BULLETIN

UNIVERSITY OF DEBRECEN

Rural Development Engineering

BSC

FACULTY OF ECONOMICS AND BUSINESS

Coordinating Center for International Education

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UNIVERSITY OF DEBRECEN

Date of foundation: 1912 Hungarian Royal University of Sciences, 2000 University of Debrecen

Legal predecessors: Debrecen University of Agricultural Sciences; Debrecen Medical University; Wargha István College of Education, Hajdúböszörmény; Kossuth Lajos University of Arts and Sciences

Legal status of the University of Debrecen: state university

Founder of the University of Debrecen: Hungarian State Parliament

Supervisory body of the University of Debrecen: Ministry of Education

Accreditation dates and statute numbers:

Debrecen University of Agricultural Sciences: 17th December 1996, MAB/1996/10/II/1.

Debrecen Medical University: 5th July 1996, OAB/1996/6/II/6.

Wargha István College of Education, Hajdúböszörmény: 5th July 1996, OAB/1996/6/II/2.

Kossuth Lajos University of Arts and Sciences: 5th July 1996, OAB/1996/6/II/5.

University of Debrecen: 3rd October 2012, MAB/2012/8/VI/2.

Number of Faculties at the University of Debrecen: 14

Faculty of Agricultural and Food Sciences and Environmental Management

Faculty of Child and Adult Education

Faculty of Dentistry

Faculty of Economics and Business

Faculty of Engineering

Faculty of Health

Faculty of Humanities

Faculty of Informatics

Faculty of Law

Faculty of Medicine

Faculty of Music

Faculty of Pharmacy

Faculty of Public Health

Faculty of Science and Technology

Number of accredited programmes at the University of Debrecen:

73 degree programmes with the pre-Bologna 5-year-system university education, 41 supplementary degree programmes offering transfer-degree continuation of studies towards the university degree (MSc), 50 degree programmes with the pre-Bologna 3-year-system college education, 67 BSc and 78 MSc programmes according to the Bologna system, 5 unified one-cycle linear training programmes, 35 specializations offering post-secondary vocational certificates and 159 vocational programmes.

Number of students at the University of Debrecen: 28812

According to time of studies: 22888 full-time students, 5899 part-time students having corresponding classes and 25 part-time students having evening classes or distance education according to education level: 944 students at post-secondary vocational level, 17406 students at BSc, 3112 students at MSc, 21 students at college level, 190 students at university level (MSc), 5320 students at one-cycle linear training, 954 students at vocational programmes, 865 students at PhD, 3741 foreign students.

Full time teachers of the University of Debrecen: 1421

194 full college/university professors and 1055 lecturers with a PhD.

ABOUT THE FACULTY

The Faculty of Economics and Business is currently the largest faculty of the University of Debrecen with about 4000 students and more than 120 staff members. The Faculty has been created by the merger of two former faculties of the university: the Faculty of Economics and Business Administration and the Faculty of Applied Economics and Rural Development. The Faculty has a very wide scope of education dominated by economics and business administration however it has a significant variety of programmes in agribusiness and rural development. We are proud of the large number of our international students currently in the BSc in Business Administration and Management and the MSc in International Economy and Business. The attractiveness of our education is indicated by the popularity of the Faculty in terms of incoming Erasmus students, as well.

THE ORGANIZATIONAL STRUCTURE OF THE UNIVERSITY

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RURAL DEVELOPMENT ENGINEERING BSC PROGRAMME

Programme coordinator: Prof. Dr. Károly Pető
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Objectives and Perspectives

The purpose of the program is to train rural development agricultural engineers who can carry out organizational, management, administrative, logistical, and production tasks related to production, service, and consultancy. With their acquired knowledge of agronomic, economic, management, business, analytical, advisory, agro-commerce, agro-marketing, environmental, and regional skills and deep understanding of the relationship between administrative tasks and the agricultural economy, they can carry out professional tasks that meet the market expectations. They have the competence to interpret rural development following according to the standards of the European Union, with the necessary skills for planning and implementing rural development programs. They are prepared to pursue their studies in the Master's degree. After completing this program, they will be able to start the MSc in Rural Development Engineering program in possession of full credit prerequisites.

Duration of Studies: 6 semesters for academic studies
Number of ECTS credits: 180+30
Number of teaching (contact) hours: 1800
Internship: 1 semester

Requirements:
The course consists of lectures and seminars. Attending lectures is strongly recommended, attendance of seminars is compulsory and recorded.

Participation at practice classes is compulsory. One might have a maximum of 3 seminar/practice absences. In case of more than 3 absences the final signature may be refused and the student must repeat the course. Being late is equivalent with an absence.
The knowledge of the students will be tested several times depending on the class types during the entire course. End of Semester Examination (ESE) covers the topics of the lectures and seminars of a subject. A minimum of three ESE dates will be set during the examination period. Unsuccessful students may repeat the ESE twice (B and C chances). Five grade evaluation (AW5) is based on class contribution and work.

According to the credit regulations students should obtain an average of 30 credits in each semester.
Students accumulate the required amount of credits by passing exams on compulsory and elective subjects.

Students have to carry out a 12 week internship involved in the model curriculum. The internship course must be signed up for previously via the NEPTUN study registration system in the last semester of the studies. Its fulfillment is the criteria requirement of getting the pre-degree certificate (absolutorium).

According to the Rules and Regulations of University of Debrecen a student has to complete Physical Education courses at least in two semesters during his/her Bachelor's training.

A pre-degree certificate is issued by the Faculty after completion of the bachelor's (BSc) program. The pre-degree certificate can be issued if the student has successfully completed the study and exam requirements as set out in the curriculum, the requirements relating to Physical Education, internship (mandatory) – with the exception of preparing thesis – and gained the necessary credit points (210). Students who obtained the pre-degree certificate can submit the thesis and take the final exam.

The thesis is based on independent work summarizing the performed activities and the results closing the training and proving that students are able to collect and interpret available literature related to a specific problem and based on well-established methods students are able to solve the problem and interpret the observations and results.

Students may take the final exam if they completed the required 210 credits. At the final exam the obtained knowledge is controlled in an oral exam using questions covering the core material and the specialization material. Defence of the thesis is part of the final exam in the form of a short presentation of the results obtained in the thesis work. The final exam is only successful if all three grades (two questions and thesis defence) are at least pass.

The result of the complex final examination is to be determined rounded to two decimal places, as an average of the grades received for the oral examination and the thesis defence.

A final exam can be taken in the forthcoming exam period after obtaining the pre-degree certificate. A final exam has to be taken in front of the Final Exam Board.

The qualification of the diploma in the training is given by the weighted academic average of the given degree program and the simple mathematical average of the final examination result.

The diploma shall be assessed on the basis of the calculation of the grade average as follows:

Outstanding	4.81 – 5.00
Excellent	4.51 – 4.80
Good	3.51 – 4.50
Satisfactory	2.51 – 3.50
Pass	2.00 – 2.50

The diploma shall be issued in Hungarian and English.

Class behaviour:

Students must not use cell phones to talk or text during class. Cell phones must be switched off or kept in silence mode during class. In seminars students will be expected to participate in seminar discussions. Students are encouraged to ask questions related to the topic of the lectures discussed, and participate in solving problems related to the topic of the seminar. Students should not disrupt the class by talking to each other. If one continues to disrupt the class, the student may be asked to leave. The usage of electronic devices, textbooks and any form of internaction between students during the tests are strictly forbidden. Electronic devices (cell phones, tablets, etc.), except for approved simple calculators, must not be within the reach (in pocket, in the desk, etc.) of students during tests.

SUBJECT	First year					Exam type	Credits
	Prerequisite	Autumn semester		Spring semester			
		L	S	L	S		
Business Mathematics		2	2			P	4
Informatics		1	2			P	4
Economics		2	2			E	5
Natural Science Basics of Plant Production		2	1			E	4
Fundamentals of Animal Husbandry II.		1	1			E	2
Science Bases of Animal Husbandry (Zoology)		1	1			E	2
Introduction to Agricultural Machinery		2	2			E	5
Basics of Marketing		2	0			E	3
EU studies		2	0			E	3
Total credits:		**15**	**11**				**32**
Statistics	Business Mathematics			2	2	P	5
Economic law				2	0	E	3
Basic of Aministrative Law				3	0	E	3
Natural Sciences in Agricultural Production (Agricultural Chemistry)				1	1	P	2
Natural Sciences in Agricultural Production (Soil Science)				1	1	P	2
EU Agricultural and Environmental Policy				2	1	E	3
Applied Geographic Information System - Apllied GIS				1	2	P	4
Agri-Information System				1	2	P	4
Elective 1				1	2	P	4
Physical education				0	2	Sig	0
Total credits:				**14**	**13**		**30**

SUBJECT	Second year					Exam type	Credits
	Prerequisite	Autumn semester		Spring semester			
		L	S	L	S		
Horticulture		2	2			E	5
Animal Production		2	2			E	4
Water and Environmental Management		2	0			E	3
Farm Business Management I.		2	1			P	3
Agricultural Economics		2	2			E	4
Regional Economics I.		2	2			P	4
Rural Development I.		2	2			E	4
Physical Education		0	2			Sig	0
Total credits:		**14**	**13**				**27**
Crop Production				2	2	E	4
Introduction to Finance				2	0	P	4
Farm Business Management II.	Farm Business Management I.			3	0	E	3
Regional Economics II.	Regional Economics I.			1	1	E	4
Rural Development II.	Rural Development I.			1	1	P	5
Sociology of the Village/Village Studies				2	1	E	3
Rural Community Development				1	2	E	3
Total credits:				**12**	**7**		**26**

SUBJECT	Third year					Exam type	Credits
	Prerequisite	Autumn semester		Spring semester			
		L	S	L	S		
International Financial Accounting		2	2			E	4
Farm Business Management III.	Farm Business Management II.	2	1			E	3
Business Planning		0	2			P	3
Settlement Development and Management		2	2			E	5
Business Competitiveness Development		2	0			E	3
Elective 2		2	0			E	3
Elective 3		2	0			E	3
Thesis writing 1.		0	3			P	6
Total credits:		**12**	**10**				**30**
Land Policy				2	0	E	3
Suppport and Regulatory of Systems				3	0	E	3
Agricultural Consultancy				2	2	E	4
Basics of Agrarian Trade				2	0	E	3
Logistics				2	0	E	3
Project Management				1	2	P	3
Human Resource Management				2	2	P	4
Rural and Civil Security				2	0	E	3
Internship				0	8	Sig	0
Thesis writing 2.				0	3	E	6
Total credits:				**14**	**6**		**32**

SUBJECT	Fourth year					Exam type	Credits
	Prerequisite	Autumn semester		Spring semester			
		L	S	L	S		
Thesis writing 3.				0	3	P	3
Internship				0	40	P	30
Total credits:				0	43	Sig	33
Total credits of the programme:							**210**

Abbreviations:

L = lecture
S = seminar
E = endterm examination
P = practical course mark
Sig = signature

COURSE DESCRIPTIONS

Subject: **Mathematics I.** Neptun-code: GT_AVINE004-17
Institute: Statistics and Methodology
Number of lessons: 2+2 Requirement: Practical course mark Credit: 4
Instructor: Dr. habil Sándor Kovács

