination	Dr. Róbert Román
Specialization Seminar	SPS	2	6	10	Practice-based grade	Dr. Gábor Koncz
Social and Human Studies	SPS	2	1	4	Examination	Dr. Míra Alma Demszky
Market Economics	SPS	2	1	4	Examination	Dr. Norbert Bozsik
Agroinformatic Systems	PCS	1	2	5	Practice-based grade	Dr. Zoltán Zörög
<b>Total number of contact classes</b>		<b>11</b>	<b>12</b>	<b>32</b>		

## Semester 3

Subject	Course Type	Number of classes/week		Credit value	Evaluation	Course leader
		theory	practice			
Integrated regional and rural development	PCS	2	3	6	Examination	Dr. Dóra Demeter Dr. Nagyné
Application and Project Management	PCS	2	2	5	Examination	Dr. Tamás Erdélyi
Thesis Writing I. - Rural Development Engineering MSc	TW	0	2	10	Practice-based grade	Dr. Antónia Szűcs
Regional Planning and Programming	SPS	2	2	5	Examination	Dr. Gábor Koncz
History of Wining and Wining Culture	OCS	2	0	3	Examination	Dr. Lajos Gál
<b>Total number of contact classes</b>		<b>8</b>	<b>9</b>	<b>29</b>		

## Semester 4

Subject	Course Type	Number of classes/week		Credit value	Evaluation	Course leader
		theory	practice			
History of Agriculture	SPS	2	2	5	Examination	Dr. Erika Nagy-Kovács
Management of Regional and Rural Development Program	SPS	2	1	5	Examination	Dr. Gábor Koncz
Local Economy - and Enterprise Development	SPS	2	2	5	Examination	Dr. Lajos Liebmann
Applied spacial informatics	SPS	2	1	4	Examination	Dr. Péter Burai
Thesis Writing II. - Rural Development Engineering MSc	TW	0	2	10	Examination	Dr. Dóra Demeter Dr. Nagyné
Urban farming	OCS	2	0	3	Practice-based grade	Dr. Béla András Oláh
<b>Total number of contact classes</b>		<b>10</b>	<b>9</b>	<b>32</b>		

Course Type:

*FS – Foundation Subject*

*PCS – Professional Core Subject*

*OCS – Optional Course Subject*

*SPS – Specialized Professional Subject*

*TW – Thesis Writing*

# RURAL DEVELOPMENT ENGINEERING (MSC)

## CURRICULUM

### **Semester 1**

*Subject: Analysis Methodology*

*Type of subject: compulsory (A)*

*Credits: 4*

*Aim of teaching the subject, knowledge to be acquired, application (sub)skills, (sub)competences:*

The aim of teaching this subject is to systematize the methods applied in integrated area and rural development, furthermore to systematize the successfully applied new methods/ method adaptations. Besides the methodological basis, the framework consists of the two coherent components of area development: the system of goals and resources. Our further aim is that students are able to discover and classify the general and specific economic situation of a particular enterprise. They should be familiar with processes and methods that make the economic organization and its capacity transparent. Hereby they might reduce risks in market relations and increase the safety of corporate decision.

Students are required to know and apply mathematical, statistical and spatial informatics methods and to recognize problems of the particular field and to be able to find solutions. Hereby they can develop their problem-solving and creativity skills.

*Subject: Fundamentals of Management Accounting*

*Type of subject: alternative (A)*

*Credits: 4*

*Aim of teaching the subject, knowledge to be acquired, (sub)competences:*

Basic definitions and relations to profit. The basis of accounting costs (basics of costs, possibilities of deducting costs, cost redistribution). The content of the fifth accounts class. The contents of the sixth and seventh classes. The definition of costs, their groups, the variations of their accounting. Costs and total cost in the profit account of total cost procedure. Costs in the profit account of purchase costs. Self cost calculation (basic terms, methods).

*Subject: Agricultural, Rural and Environmental Policy*

*Type of subject: compulsory (A)*

*Credits: 6*

*Aim of teaching the subject, knowledge to be acquired, application (sub)skills, (sub)competences:*

The aim is to make students familiar with the structure, operation and maintenance of machines, equipment and devices to that extent that makes students capable of choosing the right machines, equipment and devices; compiling machine groups, checking the quality of machine works and the basic economical analyses.

**Subject: Rural Economics**

*Type of subject: compulsory (A)*

*Credits: 5*

*Aim of teaching the subject, knowledge to be acquired, application (sub)skills, (sub)competences:*

The aim of teaching the subject is to introduce the content, goal and category system of rural economics. The relationships between regional and rural economics. Definition of being rural and its measuring instruments. Functions and resources of rural economics. Relation systems of resources. New challenges and examination fields of rural economics. Development, diversification and multiplication of the economic base of the countryside. International, national and regional relationships of the development and operation of agribusiness. Students are required to be able to fulfill part-consulting tasks applying the principles of sustainable economics, to contribute to the recognition of the problems in professional fields, to be able to work out efficient solutions, to fulfill innovative, planning, development and research tasks, to be capable of recognizing infrastructural problems and make development proposal. Hereby students will increase professional responsibility consciousness.