Course goals:
Math is an integral part of our daily life an has a great practical value. This subject attempts to illustrate this viewpoint with an applied approach. My objective is to motivate students using their knowledge in their every day life. Problem solving approach is stressed throughout the whole course. In order to reach that goal every new concept and definition will be illustrated by numerous real-life examples and concrete appropriate applications. Special emphasis is placed on helping students to solve and interpret their own problems. Mathematical concepts covered by my course is well connected with each other for example the limit calculation and the derivatives, matrices and extreme value calculation of multivariable function. One of the major issues of mathematics is the modelling approach. I must strive to develope skills to translate and convert real-life problems into mathematical models. The other goal of the subject is that the students could be introduced to the basic methods and terminology or definitions in mathematics which can be used in economics. The differential calculus of one and two-variable functions and its practical application is in the center of interest as well as the extreme value and elasticity calculation of one and two-variable functions. During the course of practical lessons students should gain experience in problem solving from the various topics of the subject.
Competences:
Knowledge:
Students should get acquire the mathematical, statistical methods which are needed to analyse and cope with problems in Rural Development and Agriculture.
Skills:
Student will be qualified for plannig and oragnizing Rural Development programmes and for allocating resources, making professional proposals, drawing conclusions.
Attitude:

Student should be more cooperative in solving problems from the field of Rural Development and Quality Assurance. Students become opened to the innovative and scientific approaches and sensitive to the new features.
Autonomy and responsibility:
Students will be able to plan economic processes and to control purchasing and marketing processes
Course content, topics:
The semester starts with the theory of sets and algebraic preliminaries like rules of fractions, exponents, Cartesian coordinate system, straight lines. Next we discuss classifications and characteristics of one-variable functions regarding plotting and basic function types including exponential and logarithm functions and algebra of functions. We deal also with some financial mathematics like amount of investment, rate of interest, present value, compound interest, mathematical models. We also study calculus (limits and continuity) and differencial calculus which are of the key focus of the subject. We learn how to derivate functions and how to apply it in economics like elasticity of demand and other areas of life.
In the second part of the semester we discuss matrices including operations, inverse matrices and Leontieff Input-output problems and other applications. We also apply matrices to solve linear equation systems with Gauss-Jordan row reduction method. Next we study functions of several variables and partial derivatives in connection with matrices. We learn the Lagrange Multiplier method and the extreme value calculation of functions with several variables. The course ends with combinatorics and probability counting which are also of key importance. We learn about conditional probability, odds, probability trees and Bayes theorem.
Learning methods:
Lectures were made by using Prezi and further explanations will be made on the whiteboard. During the seminars the following softwares will be used: Winplot and PAST (Paloontological Statistical Software) for representing functions in 2D,3D and for nonlinear and polynomial fit. Microsoft excel will be used for matrix operations and solving multiple linear equation systems. Regarding calculus and analysis Wolfram Alpha will be presented. Online multiple choice questionaries are available through the elearning system which could help practicing for the exams.
Assessment
The attendace on every lecture and practice is compulsory for the students as the different topics are built upon one another. A catalogue is being made during the lectures and seminars. Each student MUST SIGN the form and

should not miss more than 4 occasions. Each student should get a practical grade which will be based on the midterm and endterm tests (work problems and multiple choice questions). The practical grade will be written in the Neptun System till the end of the learning period. In order to fulfill the subject every student should receive a signature which has two conditions. There should not be more than 4 uncertified absence from the courses and from the lectures and 20 percent should be obtained from the total score of the two tests. Evaluation in the learning period will be made mainly according to the results of the midterm (in the 8th week) and endterm (in the last week) tests written on the seminars but the students could gather extra points by solving tests for plus points. The lecturer will provide at least 10 tests for plus points and if a student solves them 100% correctly or only one question per test was wrong, he\she will obtain one point after the tests. This means that if a student solves all 10 tests 100% correctly (or made only 1 mistake per test), he/she will obtain 10 plus points. Each student should get a practical grade. In case the final score from both tests reaches at least the half of the obtainable total the student gets a passing practical grade between 2 and 5. In case the final score from both tests is between 20 and 50% of the obtainable total the student gets a fail grade. Those students who were not able to obtain a passing grade during the learning period or would like to improve the result, will be given 2 extra chances during the examining period (but only within the first 3 weeks!!!). In case the student has already obtained a grade but would like to better the results, the better result will be valid. This means that there is no place for spoiling the accomplished result even if the second grade is worse than that. In case a student should take an exam, the evaluation will be based ONLY on the performance on the exams.

Compulsory readings:

E. Haeussler – R. Paul – P. Wood (2014): Introductory Mathematical Analysis for Business, Economics, and the Life and Social Sciences, 13th edition, Pearson, UK, ISBN: 978-1-29202-114-0

Recommended readings:

R.J. Harschbarger – J.J. Reynolds (2015): Mathematical application for Management, Life and Social Sciences, Brooks/Cole, USA, Belmont, CA, ISBN: 978-1305108042

S.T. Tan (2016): Applied Mathematics for Managerial, Life and Social Sciences, Cengage Learning, USA, Stamford, ISBN: 978-1-285-46464-0

K. Sydaster – P. Hammond (2016): Essential Mathematics for Economics Analysis, Pearson Education, UK, ISBN: 978-1-292-07465-8

M. Spiegel – J. Schiller – A. Srinivasan (2001): Probability and Statistics, McGraw Hill, USA, ISBN: 0-07-139838-4 159 pages
S. Warner – S. R. Costenoble (2007): Finite Mathematics and applied calculus, Thomson Higher Education, USA, Belmont, CA, ISBN: 0-495-01631-4 1252 pages

Syllabus

Week	Topics
1.	LO: Algebric preliminaries: Real number line, operations, rules for exponents and radicals, operations with algebraic expressions, factoring, Cartesian coordinate systems, straight lines, distance in the plane
2.	LO: Graph and algebra of functions, application is business economics, break-even analysis, supply-demand, market equlibrium, Exponential, logarithmic and logistic curves and its applications
3.	LO: amount of investment, rate of interest, present value, compound interest, mathematical models, Future Value of annuities, annuities due, loans and amortization of debts
4.	LO: limits and continuity and derivatives
5.	LO: Differential Calculus I: rules, higher order derivatives, marginal functions in economics
6.	LO: Differential Calculus II: first and second, curve sketching
7.	LO: Differential Calculus III: optimization, elasticity and other applications in business economics
8.	LO: Matrix operations and its practical applications
9.	LO: Gauss-Jordan elimination for solving systems of linear equations and its applications
10.	LO: Partial derivatives, maximum and minimum of multivariable functions

11.	LO: Cobb-douglas function, Supplementary commodities, finding the maxima and minima of multivariable functions, Lagrange multiplier
12.	LO: Combinatorics, Permutation and combinations, Poker hands and other problems, Probability, estimated probability, odds, odds ratio
13.	LO: Application of the classic and geometric definition to real-life problems, sampling
14.	LO: Application of conditional probability to real-life problems, Probability trees and Bayes rule

Subject: **Informatics** Neptun-code: GT_AVINE006-17
Institute: Applied Informatics and Logistics
Number of lessons: 1+2 Requirement: Practical course mark
Credit: 4
Instructor: Dr. habil László Várallyai

Course goals:
The course is designed to reach a basic level of business informatics knowledge. These knowledge will help them in the following courses and as well as in the practice. They have to learn how to collect data from the internet, and they have to solve complex exercises with the use of Office program family. The course is mainly application and practice oriented.
Competences:
Knowledge:
It possesses the most basic information gathering, analysis, task, and problem solving methods.
Capabilities:
It makes simpler professional reports, evaluations, presentations, and performs.
Attitudes:
It is receptive to receiving new information, professional knowledge and methodologies.
Autonomy, responsibility:
It performs job assignment independently, prepares own professional reports, create small presentations independently. If needed, it will be required to work with a staff member or a manager.
Course content, topics:
The course is designed to reach a basic level of business informatics knowledge. These knowledge will help them in the following courses and as well as in the practice. They have to learn how to collect data from the internet, and they have to solve complex exercises with the use of Office program family. The course is mainly application and practice oriented.
Learning methods:
The students get theoretical basic knowledge on the lectures. The practical tasks are related to the theoretical. The students get presentations on the lectures and on the parctices get spreadsheets and database knowledge tasks.
Assessment
Participation at seminars is mandatory.

For the completion of the semester students have to pass a problem solving test during the semester.
30% theoretical exam, 45% Excel practical exam, 25% Database practical exam
The sum of points the notes are the followings:
0 - 60 % fail,
61 -70 % pass,
71 -80 % satisfactory,
81 -90 % good,
91 – 100 % excellent.
Compulsory readings:
Department teaching materials: Business informatics, electronic booklet 2017.
Presentation of lecture and seminars
Recommended readings:
R. Elmasri: Fundamentals of Database Systems, Pearson, 2016, ISBN: 9781292097619, pp. 1272
Ullman, J.D., Widom J.: Adatbázisrendszerek, Alapvetés, Panem Kft., 2009, 9789635454815, pp. 600.
Date, J. C.: An Introduction to Database Systems, Pearson, 2003, ISBN13 (EAN): 9780321197849, pp. 1024.

Syllabus

Weeks	Topics
1.	Introduction –basic questions Information, system (data, information, knowledge, system categories, system approach)
	LO*: The use of spreadsheet: basic, formatting, data format
2.	
	LO: The use of spreadsheet: links, (SUM, COUNT, MIN, MAX, AVERAGE)
3.	Information technologies
	LO: The use of spreadsheet: logical operators (IF, AND, OR); Search functions (VLOOOUP, INDEX, MATCH)
4.	
	The use of spreadsheet: Matrix functions
5.	Information society
	LO: The use of spreadsheet: Pivot tables
6.	
7.	Databases
	LO: Database : Creation of relation tables, the role of keys
8.	
	LO: Database creation, sheet, form creation
9.	Relation modell
	LO: Database queries (QBE, SQL)
10.	
	LO: Database report creation
11.	Multidimensional data modeling
	LO: Independent practical problem solving, task presentation
12.	
	LO: Independent practical problem solving, task presentation
13.	Automatic business intelligence and the ERP.
	LO: Independent practical problem solving, task presentation
14.	
	LO: Independent practical problem solving, task presentation

Subject: **Economics** Neptun-code: GT_AVINE001-17
Institute: Economics and World Economy
Number of lessons: 2+2 Requirement: Exam Credit: 5
Instructor: Dr. Pál Czeglédi

Course goals:
The course will provide the students with the basic concepts of economics: how economists think about the behavior of households, firms, how to think about markets, how to analyze the economy, what is inflation, and unemployment. By the end of the course, students should be able to use some basic tools of economics and apply them to solve basic economic problems.
Knowledge: Understands the economic and financial contexts and relations of processes taking place in rural development and agriculture.
Capabilities: Able to form and present independent, professional opinion related to rural development and agriculture.
Attitudes: Interested in spatial sciences and forwarding information both for professional and non-professional audience authentically. Show openness to the view of others, to the sectoral, regional, national and European values of rural development.
Autonomy, responsibility: Takes responsibility for professional, legal and ethical norms related to his/her work.
Course content, topics:
The first half of the semester focuses on the principles of the economic way of thinking and the basic concepts of microeconomics, whereas the second part is concerned with the most important macroeconomic variables and their measurement. After an overview of the subject, method, and principles of economic thinking, the course considers the model of demand and supply and its applications. Of the many macroeconomic variables, the course concentrates on GDP and price indices. Besides, stylized facts of economic growth, the labour market, money, and finance are also discussed.
Learning methods:
Lectures with ppt presentations and reflections, seminars with calculations, conversations about actual economic data and news, group work.
Assessment
The exam is a written test which will be evaluated according to the following grading schedule:
0 - 50% – fail (1)
50%+1 point - 63% – pass (2)
64% - 75% – satisfactory (3)

76% - 86% – good (4)
87% - 100% – excellent (5)
Students can gain 20 extra points (10 points reading books/articles and make a presentation from it, 10 points self-reflection essay, 2000 characters at the end of the semester) which will be added to the final grade if they reach 51% on the exam.
Compulsory readings:
Mankiw, Gregory: Principles of Economics. Fifth Edition. South-Western, Mason, USA, 2009. ISBN-13: 978-0-324-58998-6
Recommended readings:
Alchian, Armen, A.; Allen William R.: Universal Economics. Edited by Jerry L. Jordan Published by Liberty Fund, 2018 https://oll.libertyfund.org/title/universal-economics ISBN: 978-0865979062
Heyne, Paul – Boettke, Peter – Prychitko, David: The Economic Way of Thinking. Twelfth Edition. Pearson Education International, New Jersey, 2010. ISBN-10: 0132991292

Syllabus

Week	**Topic**
1.	Basic concepts and fundamental questions of economics
	LO*: Economics as science and as a social science
2.	Ten principles of economics and the economic way of thinking/1.
	LO: Understanding the basic concepts of rational decisions
3.	Ten principles of economics and the economic way of thinking/2.
	LO: Understanding the market as a process of cooperation and the metaphor of the invisible hand
4.	Production possibilities frontier
	LO: Graphical representation of opportunity cost
5.	How markets work: demand and supply I.
	LO: Understanding the concept of demand and supply and their determinants

6.	How markets work: demand and supply II.
	LO: The meaning of the equilibrium (market-clearing) price, and comparative statics
7.	Measuring a nation's income
	LO: Understanding the notions of nominal and real GDP
8.	Measuring the cost of living
	LO: The meaning of the price level and inflation, GDP deflator and the consumer price index
9.	Exercises on measurement
	LO: Exercises in calculating GDP and inflation
10.	Savings and investment, and the role of the financial system
	LO: The market for loanable funds, and the determination of the real interest rate
11.	Money and inflation, I
	LO: Definition of money, understanding the significance of using money in trade
12.	Money and inflation II
	LO: The role of the banking system in money creation
13.	Unemployment
	LO: The fundamentals of the labour market
14.	Summary
	LO: Systematic review of the topics discussed

Subject: **Natural Science Basics of Plant Production**
Neptun-code: GT_AVINE002-17
Number of lessons: 2+1 Requirement: Exam Credit: 4
Instructor: Dr. Vasas Gábor

Course goals:
The course aims to give essential information on plant anatomy, morphology, and taxonomy of crop and weed species. It trains the student's plant recognition knowledge in the most important plant families: Papaveraceae, Chenopodiaceae, Rosaceae, Fabaceae, Linaceae, Apiaceae, Brassicaceae, Cucurbitaceae, Solanaceae, Asteraceae, Alliaceae, Poaceae.
Course content, topics:
Anatomy, morphology, and identification of the most important plant families and their species and cultivars.
Learning methods*:*
books, handout, e-learning
Assessment:
The exam is a written test which will be evaluated according to the following grading schedule:
60-70 % (2)
70-80 % (3)
80-90 % (4)
90-100 % (5)
Compulsory readings:
J. D. Mauseth (ed.) 2021. Botany. An Introduction of Plant Biology. Jones and Bartlett Publishers International, 7th ed. Relevant subchapters of Preface, Plant Structure, and Plant Physiology and Development chapters. (Fifth edition is available as eBook on Google.)
Recommended readings:

- Dirk R. Walters, David J. Keil (1988): Vascular plant taxonomy. Kendall/Hunt Pub. Co., Cornell University.
- O P Sharma (1993): Plant Taxonomy. Tata McGraw-Hill Education, ISBN; 0074603736, 9780074603734.

Subhash C. Datta (1988): Systematic Botany. New Age International, ISBN; 8122400132, 9788122400137.

Week	Topics
1.	Elementary plant cytology 1. Cell wall, phospholipid membranes, cytosol, nucleus, nucleolus. endoplasmic reticulum, ribosomes, Golgi apparatus and vesicles.
2.	Elementary plant cytology 2. Chloroplast and mirochondria, vacuole. Photosynthesis and cellular respiration, fundamental metabolism.
3.	Plant anatomy 1. Meristematic tissues, permanent tissues. Epidermis, parencyma, sclerenchyma, kollenchyma, aerenchyma, xylem, phloem.
4.	Plant anatomy 2. Anatomy of root, stem, leaf. Secondary growth, wood anatomy.
5.	Plant morphology 1. Root structure, stem structure, leaf structure.
6.	Plant morphology 2. Flower structure, inflorescence structure.
7.	Plant morphology 3. Fruit and seed development and structure.
8.	Plant identification 1. Bryophyta, Pteridophyta. Spermatophyta: Gymnospermatophyta and Angyospermatophyta.
9.	Plant identification 2. Dicotyledoneae: Ranunculaceae, Papaveraceae, Caryophyllaceae, Chenopodiaceae, Amaranthaceae, Polygonaceae.
10.	Plant identification 3. Fagaceae, Betulaceae, Juglandaceae, Cannabceae, Urticaceae.
11.	Plant identification 4. Grossulariaceae, Rosaceae, Fabaceae.
12.	Plant identification 5. Linaceae, Vitaceae, Apiaceae, Brassicaceae, Cucurbitaceae, Malvaceae, Solanaceae.
13.	Plant identification 6. Cuscutaceae, Convolvulaceae, Scropulariaceae, Lamiaceae, Orobanchaceae, Asteraceae.
14.	Plant identification: Monocotyledoneae: Asparagaceae, Alliaceae, Poaceae, Cyperaceae.

Subject: **Fundentals of Animal Husbandry II.**
Neptun-code: GT_AVINE045-17
Number of lessons: 1+1 Requirement: Exam Credit: 2
Instructor: Dr. Levente Czeglédi

Course goals:
• Students will able to apply concepts of breeding, physiology, nutrition, herd-health.
• Students will be able to integrate knowledge of animal genetics, nutrition, reproduction, and other relevant disciplines and applying scientific and quantitative reasoning to solve real-world challenges.
• Students will be able to explain the mechanisms and role of reproductive physiology in livestock production.
• Students will be able to demonstrate critical thinking and problem-solving skills as they apply scientific principles to a variety of animal production systems.
• Communicate effectively about animal sciences to a range of audiences, both orally and in writing, using appropriate traditional and emerging media.
Course content, topics:
The subject consists of two parts: animal physiology and zoology. Out of the 14-week diligence period, we give 7 weeks of animal physiology and 7 weeks of zoology lectures.
Animal physiology topics:

- Animal body plans, bones, viscera and cavities. The concept of homeostasis.
- Blood cells. Blood and lymphatic circulation. Cardiac function.
- Function of the endocrine system. Stress.
- Structure of the digestive tract, anatomy and function of the digestive tract in monogastric animals, ruminants and poultry
- Division, structure and function of the nervous system
- The respiratory system. Physiology of respiration
- Anatomy of the female and male reproductive organs, physiology of sexual function.

Learning methods:
We encourage students to take notes on the lectures as the material presented is supplemented with the relevant subjects. We also engage students in discussions and in group-work, thus they can cooperate and learn new skills. Continuous learning is encouraged and represented by two mid-term

examinations. The average mark of the two mide-terms can be requested by the student as a final mark to the Animal Physiology section. If one mid-term is not attended or is insufficient, at the end of a semester, a week before the exam period correction is possible.
Assessment:
The exam is a written test which will be evaluated according to the following grading schedule:
Compulsory readings:
Lecture materials: can be downloaded from the elearning.
Recommended readings:
Anatomy and Physiology of Domestic Animals, Second Edition, 2013, John Wiley & Sons.

Week	**Topics**
1.	Animal body plans, bones, viscera and cavities. The concept of homeostasis.
2.	Blood cells. Blood and lymphatic circulation. Cardiac function.
3.	Function of the endocrine system. Stress.
4.	Structure of the digestive tract, anatomy and function of the digestive tract in monogastric animals, ruminants and poultry
5.	Division, structure and function of the nervous system
6.	The respiratory system. Physiology of respiration
7.	Anatomy of the female and male reproductive organs, physiology of sexual function.

Subject: **Science Bases of Animal Husbandry (Zoology)**
Neptun-code: GT_AVINE046-17
Number of lessons: 1+1 Requirement: Exam Credit: 2
Instructor: Dr. Péter Gyüre

Course goals:
The target of the course is to ensure the general knowledge of students in zoology, to introduce the structure and functioning of the animal cell, the types of animal tissues, their basic structure, significance, the general definitions of reproduction and ontogenesis. To introduce the main taxonomic units, and to teach to recognize invertebrate and vertebrate species in practice, to evaluate these species considering their nature conservation and possible economic values and to evaluate the human effects on the world of animals are also educational objectives.
Competences:
Knowledge: biology, zoology, ecology and conservation biology
Capabilities: knowledge in zoology, own learning, workshop lectures
Attitudes: new scientific knowledge, own opinion in zoology and agriculture
Autonomy, responsibility: own freedom in opinion and responsibility in zoological questions
Course content, topics:
The structure and functioning of the animal cell, the types of animal tissues, their basic structure, significance, the general definitions of reproduction and ontogenesis. To introduce the main taxonomic units, and to teach to recognize invertebrate and vertebrate species in practice, to evaluate these species considering their nature conservation and possible economic values and to evaluate the human effects on the world of animals are also educational objectives.
Learning methods:
Lectures, e-elearning
Assessment
Exam, e-learning, or written exam
Compulsory readings:
Recommended readings:
Allaby, M. (2003): A dictionary of zoology. OUP Oxford. ISBN 978-0198607588, 608 pp
Barnes, R.D. Invertebrate Zoology (1982) VI Edition. Holt Saunders International Edition.