**Subject: Rural Sociology and Community Development**

*Type of subject: compulsory (A)*

*Credits: 3*

*Aim of teaching the subject, knowledge to be acquired, (sub)competences:*

The subject introduces the evolution and development of agro- (village) sociology, the theories of society development. Agro- (village) sociology is an important issue in Hungary. Topics: alteration of agricultural society, small producers and small production, introduction of economic, social, regional and political systems of the local community, possibilities of improving rural quality of life. Subject knowledge assists the application of economic, human-environmental and quality assurance systems; the coordination of development, planning and social science, and economic knowledge with the help of the viable principles of rural communities.

**Subject: Urban Development**

*Type of subject: compulsory (A)*

*Credits: 5*

*Aim of teaching the subject, knowledge to be acquired, (sub)competences:*

The main aim of the subject is to introduce and assess the characteristics of the social, economic and environmental processes of a settlement. During the course students will be acquainted with the basic issues and problems of general settlement geography and settlement development. The course details the operation and management of settlement authorities; the settlement management (marketing and regulations), the environmental, social and economic conflicts of the settlements, the idiosyncrasy of settlement infrastructure. It also deals with the toolkit and possibilities of sustainable settlement development. It provides information on technical, technological development of sustainable agriculture and provides knowledge for complex farming. It also contributes to the development of problem-solving activities and professional responsibility.

## **Semester 2**

***Subject: Human Resources Management***

*Type of subject: compulsory (A)*

*Credits: 5*

*Aim of teaching the subject, knowledge to be acquired, (sub)competences:*

The aim of subject is to acquire the necessary basic concepts and relationships in human resource management (HR). We discussed the effect of changes in the human resource function of an independent human resources development, development, understanding the major trends in appearance. We learn the development of human resource management, concept, models, features. The business and HR strategy links the key components of job creation, analysis, evaluation, job description and personal specification, staff procurement, benchmarking, the expectations theory, training and development, material and non-material incentives, the cafeteria are the main contents of the course. Special cases of employment in the agricultural practice. Presentation of case studies. Project preparation work in individual and small-group employment

***Subject: The Legal Environment of Business***

*Type of subject: alternative (B)*

*Credits: 4*

*Aim of teaching the subject, knowledge to be acquired, (sub)competences:*

The primary task of the subject is to get to know the students with the knowledge of the univariate function. The objective is to base the linear methods of optimisation by means of the linear algebra, to prepare teaching operation research and logistics and by forming the term of probability to base the picture about unexpected phenomena and teaching statistics.



It provides knowledge about working out the technology and organisational tasks of the main plant production, horticultural and animal husbandry branches. It imparts knowledge on micro-and macroeconomic applications.

**Subject: Specialization Seminar**

*Type of subject: compulsory (A)*

*Credits: 10*

*Aim of teaching the subject, knowledge to be acquired, (sub)competences:*

The course is designed to learn the tasks of rural development planning in practice. The students carry out these tasks within a teamwork structure. A reconciliation of different opinions likens the job to the real rural development work. The end result of the half year's joint work is a rural development strategy of a freely chosen village. At the beginning of the semester the students learn about the range of data and methods used in rural development planning. The students compose a situation analysis after they collected the available information from secunder databases. The formulation of the strategic goals based on a needs survey (questionnaire or interview-based research). At the end of the semester, students presented and defended their development documents.

**Subject: Social and Human Studies**

*Type of subject: alternative (B)*

*Credits: 4*

*Aim of teaching the subject, knowledge to be acquired, (sub)competences*

To provide the students to learn about our country around the objective of economic and social processes, major trends of globalization and in all of these knowledge they will see the current Hungarian social situation.

Social and human knowledge will contribute to the economic, environmental systems, human interpretation of the development proposals to develop, evaluation of professional.

**Subject: Market Economics**

*Type of subject: alternative (B)*

*Credits: 4*

*Aim of teaching the subject, knowledge to be acquired, (sub)competences:*

The aim of the subject is to make students familiar with the operation of production systems and cost calculation systems; with the classification of production and service systems; with the role of assets in production; with the costs related to assets; and with the simple tool management systems. Furthermore students are required to learn the development of cost calculation systems and to be capable of using

the Price-Cost-Cover-Profit method. Students are required to be familiar with the examination of costs related to stock keeping.