Kardong, K.V. (2005) Vertebrates Comparative Anatomy, Function and evolution. IV Edition. McGraw-Hill Higher Education

Week	Topics
1.	The anatomy of animal cells and tissues LO:
2.	Animal taxonomy LO:
3.	Anatomy and taxonomy of Molluscs and Worms LO:
4.	Anatomy and taxonomy of Arthropods LO:
5.	Anatomy and taxonomy of Insects LO:
6.	Important insect lasses in aspect of agriculture, Mayflies, Dragonflies, Crickets, Katydids, Grashoppers LO:
7.	Important insect lasses in aspect of agriculture, Bugs, Cicadas, Beetles LO:
8.	Important insect lasses in aspect of agriculture, butterflies LO:
9.	Important insect lasses in aspect of agriculture, Hymenopteras, Dipteras LO:
10.	Anatomy and taxonomy of Fishes LO:
11.	Anatomy and taxonomy of Amphibians and Reptiles LO:
12.	Anatomy and taxonomy of Birds LO:
13.	Anatomy and taxonomy of Mammals LO:
14.	Ecology, and conservation biology LO:

Subject: **Introduction to Agricultural Machinery**
Neptun-code: GT_AVINE012-17
Number of lessons: 2+2 Requirement: Exam Credit: 5
Instructor: Dr. András Tamás

Course goals:
Students attain basic knowledge of agricultural machinery, the different types of agricultural tools, their areas and conditions of use, as well as the structure and operation of machines.
The aim of the course is to train professionals who, with the knowledge they have acquired, are able to participate in the planning, organization and management of agricultural production, processing and farming.
Competences:
Knowledge: Knowledge of the natural and technical contexts related to the production of agricultural (crops, livestock, horticulture) sectors.
Capabilities: Ability to develop and communicate an independent and professionally sound position in the field of rural development and agriculture. Ability to design and implement rural development programmes, allocate resources, participate in the preparation of proposals to underpin professional decisions, and draw conclusions, not only at operational level. Knowledge, understanding and application of the principles of environmental protection and nature conservation and their application to rural development. Ability to carry out agricultural engineering tasks related to rural development and to apply the necessary IT skills (database management, software applications). Ability to prioritise environmentally friendly solutions that support human health and food chain safety.
Attitudes: Open to representing the role of rural development and related disciplines in society. Proactive and receptive to innovation in rural development issues. Sensitive to environmental and human health issues and to problems related to the rural economy. Collaborative approach to solving rural development and quality assurance problems that arise.
Autonomy, responsibility: A sense of responsibility for professional, legal, ethical, health-related standards and rules regarding his/her behaviour. Responsibility for his/her own work and that of the staff under his/her supervision. He/she takes responsibility for the consequences of his/her statements and opinions.
Course content, topics:
Students learn about the structure and operation of agricultural production machinery in terms of crop production, power machines, machinery, plant

protection, tillage, sowing, harvesting and animal husbandry, livestock equipment, feeding, watering, etc., as well as the technical factors of precision farming.
Learning methods:
2 classes of lecture and 2 classes of practice per week.
Assessment
Participation in the practice as specified in the Study and Examination Regulations of the University of Debrecen. The subject has a weekly practice class, i.e. the maximum number of absences is 4 times.
Examination method: Written exam. The condition for entering the exam is participation in the practice classes.
Compulsory readings: Course lectures. Slides and calculation provided to the students for each subject.
Recommended readings: Watched movies on lectures and practises.
Chris Lockwood (2016): Know Your Farm Machinery, ISBN 9781910456316.
Rattan Lal; B. A. Stewart (2016): Soil-specific farming: precision agriculture. ISBN 978-1-4822-4533-2. Chapter 1-16.
Pepó Péter (2019): Integrált Növénytermesztés 1. Általános növénytermesztési ismeretek, Mezőgazda Lap és Könyvkiadó, Budapest, ISBN 978-963-286-740-3, chapters 9. – 10. (pp 191-215) (number of pages: 25)
Szendrő Péter (2003): Géptan. Mezőgazda Kiadó, Budapest, ISBN: 963 286 021 7; chapters 4.1-4.3 (pp 96-133), chapters 6.1-6.3.5 (pp 166-238), chapters 6.4-6.5 (pp 250-302), chapters 7.1-7.2 (pp 339-414), chapters 9.2-9.3 (pp 569-622), chapters 9.6.1.-9.6.2 (pp 642-651), chapters 12.2-12.3 (pp 752-770) (number of pages: 356 old.),
Pakurár Miklós (2000): Mezőgazdasági alapismeretek. Egyetemi jegyzet, Debreceni Egyetem; I. chapters 2-3 (pp 9-19), II. chapters 1-4, 7-8 (pp 28-86, 102-110), III. chapters 1, 2, 6 (pp 113-166, 199-205) IV. chapter 1, IV. chapter 3 (pp 209-221., 232-236) (number of pages: 151 old.).

Week	Topics
1.	Introduction, Internal combustion engines, electric engines
2.	Tractors I. Transmission: clutch, gears, differential
3.	Tractors II. Steering, brakes, tractor – implement connection, cab, maintenance
4.	Introduction to precision farming and precision livestock management
5.	The machinery of tillage
6.	The machinery of nutrient management
7.	The machinery of sowing
8.	The technical aspects of plant protection
9.	Harvesting machinery for cereals and oil crops
10.	Machinery for harvesting fodder I – mowing and swathing machines
11.	Machinery for harvesting fodder II – trailers for swathing machines, forage harvesters, baling, bale packaging
12.	Cattle breeding machines, equipment, buildings I. - Dairy farming
13.	Cattle breeding machines, equipment, buildings II. - Milking parlors, milking machines and equipment
14.	Pig farming machines, equipment, buildings

Subject: **Basics of Marketing**
Institute: Marketing and Trade
Neptun-code: GT_AVINE005-17
Number of lessons: 2+0 Requirement: Exam Credit: 3
Instructor: Dr. Zoltán Szakály

Course goals:
The aim of the course is to provide the students with an insight into the language and issues of marketing with an emphasis on learning to develop responsive marketing strategies that meet customer needs
Competences:
Knowledge:
From the textbook, participation assignments/homework, and class discussions, students will learn about the decisions that marketers must make and tools/frameworks that will assist them in making those decisions effectively.
Capabilities:
The course aims to develop analytical, communication, and presentation skills (through use of technological aids, such as Microsoft Word, PowerPoint, and the Internet)—the basic tools of marketing. Beside this, students will be able to work in teams.
Attitudes:
Students will be able to analyze the role of marketing within the firm and society. On the practical side, this new understanding of marketing should make each of them a more knowledgeable consumer.
Autonomy, responsibility:
By the end of the course, students should understand the complexity and challenges associated with making marketing decisions as well as ways to design effective marketing strategies.
Course content , topics:
The course focuses on basic marketing concepts and the role of marketing in the organization. Topics include market segmentation, product development, distribution, and pricing. Other topics, which will be incorporated into the course, are external environment (which will focus on integrative topics with marketing, such as economics, politics, government, and nature) and marketing research
Learning methods:
Students participate in the lectures
Assessment

The exam is a written test which will be evaluated according to the following grading schedule:
(2=60%; 3=70%; 4=80%; 5=90%)
Compulsory readings:
KOTLER, P.—ARMSTRONG, G. (2018): Principles of Marketing plus Pearson MyLab Marketing with Pearson eText: Global Edition, 17/E, Pearson, ISBN-10: 1292220287, ISBN-13: 9781292220284
Recommended readings:
KOTLER, P.—KELLER, K. L. (2016): Marketing Management. Global edition, 15th edition, Pearson/Prentice Hall, Boston, ISBN-10: 1292092629, ISBN-13: 9781292092621

Week	**Topics**
1.	Basic concepts of Marketing
2.	Types of corporate market orientation
3.	Customer value, customer satisfaction
4.	The process of modern marketing
5.	Marketing information system and marketing research
6.	Analysis of consumer behavior
7.	Segmentation
8.	Targeting and positioning
9.	Product lifecycle management, market development theory
10.	Basics of product strategy
11.	Basics of price strategy
12.	Basics of place strategy
13.	Basics of communication strategy I.
14.	Basics of communication strategy II.

Subject: **EU Studies**
Institute: Economics and World Economy
Neptun-code: GT_AVINE009-17
Number of lessons: 2+0 Requirement: Exam Credit: 3
Instructor: Dr. Tibor Tőkés

Course goals:
Surveying the European Union's evolution from the Rome Treaty to the present, the course captures the full story of Europe's ongoing integration, its changing identity, and its increasing importance as a global actor in the 21st century. The course consists of the history, institutions and policies of the European Union, lays out the major elements of the European integration and explain how the European Union functions.
Competences:
Knowledge:
Graduates will have acquired
-knowledge and understanding of the basic functions, determinants and objectives of economic policy, foreign trade processes and foreign economic policy. Has the knowledge of the functioning of the European Union necessary to work effectively.
Capabilities:
Graduates will
- track and interpret global economic and international business trends, changes in economic policy and related policies and legislation relevant to the field, and their effects, and take them into account in his/her analyses, proposals and decisions.
- be are aware of the specificities of working in an international, multicultural environment.
- have the ability to use professional foreign languages at intermediate level.
Attitudes:
- Receptive to new information, new professional knowledge and methodologies, open to taking on new tasks and responsibilities that require autonomy and cooperation.
- Seek to take into account the opinions of others and sectoral, regional, national and European values (including social, societal and ecological, sustainability aspects) in a responsible way in their decision-making.
Autonomy, responsibility:
- In a supervised professional work environment, they will be able to work and organize activities set out in their job description independently.

- They will take responsibility for the development and justification of professional viewpoints.
- They will take responsibility for compliance with professional, legal and ethical norms and rules related to their work and behavior.
- They will be able to give a presentation and manage debates independently. They will take part responsibly in the work of professional forums within or outside the business organization.

Course content, topics:

Theories of European Integration. The Rome Treaty and Its Original Agenda: 1957-1975. The Single European Act and the Maastricht Treaty (1975-1993). Efforts to Reach the Next Level (1994-2008). Enlargement of the European Union. Institutional Dynamics in the European Union. Electoral Politics and Public Opinion. Economic and Monetary Union. The EU Budget, Common Agricultural Policy and Cohesion Policies. External Economic Relations of the European Union. Common Foreign and Security Policy. Justice and Home Affairs.

Learning methods:

The course is implemented as a lecture. The participation in the lectures is not compulsory however it is highly recommended. Occasionally external speakers are invited to make the course more colorful.

In the exam period written exams will be organized to check students' knowledge.

Assessment

- Individual presentation on a specific subject (optional)
- Written exam in the exam period at the end of the semester (100%), 3 exam possibilities
- Final evaluation: 0–55% failed (1), 56–65% acceptable (2), 66–75% medium (3), 76–85% good (4), 86–100% excellent (5)

Compulsory readings:

- Bulmer, S. et al eds. (2020): Politics in the European Union - 5th edition. Oxford- New York: Oxford University Press. ISBN 978-0-19-882063-5
- Baldwin, R - Wyplosz, Ch. (2020): The Economics of European Integration. 6th edition. London: McGraw-Hill Education. ISBN-13: 978-1526847218
- Horvath, Z. (2011): Handbook on the European Union. 4th edition, HVG-Orac Lapkiadó Kft, Budapest.
- Birol A. Yesilada – David M. Wood (2010): The Emerging European Union, 5th edition, Longman-Pearson, Washington.

- Jacqes Pelkmans: European Integration – Methods and Economic Analysis – Part 2 (Ch 5-Ch10), Part3 Ch 11, Ch 12.; Pearson Education Canada; 3rd edition, 2006; ISBN-10: 0273694499, ISBN-13: 978-0273694496
- Handouts and presentations uploaded in the Moodle

Recommended readings:

- The official website of the EU: www.europa.eu
- EU Bookshop: www.bookshop.europa.eu
- EU Single Market: www.singlemarket20.eu
- Eurostat: www.ec.europa.eu/eurostat
- European Commission: www.ec.europa.eu

Week	**Topics**
1.	• Introduction to the course
	Learning outcomes (LO): Setting goals, and being acquainted with requirements concerning the course itself. Students meet the course syllabus and requirements.
2.	• General Introduction of the European Union
	LO: Students learn about the essential facts and importance of the European Union. Key symbols and trends within the EU are introduced.
3.	• History and Development of European Integration I
	LO: Students learn about the concept and early history of the European integration.
4.	• History and Development of European Integration II
	LO: Students learn about the recent historical events, accessions of the European Union until today.
5.	• The Institutional Structure of the European Union
	LO: Students meet the top institutions of the EU responsible for the operation of the 27-member collaboration.
6.	• The Internal Market and the Four Freedoms
	LO: Students hear about the advantages and results of the European common market.
7.	• The EU and Africa
	LO: Students get to know how the historical relations between the EU and Africa changed over centuries.

8.	• Decision-making and Legislation in the EU, EU Law
	LO: Students have an overview of the decision-making system of the EU and get to know the "legislative triangle".
9.	• The Budget of the EU
	LO: Students can imagine how the EU as an organization live from: what are the incomes and most important spendings of it.
10.	• The Economic and Monetary Union.
	LO: Students becomes acquainted with the economic and monetary goals of the integration.
11.	• The Common Agricultural Policy and the Common Fisheries Policy
	LO: Students learn the details of the CAP and the most important activities regarding agriculture in the EU.
12.	• Regional Policy – Economic, Social and Territorial Cohesion in the EU
	LO: Students can see the structure of the cohesion policy of the EU and speak about the goals of the current programming policy.
13.	• The External Policies of the European Union, Enlargement policy
	LO: Students familiarize themselves with the concept of enlargements, and will learn about future potential members.
14.	• Summary of the course
	LO: Summary and Assessment, conclusion and wrap-up of the introduced topics.

Subject: **Statistics** Neptun-code: GT_AVINE013-17
Institute: Statistics and Methodology
Number of lessons: 2+2 Requirement: Practical course mark
Credit: 5
Prerequisite: Business Mathematics
Instructor: Dr. Lajos Nagy

Course goals:
The course introduces the basic statistical concepts and covers the procedures most frequently used in the descriptive analysis of agricultural processes. The focus will be mainly put on the computation and interpretation of the most widely used statistical measures and some basic methodological indicators that have importance in the food industry and agriculture.
Competences:
Knowledge: Students should get acquire the mathematical, statistical methods which are needed to analyse and cope with problems in agriculture.
Capabilities: Student will be qualified for plannig and organizing experiments and measurement datas, making professional proposals, drawing conclusions.
Attitudes: Student should be more cooperative in solving problems from the field of agriculture and food industry processes. Students become ope-ned to the innovative and scientific approaches and sensitive to the new features.
Autonomy, responsibility: Students will be able to analyze agricultural, economic processes and to control experiments and measurement datas.
Course content , topics:
The basic concepts of statistics; descriptive statistics: analysis of quantitative variables; stochastic relationships, graphical methods; sampling; estimation theory, point and interval estimation, basics of hypothesis tests.
Learning methods:
During the seminars we solve exercises using Excel for getting the solutions. Attending the lectures and the seminars are compulsory.
The materials of the exercises and lectures are available in the e-learning system. In addition to the lesson assignments, solved sample tasks help the students learn the different methods.
Assessment
The exam is a written test which will be evaluated according to the following grading schedule:
The overall course grade will be based on the working on practices and the final computer exams.

Compulsory readings: Anderson, Sweeney, Williams, Freeman and Shoesmith: Statistics for Business and Economics, Second edition, Cengage Learning EMEA, 2010. UK, 928. p. ISBN: 1408018101
Howitt, D. – Cramer D.: Introduction to Statistics in Psychology, 6/E Pearson, Harlow. 2014. 744. p. ISBN-13: 9781292000749
Robert S. Witte – John S. Witte (2017): Statistics (11th Edition). Whiley ISBN: 978-1-119-25445-4(EVALC) 201 p.
Recommended readings: Field A.: Discovering Statistics Using SPSS (Introducing Statistical Methods), 4th Edition, SAGE Publications Ltd., London, 2013. 915. p. ISBN-13: 978-9351500827
David S. Moore (2010): The Basic Practice of Statistics (5th Edition). W.H. Freeman and Company, New York ISBN: 978-1-4292-0121-6 977.p

Week	Topics
1.	The statistical concepts and sub-areas. Statistical basic concepts of the population, criteria, parameters, sample. The statistical work phases.
	LO: The basic concepts of statistics. Data collection and utilization methods, data sources. Statistical opportunities in the Excel spreadsheet program. Functions and procedures, basic statistical operations.
2.	Sampling procedures, random sample, systematic error parameter. Databases. The criteria of a good database. Database design rules.
	LO: Independent and identically distributed samples, simple sample, stratified sample. Group of samples, non random sampling techniques, combined and artificial samples. Non-responses in the sample. Selection rate calculation.
3.	Levels of measurement data. Definition of the data for the different scales of measurement. Data Representations.
	LO: Definition of the data for the different scales of measurement. Creating and interpreting charts.
4.	Relative numbers. Correlations between the relative numbers
	LO: Distribution, coordination, comparative calculation of performance ratios. Determination of the intensity ratios.
5.	Central indicators: median, mode, mean.
	LO: Calculation of central indicators at different levels of measurement variables.

6.	Central values: arithmetic, geometric, harmonic, quadratic. Calculation of weighted averages.
	LO: Means (arithmetic mean and the main characteristics, other types of means and typical fields of application).
7.	The measures of variability: standard deviation, variance, range, absolute, relative differences in coefficient of variation, the relative coefficient of variation.
	LO: Calculation of dispersion from the population and sample.
8.	The normal distribution as a model. Distribution and density function. Skewness and kurtosis characterization.
	LO: Preparation of Normal Distribution. Analysis of density and distribution functions. Standardization. Calculation of skewness and kurtosis, practical interpretation.
9.	Standard values and regularities of normal distribution. Tests of normal distribution.
	LO: Standard values and regularities of normal distribution. Tests of normal distribution.
10.	One-sided asymmetrical and two-sided symmetrical probabilities.
	LO: One-sided asymmetrical and two-sided symmetrical probabilities.
11.	Student's t-distribution. The standard error of the mean. Confidence interval.
	LO: Determination of standard error. Confidence intervals were calculated for different probabilities. Practical application of the confidence intervals.
12.	Statistical hypothesis tests
	LO: Basics of hypothesis theory
13.	One-sample parametric statistical tests
	LO: Practical application of z-test, t-test
14.	Two-sample parametric statistical tests, ANOVA
	LO: Practical application of paired and independent t-tests, ANOVA

Subject: **Economic Law** Neptun-code: GT_AVINE007-17
Institute: Economics and World Economy
Number of lessons: 2+0 Requirement: Exam Credit: 3
Instructor: Dr. András Helmeczi

Course goals:
The course is designed to introduce students to the particularities of legal ascpects of economy, both theoretically and in practice. A broad overview over the most relevant topics in the area of legal life in economy is given.
Competences:
Knowledge:
- Knowledge of the major interrelationships, theories and conceptual frameworks of the natural and economic sciences related to rural development.
Capabilities:
- Able to develop and defend your own views in debates on general social, agricultural, economic and specific issues related to the field.
- Able to independently interpret and apply legislation related to their professional activities.
Attitudes:
- Committed to quality work, complying with relevant professional, legal and ethical rules and standards.
Autonomy, responsibility:
- On the basis of his/her practical experience, he/she decides independently on the implementation and timing of specific design workflows
- The ability to independently plan and manage management management processes.
Course content, topics:
Basic legal terms, personal law, rights in rem, contractual law, company law.
Learning methods:
In the lessons the students get detailed explanations with life-like examples to the most important legal aspects of economy.
Assessment
Presentation in the agreed legal topic (10-12 slides ppt, appr. 10 minutes).
In case if the presentation is missing or not accepted, final written test at the end of the semester, with the following grades:

points	grade
0-7	1 (fail)
8-9	2 (satisfactory)

10-11 3 (fair)
12-13 4 (good)
14-15 5 (excellent)
Compulsory readings:
handout (electronically sent to the students)

Week	Topics
1.	Legal system, basic legal terms 1: law as social rule, content and function of law, categories of legal rules LO: the knowledge of the most important legal rules and solutions according to the topic
2.	Legal system, basic legal terms 2: sources of law, legislation and jurisdiction, legal relation LO: the knowledge of the most important legal rules and solutions according to the topic
3.	The person as subject at law: natural person, legal capacity and competency, legal person, protection of personality LO: the knowledge of the most important legal rules and solutions according to the topic
4.	Rights in rem 1: the thing, possession LO: the knowledge of the most important legal rules and solutions according to the topic
5.	Rights in rem 2: ownership rights, rights of use LO: the knowledge of the most important legal rules and solutions according to the topic
6.	Contractual law 1: obligations and legal statements, representation, basic rules of contracts LO: the knowledge of the most important legal rules and solutions according to the topic
7.	Contractual law 2: express contracts LO: the knowledge of the most important legal rules and solutions according to the topic
8.	Contractual law 3: liability for damages LO: the knowledge of the most important legal rules and solutions according to the topic

9.	Company law 1: common rules, organization, representation, termination LO: the knowledge of the most important legal rules and solutions according to the topic
10.	Company law 2: sole company types LO: the knowledge of the most important legal rules and solutions according to the topic
11.	Consultation LO: the knowledge of the most important legal rules and solutions according to the topic
12.	Presentations 1 LO: the knowledge of the most important legal rules and solutions according to the topic
13.	Presentations 2 LO: the knowledge of the most important legal rules and solutions according to the topic
14.	Presentations 3 LO: the knowledge of the most important legal rules and solutions according to the topic

Subject: **Basic of Administrative Law** Neptun-code: GT_AVINE014-17
Institute: Economics and World Economy
Number of lessons: 3+0 Requirement: Exam Credit: 3
Instructor: Dr. András Helmeczi

Course goals:
The course is designed to introduce students to the particularities of legal ascpects of economy, both theoretically and in practice. A broad overview over the most relevant topics in the area of legal life in economy is given.
Competences:
Knowledge:
- Knows the structure and functioning of economic organisations.
- Familiar with the tasks related to commercial activities and the basic legal regulations applicable to commercial activities.
Capabilities:
- Using his/her theoretical, conceptual and methodological knowledge, he/she collects and organises the facts and data needed to perform his/her tasks; he/she identifies simple causal relationships and draws conclusions and recommendations in the routine processes of the organisation.
- Able to plan and run an individual or small business independently.
- Collaborates effectively with colleagues and managers on project tasks and work assignments.
Attitudes:
- Committed to quality work, complying with relevant professional, legal and ethical rules and standards.
- Intented to develop and adapt its commercial and marketing activities to the changing economic and legal environment.
Autonomy, responsibility:
- Takes responsibility for the own work and decisions.
- Carries out the duties independently, prepares professional reports, reports and small presentations independently. Where necessary, and seeks assistance from colleagues and managers.
- Under general professional supervision, direction and control, consciously plans, organises and regularly supervises the tasks in the job description.
Course content, topics:
Development and types of the states, organs, budget and taxation, procedures of authorities.