Students will be familiar with the following topics:

- effects of the given corporate, institutional or community projects on the economic, social and natural environment,
- economic, human, environmental and quality assurance systems,
- IT development and planning of the region, social scientific, economic and project coordination and management,
- international, national and regional relationships of agribusiness,
- principles of sustainable agriculture, technical and technological development of agriculture.

The subject partly make students capable of planning, coordinating, managing and monitoring agricultural projects individually with scientific thoroughness; and also of recognizing problems of the special field, finding useful solutions and completing innovative, planning, developmental and research tasks. It develops creativity, communicational and professional responsibility and managerial skills.

**Subject: Agroinformatic Systems**

*Type of subject: compulsory (A)*

*Credits: 5*

*Aim of teaching the subject, knowledge to be acquired, (sub)competences:*

The subject provides knowledge for students majored in Special Engineering in Rural Development about information systems applied in agriculture. The aim of the subject is to familiarize students with the theory and practice of information systems applied in economics and administration, different enterprises and sectors and in the EU.

Pre-requirements of the subject: students are required to be familiar with IT applications, logical knowledge of Windows-based programs, and have skills to operate informatics systems. Further requirement: students are required to know the branch specialties of agriculture.

After having fulfilled the requirements of the course, students will be able to see information in agriculture and rural development structurally, organize it into data base, take and record data exactly and to analyse data. Furthermore they will be acquainted with the information systems and technologies operating in Hungary at present, with which they will be able to support further professional development.

## **Semester 3**

**Subject: Integrated Regional and Rural Development**

*Type of subject: compulsory (A)*

*Credits: 6*

*Aim of teaching the subject, knowledge to be acquired, (sub)competences:*

The main aim of the subject is to introduce the specific components, main relationships, permanent processes, outstanding characteristics and the operation of region and rural development. Students will be familiar with the basic issues of rural development, the possibilities of carrying out rural development programs and with the issues of rural communities' development. The subject pays particular attention to the inter-relationship between area and rural development and to the reforms in the structure of agriculture. The process of project management and the regional analysis of social-economic processes (e.g. unemployment) are essential issues.

**Subject: Application and Project Management**

*Type of subject: compulsory (A)*

*Credits: 5*

*Aim of teaching the subject, knowledge to be acquired, (sub)competences:*

The aim of the subject is to make students familiar with tender and project management in practice in order to use the resources needed for hitting the target of any kind of project in the most effective and fruitful way.

After finishing the course students are capable of managing tenders, and after some practice they can be managers. It develops problem-solving abilities, creativity, communication needed for engineering and managerial tasks, and the need for professional further training.

**Subject: Thesis Writing I.**

*Type of subject: compulsory (A)*

*Credits: 10*

*Aim of teaching the subject, knowledge to be acquired, (sub)competences:*

The course aims to provide students with the knowledge that necessary to preparation the thesis. The goal is to understand the major structural elements of the thesis as well as to work it independently. The implemented tasks during the semester are data collection based on the selected method, acquisition of data processing as well as evaluation results.

**Subject: Regional Planning and Programming**

*Type of subject: compulsory (A)*

*Credits: 5*

*Aim of teaching the subject, knowledge to be acquired, (sub)competences:*

The aim of the subject is to make students familiar with the theoretical base and established practice of regional and project planning; to make students capable of reviewing the basic requirements of regional and project planning. Students are required to determine established targets, to raise the necessary resources and to use them in the most effective way. Introduction of the stages of project planning, target definition and provision of the basic methods of strategy and operative planning also belong to our aims.

The subject partly make students capable of planning, coordinating, managing and monitoring agricultural projects individually with scientific thoroughness; and also of recognizing problems of the special field, finding useful solutions and completing innovative, planning, developmental and research tasks. It develops creativity, communicational and professional responsibility and managerial skills.

**Subject: History of Wining and Wining Culture**

*Type of subject: alternative (C)*

*Credits: 3*

*Aim of teaching the subject, knowledge to be acquired, (sub)competences:*

The complex transmission of knowledge to students in the wine production, trade and consumption culture. The wine in the arts and the its role of the nutrition. The positive health effects of wine. The history of the world's and Hungarian wine production.