Learning methods:
In the lessons the students get detailed explanations with life-like examples to the most important legal aspects of operation of a state.
Assessment
Presentation in the agreed legal topic (10-12 slides ppt, appr. 10 minutes).
In case if the presentation is missing or not accepted, final written test at the end of the semester, with the following grades:

points	grade
0-7	1 (fail)
8-9	2 (satisfactory)
10-11	3 (fair)
12-13	4 (good)
14-15	5 (excellent)

Compulsory readings:
handout (electronically sent to the students)

Week	Topics
1.	The state 1: definition, basic functions, organization. Division of state power. LO: the knowledge of the most important legal rules and solutions according to the topic
2.	The state 2: types of states, direct and representative democracy. LO: the knowledge of the most important legal rules and solutions according to the topic
3.	The state 3: The Parliament and the president. Special rules of law. LO: the knowledge of the most important legal rules and solutions according to the topic
4.	The state 4: The Government. LO: the knowledge of the most important legal rules and solutions according to the topic
5.	The state 5: the court system and the prosecutor's office. LO: the knowledge of the most important legal rules and solutions according to the topic

6.	The state 6: local governments. LO: the knowledge of the most important legal rules and solutions according to the topic
7.	The state 7: taxes and budget. LO: the knowledge of the most important legal rules and solutions according to the topic
8.	Administrative procedures 1: principles, clients, territorial competence and scope of powers. LO: the knowledge of the most important legal rules and solutions according to the topic
9.	Administrative procedures 2: authorities. Administration, vertical and horizontal division of authorities. LO: the knowledge of the most important legal rules and solutions according to the topic
10.	Administrative procedures 3: procedure of first instance. LO: the knowledge of the most important legal rules and solutions according to the topic
11.	Administrative procedures 4: resolution and other decisions of the authorities. LO: the knowledge of the most important legal rules and solutions according to the topic
12.	Administrative procedures 5: procedure of second instance. LO: the knowledge of the most important legal rules and solutions according to the topic
13.	Presentations 1 LO: the knowledge of the most important legal rules and solutions according to the topic
14.	Presentations 2 LO: the knowledge of the most important legal rules and solutions according to the topic

Subject: **Natural Sciences in Agricultural Production (Agricultural Chemistry)**
Neptun-code: GT_AVINE047-17
Number of lessons: 1+1 Requirement: Practical course mark
Credit: 2
Instructor: Dr. Rita Erdeiné Kremper

Course goals:
The aim of the course is to give general knowledge of plant nutrition. During the course students become familiar with the nutrition need of plants, learning the hazards of fertilizers for the environment. They get acquainted what kinds of aspects have to be considered by using fertilizers beyond the plant requirements.
Competences:
Knowledge:to know the basic concepts of nutrient management , the methods of collecting information and analyzing problems related to soil and plant nutrient supply
Capabilities: to be able to implement plant nutrient replenishment in economically and environmentally friendly way
Attitudes: good problem recognition and solution ability; commitment to the principle of sustainability
Autonomy, responsibility: to select and apply relevant problem-solving methods independently
Course content, topics:
Plant nutrients, chemical composition of plant, factors influencing plant nutrient uptake. Ion adsorption in soil, soil acidity, soil improvement, water balance of plant. Relationship between nutrient supply and yield (Liebig and Mitscherlich law) Effect of nutrient supply on crop quality, nutrient forms in the soil, N cycle in soil, utilization of N,P,K fertilizers in soil, N fertilizers, organic manures, pesticide chemistry basics
Learning methods:
lecture, doing lab experiments, discussion, making assignments, solving calculation problems

Assessment
The exam is a written test which will be evaluated according to the following grading schedule:
0-49% not accepted (1)
50-62% (2)
63-75% (3)
76-87% (4)
87-100% (5)
Compulsory readings: Mengel K., Kirkby E. A. (2001): Principles of plant nutrition 5th edn. Dordrecht: Kluwer Academic Publishers, http://dx.doi.org/10.1007/978-94-010-1009-2
Recommended readings: Barker, Allen V., and David J. Pilbeam, eds. Handbook of plant nutrition. CRC press, 2015.

Week	Topics
1.	Principles of sustainable nutrient management. Harmful effects of fertilizers on the environment , soil and plant sampling
2.	Plant nutrients ,Chemical composition of plants (water, dry matter content, ash content, organic matter content), determination of ash and dry matter content of plant
3.	Ion adsorption in soil, soil acidity, Soil improvement, Water balance of the plant Simple test tube experiments which model natural processes in soil
4.	Relationship between nutrient supply and yield. Effect of nutrient supply on crop quality, nutrient forms in the soil Calculation fertilizer dosage according to the Hungarian Fertilizer Recommendation System
5.	N cycle in soil, utilization of N, P, K fertilizers in soil calculation , plant tissue test, calculation unit active ingredient prices of fertilizers
6.	N fertilizers, test tube experiment with fertilizers
7.	Organic manures, pesticide chemistry basics

Subject: **Natural Sciences in Agricultural Production (Soil Science)**
Neptun-code: GT_AVINE048-17
Number of lessons: 1+1 Requirement: Practical course mark
Credit: 2
Instructor: Dr. Magdolna Tállai

Course goals:
To get to know and understand the environmental role of the soil, the processes taking place in the soil. To get to know the impact of agricultural activity on the soil-water-environment system. Can apply the principles of sustainable agricultural activity. Activity of producer able to acquit the requirements of soil protection, environmental protection and food quality.
Competences:
Knowledge:
Learn and understand the role of soil in the environment, the processes that take take part in the soil.
Understand the impact of agricultural activity on the soil-water-environment system.
Can apply the principles of sustainable agricultural activity.
Capabilities:
The producer shall be able to keep an eye on:
- soil protection,
- the protection of the environment and the
- food quality requirements.
Attitudes:
Open to representing the role of rural development and related disciplines in society.
Autonomy, responsibility:
Sense of responsibility also manifests itself in relation to professional, legal, ethical, health-related standards and rules relating to his conduct.
Course content, topics:
The definition of soil, its components. Soil functions. Soil-forming minerals and rocks. Soil forming factors, and processes. Soil organic matter. The humus. The role of humus in the soil. Soil chemical properties. Soluble salts in the soil. Colloid-sized components of soil. Soil pH. Physical properties of soil. Soil grain composition, classification of soils based on their texture. Soil structure. The pore system of the soil. Soil water management. Moisture forms in the soil. Principles and methods of soil classification.

Learning methods:
lecture, reading, doing lab experiments relation to physical and chemical properties of the soil , discussion, making some calculations in field of water management of soils, solving calculation problems, developing a practical approach
Assessment
The exam will be evaluated according to the following grading schedule:
0-49% not accepted (1)
50-62% (2)
63-75% (3)
76-87% (4)
87-100% (5)
Compulsory readings:
G. W. Leeper, N.C. Uren (1993): Soil Science an introduction (Fifth Edition) 300. p.
Introduction in Soil Science (2016): Development of E-Courses for B.Sc. (Agriculture) Degree Program https://agrimoon.com/wp-content/uploads/Introduction-to-Soil-Science.pdf. 193. p.
Recommended readings:
David L. Lindbo, Deb A. Kozlowski, C. Robinson (2012): Know Soil, Know Life. ISBN-13: 978-0891189541;
ISBN-10: 0891189548

Week	Lecture Topics	Practise Topics
1.	The definition of soil, soil functions.	Soil profile description, field tests in the soil. Study of soil genetic levels, colour and structure analysis, compaction, pH, $CaCO_3$ and Na_2Ca_3 and phenolphthalein alkalinity test.
LO	Description of the main definition and theories in the field of soil science, discussion, knowledge of the principles of environmental protection and soil protection.	The student learns about the soil profile and is able to characterize, describe, isolate it, master basic laboratories examinations. Recognition of soil functions.

2.	Soil components, soil-forming minerals and rocks.	Examination the soil texture according to laboratories methods: examination of silt and clay fraction, measuring of K_A plasticity index, calculation of y_1 (hygroscopic value of soil), and examination of water lifting capacity of soil.
LO	Description of concepts, theories and processes in the system of sustainable agriculture.	Knowledge of laboratory tools, application, practice of knowledge, separation of texture groups in soil practice.
3.	Soil physical properties: soil colours, texture forms, bulk density, pore conditions in soil, soil porosity, and heat management of soil.	Soil physical properties. Study of soil density, bulk density, and pore conditions in soils with laboratories methods.
LO	Description of the main definition and theories in the field of soil science.	Calculating, practicing, applying formulas in soil science.
4.	Soil water management. Moisture forms in the soil.	Soil water management. Calculation of soil moisture content, water capacity of soils. Irrigation water calculation.
LO	Description of the main definition and theories in the field of soil science.	New knowledge of laboratory equipment, application, putting knowledge into practice, measuring tasks in the laboratory.
5.	Soil chemical properties: soluble salts in the soil, salts quantity and quality, colloids and surface reactions, soil pH, soil acidity, soil acidity forms.	Soil chemical properties. Measure of the pH of soils. Study of soil acidity forms.
LO	Description of the main definition and theories in the field of soil science.	New knowledge of laboratory equipment, application, putting knowledge into practice, measuring works in the laboratory.

6.	Soil organic matter. The humus. Formation of humus substances. Subdivision of humus substances. The role of humus in the soil.	Soil organic matter. The humus. Study of measuring methods of soil humus content. Making a standard curve in the laboratory.
LO	Organic matter-soil-plant and healthy food relationship.	New knowledge of laboratory equipment, application, practice of knowledge, acquisition of laboratory practice.
7.	Principles and methods of soil classification. Presentation of some major soil types.	Study of quantitative measuring methods of $CaCO_3$ and Na_2CO_3 content in soils.
LO	Soil types to know for sustainable crop production.	Calculating in laboratories, acquiring environmental awareness in the soil -plant system.

Subject: **EU Agriculture and Environmental Policy**
Neptun-code: GT_AVINE049-17
Institute: Rural Development, Regional Economics and Tourism Management
Number of lessons: 2+1 Requirement: Exam Credit: 3
Instructor: Dr. János Szenderák

Course goals:
The aim of the course is to provide students with information about the EU that will help them build their future. Get to know the role of agricultural policy in integration from the very beginning, gain information about the international agricultural market and its theoretical background. Get acquainted with the spread and principles of environmental policy, which knowledge can be the basis for the formation of environmentally conscious thinking.
Competences: Knowledge:
- The student is aware of the importance of international agricultural and rural policy, knows and understands the basic concepts, contexts and processes of policies.
- The student knows the facts, main features and contexts of the policies as a whole, the relevant decision-making processes.
- The student knows the basic functions and connections of agricultural policy and policies (subsidies, taxation, etc.).
Capabilities:
- The student is able to formulate policy problems, identify expected trends, develop an independent professional position and defend it during debates.
- The student is able to interpret the formal and informal relationship system of the institutional background of policies and use it in his / her work.
- The student is able to analyze in detail on the basis of knowledge and methods in the field, to explore basic connections, to draw independent conclusions. In addition to professional supervision, the student is able to directly manage the sub-data of the project at the operational level in a research project.
Attitudes:
The student is receptive to the reception of new information, new professional knowledge, open to taking on new, independent and cooperative tasks and responsibilities.
Autonomy, responsibility:
The student is responsible for its analyzes, conclusions and decisions.

Course content, topics:
The aim of the course is to get to know the role of the European Union, not only in the traditional sense, but also in the case of different policies. The student can also place the topics discussed in an international perspective, and acquire the skills to use basic concepts during the training. Having information about the EU to help them build their future. Get to know the role of agricultural policy in integration from the beginning, gain information about the international agricultural market and its theoretical background. Get acquainted with the spread and principles of environmental policy, which knowledge can be the basis for the formation of environmentally conscious thinking.
Learning methods:
Due to the interactive nature of the lectures, students are constantly involved in the lecture, thus developing their skills. Within the framework of the lectures, renowned guest lecturers from a research institute broaden their horizons to the students.
Assessment
Exam questions will be raised from the lectures. The lecture materials together with the accompanying written materials will be available to the students.
The exam is written, where the concepts are taken into account, and in addition to enumeration and short essay questions, true-false, test questions are to be expected.
Compulsory readings: Hill Berkeley, Understanding the Common Agricultural Policy (2011) ISBN: 9781849775618
Recommended readings: Moyer Wayne, Agricultural Policy Reform (2017) ISBN13 (EAN): 9781138719996

Week	**Topics**
1.	EU history, legal system, forms of integration
	LO: Students will know the most important milestones in the formation of the EU, the process of deepening integration.
2.	Institutions operating the European Union
	LO: Get to know the institutions that run the EU.
3.	Economic and Monetary Union
	LO: Get to know the steps and milestones of the economic and monetary union.

4.	General features of the European Union budget and presentation of the current budget
	LO: The conditions for the formation of the EU budget, the main revenue and expenditure factors are presented.
5.	50 years of the Common Agricultural Policy (CAP)
	LO: Students will learn about the development of the CAP and its major milestones.
6.	Common Agricultural Policy (CAP) 2014-2020 and after 2020
	LO: Students will know the current regulation and future prospects of the CAP.
7.	Development and operation of environmental policy. Key documents for sustainable development in the EU
	LO: Students will know the development and more important regulation of environmental policy.
8.	Rural development legislation for the period 2014-2020 and after 2020
	LO: Students will know the current and future aspects of EU rural development policy.
9.	Energy supply, energy policy
	LO: Students will know EU energy policy.
10.	The experience of 10 years of our EU membership in agriculture and rural economy
	LO: Major changes since joining to the EU.
11.	Investment and EU cohesion policy
	LO: Students will know EU development and investment policy.
12.	Regional policy
	LO: Students will learn about the main features of regional policy.
13.	WTO
	LO: Students will know the operation of the WTO, its most important regulations.
14.	Summary
	LO: Synthesis of materials submitted during the semester.

Subject: **Applied Geographic Information System - Applied GIS**
Neptun-code: GT_AVINE011-17
Institute: Applied Informatics and Logistics
Number of lessons: 1+2 Requirement: Practical course mark
Credit: 4
Instructor: Dr. Róbert Szilágyi

Course goals:
The course aims to introduce the students to the basic concepts of GIS, data collection, and data integration solutions. During the subject's completion, the student learns about the regional spatial development aspects of GIS systems, the more important application possibilities related to spatial decision support.
Competences:
Knowledge:
Knows the statistical and geostatistical methods needed to identify rural development problems, relevant information collection, analysis and problem-solving methods.
Capabilities:
Knows, understands, and applies environmental and nature protection principles, their regulations related to rural development.
Able to effectively use written and oral communication tools, recognize the advantages and disadvantages of using the opportunities provided by IT.
Creates and presents more superficial professional reports, evaluations, presentations.
Able to perform agricultural engineering tasks related to rural development and to apply the necessary GIS (database management, GIS program application) knowledge.
Attitudes:
Susceptible to the absorption of new information, professional knowledge, and methodologies.
It is receptive to environmental awareness and human health and sensitive to problems related to the rural economy.
Autonomy, responsibility:
Performs job duties independently, prepares professional reports, reports, and small presentations independently. If necessary, it uses the help of employees and managers.
To be able to independently plan management processes, manage procurement and evaluation processes.

Responsible for the findings and professional decisions made in the expert opinion and for the work processes carried out or under direction.
Course content, topics:
GIS concept, real-world modeling, related disciplines, maps. Components of a GIS system. Databases, software, hardware devices. Information systems, spatial information systems. Reference and projection systems. Primary and secondary data collection procedures. Raster and vector GIS models. Hybrid GIS models. GIS databases. GIS databases for rural development and regional development tasks. Operational possibilities in GIS systems. Role and tasks of data integration. Data display, publishing. Basics of spatial analysis. GIS in agricultural information systems.
Learning methods:
Students will learn the basics of GIS and the connected areas of GIS and rural development. Primary data collection, secondary data collection, model building, basic geostatistical concepts, and studies. Spatial data mining and data visualization related to rural development.
Assessment
Active participation in the exercises is mandatory. Maximum of 3 absences can be allowed. The semester ends with a practical mark. The condition for signature is that the performance of the students, determined on the basis of the semester activity, is at least 61%. Practice accounts for 70% of the grade and theory for 30% of the grade. During the semester, three practical and two test-type written tests will take place. The practical tasks prepared during the exercises must be uploaded to the e-learning system.
Based on the total percent, the grade is formed as follows:
0 - 60 is insufficient,
61 -70 is sufficient,
71 -80 medium,
81 -90 good,
91 - 100 fine.
Compulsory readings:
Jonathan Campbell, Michael Shin (2011): Essentials of Geographic Information Systems, ISBN 9781453321966, Saylor Foundation
Recommended readings:
Michael Schmandt (2017): GIS Commons: An Introductory Textbook on Geographic Information Systems, giscommons.org, 232p
Martin van Maarseveen, Javier Martinez, Johannes Flacke 2019): GIS in Sustainable Urban Planning and Management: A Global Perspective, CRC Press, Leiden,ISBN: 9781315146638, 364p

Week	Topics
1.	GIS concept, real-world modeling, related disciplines, maps LO: Introduction, data sources management
2.	Components of a GIS system. Databases, software, hardware devices LO: Public data sources management
3.	Information systems, spatial information systems LO: Basics of database management I
4.	Reference and projection systems LO: Basics of database management II
5.	Primary and secondary data collection procedures LO:GIS database management ETL I
6.	Raster and vector GIS models LO: LO: GIS database management ETL II
7.	Hybrid GIS models LO: GIS software 1.
8.	GIS databases LO: GIS software 2.
9.	GIS databases for rural development and regional development tasks LO:GIS software 3.
10.	Operational possibilities in GIS systems LO: Power Pivot
11.	Role and task of data integration LO: Power BI desktop
12.	Data display, publishing LO: Semester practical task consultation
13.	GIS in rural development. Presentation of individual tasks LO: Semester practical task consultation
14.	GIS in agricultural information systems LO: Practical task presentation

Subject: **Agri-information Systems**
Neptun-code: GT_AVINE011-17
Institute: Applied Informatics and Logistics
Number of lessons: 1+2 Requirement: Practical course mark
Credit: 4
Instructor: Dr. Róbert Szilágyi

Course goals:
To learn the location and clarification of information systems and services in the agricultural sector. In addition to theoretical knowledge, students must master the basic operating features of information systems. During the semester, students become acquainted with groups of agricultural information systems. At the end of the course, the student will know the most important macro-and microeconomic systems, the basics of the need for information collection, processing, and management information.
Competences:
Knowledge:
It possesses the most basic information gathering, analysis, task, and problem-solving methods.
Capabilities:
It makes simpler professional reports, evaluations, presentations, and performs.
Attitudes:
It is receptive to receiving new information, professional knowledge, and methodologies.
Autonomy, responsibility:
It performs job assignment independently, prepares own professional reports, creates small presentations independently. If needed, it will be required to work with a staff member or a manager.
Course content, topics:
Introduction information system (data, information, knowledge, system categories, system approach), Agricultural statistics structure, Agricultural management's information requirement, Market price information systems, Farm Accountancy Data Network, Integrated Control, and Monitoring System, Land Parcel Identification System, United Register and Identification System in agriculture, Integrated information systems, Big data in agri-business, Mobile and sensor technology in agri-business.

Learning methods:
In the lectures, students can learn the theoretical foundations needed to solve the tasks presented in practice. In the lectures, the students receive the knowledge in the form of a presentation and an electronic note, and in the exercises, they get acquainted primarily with the elements and use of spreadsheet systems.
Assessment
Active participation in the exercises is mandatory, a maximum of 3 absences can be allowed. The semester ends with a practical mark. During the two written exams, questions related to the semester knowledge are included in the line item. Exam points structure: theoretical exam 40 points, practical performance 60 points. The subject is assessed with a grade (five-grade assessment).
Based on the total percent, the grade is formed as follows:
0 - 60 is insufficient,
61 -70 is sufficient,
71 -80 medium,
81 -90 good,
91 - 100 fine.
Compulsory readings:
Hazem Shawky Fouda (2019) : Information Technology in Agriculture, Arcler Education Incorporated, ISBN1774073722, 9781774073728, 290p
Presentation of lecture and seminars
Recommended readings:
FAO. 2013. ICT uses for inclusive agricultural value chains.Rome
Worldbank (2017): ICT IN AGRICULTUREConnecting Smallholders to Knowledge, Networks, and Institutions, The World Bank, ISBN: 978-1-4648-1023-7 DOI: 10.1596/978-1-4648-1002-2

Week	**Topics**
1.	Information and systems theory Basics of information systems LO: Introduction information system (data, information, knowledge, system categories, system approach)
2.	LO: Agricultural statistics structure
3.	CAP and information, Agricultural statistics pages, data analysis Information management, Information needs of management and decision makers LO: Databases (FAO, EUROSTAT)

4.	LO: Agricultural management's information requirement
5.	Market Information Systems Access and analysis of FADN data LO: Market price information systems
6.	LO: Farm Accountancy Data Network
7.	Integrated Administration and Control System Applied GIS LO: Integrated Control and Monitoring System
8.	LO: Land Parcel Identification System
9.	Traceability in agriculture Information systems in the agricultural economy LO: United Register and Identification System in agriculture
10.	LO: Integrated information systems
11.	Fundamentals of Micro Information Systems Mobile Technology and Agriculture, Data Collection, IoT LO: Big data in agri-business
12.	LO: Information system in agriculture
13.	Administrative information systems Complex information systems LO: Mobile and sensor technology in agri-business
14.	LO: Presentation of student's project work

Subject: **Horticulture**
Neptun-code: GT_AVINE015-17
Number of lessons: 2+2 Requirement: Exam Credit: 5
Instructor: Dr. Mária Takácsné Hájos

Course goals:
The aim of the course is for students to learn the basics of growing vegetables, fruits, and grapes. They will gain knowledge about the vegetable, fruit, and grape production, as well as the perspectives of the most important cultivated vegetable and fruit species. They gain knowledge about the morphology, ecological needs, cultivation of horticultural species and the modern technologies.
Competences:
Knowledge:
During the course, the student gets acquainted with the general characteristics, development directions and place of Hungarian horticultural cultivation in Hungarian agriculture. They know the basic information of fruit and vegetable production, and viticulture.
Capabilities:
After a basic theoretical knowledge of the horticultural sectors, they can consider the possibilities of practical implementation related to them. They can make basic suggestions for solving the problems that arise, they apply the new knowledge in an innovative way.
Attitudes:
They have a high level of professionalism, makes constructive suggestions on professional issues, which they can also take on towards the community.
Autonomy, responsibility:
They understand the general and more complex problems related to horticultural production, can find solutions to them independently, and to formulate their suggestions in an understandable way. Based on the acquired knowledge, they manage with the appropriate weight the possibilities and limitations of the Hungarian horticultural sector. After graduating, they can purposefully enforce their interests and suggestions either in their individual farming or within smaller, larger agricultural holdings.
Course content, topics:
Vegetable production
• Characterization of vegetable production; Classification of vegetables according to heat demand and applied propagation methods
• General characterization of root vegetables