Competences to be developed during the course:

- to master the basics of integrated viticulture and oenology
- to gain insight into the relations between wine and the cultural heritage of mankind
- to acquire an original view and methodology concerning the social role and appreciation of wine as a cultic drink

## **Semester 4**

**Subject: History of Agriculture**

*Type of subject: compulsory (A)*

*Credits: 5*

*Aim of teaching the subject, knowledge to be acquired, application (sub)skills, (sub)competences:*

The aim of teaching this subject is to make students familiar with the economy in the prehistoric age and ancient times; and with the evolution and characteristics of the feudalist economy in Europe. Topics: The evolution of capitalist economy in Western-Europe, the Industrial Revolution; Hungarian economy during the Settlements of the Magyars; Characteristics of the feudalist Hungarian economy in the 13<sup>th</sup>-15<sup>th</sup> century; Economy of the Turkish Era in Hungary; The economic policy and toolkit of the Habsburg Empire; Economic efforts in the Reform Era; The development of capitalist economy in Hungary; The Hungarian economy between the two World Wars; War economy in Hungary; War damages, restoration; Planned economy. The subject partly contributes to a wider-scale knowledge of the social aspects of a given company, institution or community. It also helps to learn more about the principles of sustainable economy, and of agricultural, technical and technological development; and about the national and international relationships of the operation and development of agribusiness.

***Subject: Management of Regional- and Rural Development Program***

*Type of subject: compulsory (A)*

*Credits: 5*

*Aim of teaching the subject, knowledge to be acquired, (sub)competences:*

The aim of teaching the subject is to introduce the rural development programs that are aimed at developing the infrastructure of processing and selling agricultural-, forest-, game- and fishing products. Students will be taught how to restore and develop villages and how to systematize, rehabilitate and conserve natural heritage. Students will also be familiar with the IT steps to take in order to protect rural heritage.

Subject requirements: students are required to have project management basics and to be familiar with the characteristics of rural areas.

After finishing the course students will be able to protect rural heritage and to manage projects that assist the development and diversification of rural-economic, local governmental and civil sphere.

***Subject: Local Economy- and Enterprise Development***

*Type of subject: alternative (B)*

*Credits: 5*

*Aim of teaching the subject, knowledge to be acquired, (sub)competences:*

The aim of the subject is to make students familiar with those macroeconomic, microeconomic and regional economic correlations that determine the operation of local economies. Students will be able to

understand the role of the regional development policy of the EU in forming, managing and developing companies and businesses and the role of policies that determine the economic environment of the partly centralized, partly decentralized businesses. The subject is mainly built on the economic role of SMEs and deals with the theoretical basics of business development and the paradigm change in the SME sector. It details the financial and non-financial toolkit of business development. It also details the national business development policies and the national organizations.

The subject helps to learn more about the principles of sustainable economy, and of agricultural, technical and technological development; to recognize problems of the special field, find useful solutions and complete innovative, planning, developmental and research tasks. It develops creativity, communicational and professional responsibility and managerial skills.

**Subject: Applied spatial informatics**

*Type of subject: alternative (A)*

*Credits: 4*

*The aims of the subject, materials to acquire, (partial) skills and competences to apply:*

The subject provides preparatory training for students of economic and rural development engineering about the theory and practice of technologies applied by geographical information systems. During the term students become familiar with the intended purpose, technological architecture, and applications of these technologies. Moreover, students will have the opportunity to learn about the process of spatial informatics data collection in practice, and learn the methods of data management, analysis, and presentation.

Students must have a well based knowledge of IT applications; basic skills in, geodesy and remote sensing; Windows based programmes and the operation of IT systems.

After fulfilling the requirements students will be able to assess the events from a geographical point of view, the IT process and management of geographical data as well as to analyse geographical information.

**Subject: Thesis Writing II.**

*Type of subject: compulsory (A)*

*Credits: 10*

*Aim of teaching the subject, knowledge to be acquired, (sub)competences:*

The course aims to provide students with the knowledge that necessary to preparation the thesis. The goal is to understand the major structural elements of the thesis as well as to work it independently. The

implemented tasks during the semester are data collection based on the selected method, acquisition of data processing as well as evaluation results.

**Subject: Urban Farming**

*Type of subject: alternative (B)*

*Credits: 3*

*Aim of teaching the subject, knowledge to be acquired, (sub)competences:*

In recent times there appeared a phenomenon which is quite unusual, although it has its historical antitypes. This is the so called Urban Farming. Due to the continuously increasing food demand, the increasing rate of urban population worldwide and the necessity of energy consumption decreasing the producing of the food directly on the site of its ingestion is extremely advantageous.

In the last few years appeared a lot of inventions on this field, some of them useful and some of them cannot be realized effectively.

- This course provides an overview of these inventions and the opportunities and advantages (and disadvantages) of their realisation.

- These inventions will be surveyed from many aspects with a special regard to the sustainability.

## **CONTACT FOR INTERNATIONAL COURSE**

### **RURAL DEVELOPMENT ENGINEERING COURSE (MSC)**

Programme owner and contact: **Dr. Dóra Demeter Dr. Nagyné PhD, associate professor**  
[n.demeter.dora@uni-eszterhazy.hu](mailto:n.demeter.dora@uni-eszterhazy.hu)