• General characterization and cultivation of onions and legumes
• Environmental needs and cultivation of sweet corn, cucumber, and melons
• Environmental needs and cultivation of pepper and tomato
• Characterization and development of fruit production, classification of fruit species, propagation
Fruit production
• Plantation establishment, site, rootstock, and variety selection
• Planting systems and canopy formations in fruit production
• Cultivation, fertilization, and irrigation of fruit orchards
• Plant protection, harvest, and storage of fruits
Viticulture
• Importance of vine production, morphology
• Biological phases and propagation of vine
• Establishment and maintenance of plantation, cultivation and pruning methods
• Harvest, grape processing, wine production technologies
Learning methods:
Interactive presentations
Assessment
Mid-term test
Written exam at the end of the semester
Compulsory readings:
1. Sánchez, E. S. (2010): Vegetable Gardening, The Pennsylvania State University, 64 p. http://www.webgrower.com/regional/pdf/PA_Veg_agrs115.pdf
2. Ric Bessin, R. (ed.) (2012): Vegetable Production Guide for Commercial Growers. Cooperative Extension Service University Of Kentucky College of Agriculture, Lexington, 132 p. http://www2.ca.uky.edu/agcomm/pubs/id/id36/id36.pdf
3. Parshant Bakshi V. K. Wali (2011): Practical manual for fruit production. https://www.researchgate.net/publication/270509577_Practical_manual_of_fruit_production
4. Strik, B. C. (2011): Growing table grapes. https://catalog.extension.oregonstate.edu/sites/catalog/files/project/pdf/ec1639.pdf
Recommended readings:
1. Kemble, J. M. (2020): Vegetable Crop Handbook, Southeastern U.S. 355 p.

https://www.aces.edu/wp-content/uploads/2019/12/2020_SEVG_final_web.pdf
2. Tree Fruit Production Guide. Pennsylvania 2012–2013. https://polk.extension.wisc.edu/files/2014/02/Tree-Fruit-Production-Guide-Penn-State-2013.pdf
3. Hamman, R. A. et al. (1998): The Colorado grape growers' guide. Colorado State University https://extension.colostate.edu/docs/pubs/garden/550a.pdf

Week	**Topics**
1.	Characterization of vegetable production; Classification of vegetables according to heat demand and applied propagation methods LO:
2.	General characterization of root vegetables LO:
3.	General characterization and cultivation of onions and legumes LO:
4.	Environmental needs and cultivation of sweet corn, cucumber, and melons LO:
5.	Environmental needs and cultivation of pepper and tomato LO:
6.	Characterization and development of fruit production, classification of fruit species, propagation LO:
7.	Plantation establishment, site, rootstock, and variety selection LO:
8.	Planting systems and canopy formations in fruit production LO:
9.	Cultivation, fertilization, and irrigation of fruit orchards LO:
10.	Plant protection, harvest, and storage of fruits LO:

Subject: **Animal Production**
Neptun-code: GT_AVINE021-17
Number of lessons: 2+2 Requirement: Exam Credit: 4
Instructor: Dr. Levente Czeglédi

Course goals:
To be familiar with the basics of animal production systems. Students will know the genotype, breeds of livestock species, housing, nutrition and breeding. They will have information on animal product quality and yield.
Competences:
Knowledge:
Capabilities:
Attitudes:
Autonomy, responsibility:
Course content, topics:
The course is focusing on livestock species, such as cattle, sheep, swine and poultry. The importance of animal production in the world, especially in Europe and the demand on different animal products (meat, milk, egg) will be discussed. During the lectures and practice, for each species, the breeds and hybrids, breeding, housing, milking, feeding and factors affecting product quality and yield will be presented. Traits of economic value are included in the studies.
Learning methods:
Attendance to lectures and practices. Team work in small groups on a specific topic in animal production and give a speech with ppt.
Assessment
The exam is a written test which will be evaluated according to the following grading schedule:
0-50% fail
51-60 % sufficient
61-70% fair
71-84% good
85-100% excellent
Compulsory readings:
Thomas Field – Robert Taylor (2019): Scientific Farm Animal Production. 12th edition. Pearson. 1-608.
Recommended readings:
Topel D, Marple D, Lonergan S, Parrish F (2013): The Science of Animal Growth and Meat Technology. Meat Science Press. 1-205.

Week	Topics
1.	Production of animal products in the world, trends. Consumption per capita.
2.	Cattle breeding and production: beef, dairy and dual purpose breeds
3.	Cattle breeding and production: milk and beef production traits and reproduction
4.	Cattle breeding and production: cattle breeding and nutrition
5.	Cattle breeding and production: housing, parlor
6.	Swine breeding and production: pig production levels, importance of phenotype
7.	Swine breeding and production: traits with economic value, housing
8.	Swine breeding and production: breeding, hybrids, breeds and nutrition
9.	Sheep breeding and production: genotypes, breeds
10.	Sheep breeding and production: sheep production traits and reproduction
11.	Sheep breeding and production: sheep nutrition and grazing
12.	Poultry breeding and production: species, biological characteristics, phenotype
13.	Poultry breeding and production: production yield and quality
14.	Poultry breeding and production: breeding, housing and nutrition

Subject: **Water and Environmental Management**
Neptun-code: GT_AVINE044-17
Number of lessons: 2+0 Requirement: Exam Credit: 3
Instructor: Dr. Elza Kovács

Course goal and earning objectives:
Upon successful completion of this course, students will understand the importance of the environmental aspects of agriculture. Students will be able to identify and assess critically the impacts of variable agricultural practices on soil and water resources. They will skillfully apply different environmental impact assessment tools, and will become committed in environmentally sustainable agriculture.
Competences:
Knowledge:
-students will know the agriculture-related environmental issues, environmental impact assessment tools, and solutions to reduce the environmental impacts of crop production, horticulture and animal husbandry.
Capabilities:
-they will be able to use different environmental impact assessment tools and to assess the applicability of practices to protect soil and water resources, and air quality, under different environmental conditions.
Attitudes:
-they will become engaged to utilize water and environmental resources for agricultural purposes in an environmentally sustainable way.
Autonomy, responsibility:
-they will consider the environmental aspects of agriculture and will feel responsible to protect the environmental resources and apply the relevant tools in planning, implementation, and operation.
Course content, topics:
Principles of agricultural environmental management. Environmental, economic and social aspects of sustainable development in agriculture. Environmental impacts of agriculture, impact assessment tools. Utilization of environmental resources, best available techniques. Environmental pollution prevention and clean-up (soil, surface water, ground water, air, ecosystems).
Learning methods:
Lectures, individual mini projects
Assessment
completion of the mini projects, written exam

Compulsory readings:
Recommended readings:
1. https://www.pdfdrive.com/sustainable-agricultural-development-recent-approaches-in-resources-management-and-environmentally-balanced-production-enhancement-e157105173.html
2. https://www.pdfdrive.com/climate-and-land-degradation-environmental-science-and-engineering-environmental-science-environmental-science-and-engineering-environmental-science-e157218251.html

Week	Topics
1.	Principles of agricultural environmental management. Sustainable development. LO: knowledge on global, regional and local aspects of environmental sustainability in agriculture
2.	Environmental resources and agricultural utilization. LO: knowledge on resources used and impacted by the agricultural sector
3.	Social aspects of sustainable development in agriculture. LO: knowledge on trends, challenges, programs towards sustainability
4.	Global environmental issues, environmental protection in the world. LO: knowledge on agro-environmental agendas, strategies, plans, legislations in the world, skills to assess region-specific trends and alternatives
5.	Agriculture-related environmental pollution. Environmental impact assessment. LO: knowledge on environmental risks on soil, water and air; knowledge of EIA tools, skills to use them
6.	Cleaner production in agriculture. Best available techniques. LO: knowledge on tools for environmental protection in agriculture, skills to assess case-studies
7.	Soil pollution prevention and clean-up LO: knowledge on processes in soil, fate and transport of contaminants, clean-up technologies, skills to assess their applicability and limitations

8.	Air pollution prevention LO: knowledge on fate and transport of air contaminants, skills to assess case-studies
9.	Water management in crop production and horticulture, and animal husbandry LO: knowledge on water management methods and tools, site-specific applications
10.	Hydrology, water balance LO: knowledge on water cycle, skills to carry out water balance calculations and assess the impacts of water utilization on that
11.	Surface and groundwater resources, water in soil LO: knowledge on the physical, chemical and biological interactions in soil and water
12.	Water quality protection LO: knowledge on natural composition of water resources, fate and transport of contaminants in water
13.	Water regulation, water damage protection in hilly and plain agricultural areas LO: knowledge on management tools in water damage protection, region-specific aspects
14.	Environmental impacts of irrigation, reasonable practices LO: knowledge on irrigation techniques and their potential impacts on the environmental resources

Subject: **Farm Business Management I.**
Neptun-code: GT_AVINE025-17
Institute: Applied Economic Sciences
Number of lessons: 2+1 Requirement: Practical course mark
Credit: 3
Instructor: Dr. Krisztián Kovács

Course goals:
The aim of the course is for students graduating from the curriculum to be familiar with the basics of Farm Business Management, including the basic farm business economic calculations required to manage a business. The subject serves as a required subject in Farm Business Management II and III.
Competences:
Knowledge:
He knows the economic and financial contexts and interactions of the processes taking place in rural development and agriculture. In its context, he understands the goals and basic laws of corporate management.
Knows the natural and technical contexts related to the production of the agricultural (crop, livestock, horticultural) sectors.
Knows the planning, production programming, trade and logistics methods of the agricultural economy, knows the processes and actors of the food chain.
Capabilities:
Able to form and pass on an independent professional position in the field of rural development and agriculture.
Able to comprehensively see the system of conditions necessary for starting and developing a given enterprise in the field of rural development, agriculture and environmental protection.
Able to prepare financial, investment, financing, investment decisions, to prepare and evaluate loan applications, financial plans and applications.
Attitudes:
The graduate student is open to the management of agricultural enterprises.
Open to the management of (family) farms.
Initiative in rural development issues, receptive to innovations, interested in innovations.
Receptive to new information, new professional knowledge and methodologies, open to new, independent and collaborative tasks and responsibilities.

Autonomy, responsibility:
At the middle level of the production organizational units, he independently exercises the management functions and takes responsibility for his decisions.
He is able to independently plan management processes, manage purchasing and sales processes.
Based on the knowledge and methods related to rural development, it performs a detailed independent analysis, explores basic connections, and draws independent conclusions.
Course content, topics:
- The nature and development of Farm Business Management, the company, multifunctional agriculture
- Specialties of the company, the agricultural enterprise
- Production value and categories
- Production cost and categories
- Income and efficiency
- Resources: capital, capital management
- Resources: arable land and pasture
- Resources: labor management
- Fixed assets, investment economy
- Current assets
- Forms of enterprise in agriculture I.
- Forms of enterprise in agriculture II.
Learning methods:
Requirement for signing the semester: Regular attendance of the practical sessions according to the relevant provisions of the "Study and Examination Regulations". The presence is constantly monitored.
Adequate progress is monitored by completing the required mid-term exams during the semester. The condition for obtaining the signature is to achieve 50% of the practical part of the two mid-term exams separately for each exam. The theoretical questions and practical tasks included in the exams are formulated from the course topics, in the form of short definitional questions, explanatory questions, and computational tasks.
Assessment
During the semester, full-time students write mid-term exam twice, which consists of a theoretical (max 30 points) and a practical (max 20 points) part. The condition for obtaining the signature is to achieve 50% performance (10-10 points) of the practical part of the two mid-term exams (max. 20-20 points)

separately for each mid-term exam. Appearance is mandatory on both mid-term exams.
In order to obtain the signature, it is possible to have an additional written exam (max. 20 points) from the practical part during the examination period, it is necessary to achieve 50% performance in order to obtain the signature in this exam.
The "offered course grade" allows students who have reached at least 60% of the average of the two mid-term exams during the semester (min 60 points) and have passed the 50-50% signature threshold from the practical part of exam.
Students who have obtained a signature during the semester during the examination period have the opportunity to take a written examination of the entire material of that semester, at which a performance of at least 60% is required for a sufficient grade.

The exam is a written test which will be evaluated according to the following grading schedule:
Points range:
- 0-59 (1 -failed)
- 60-69 (2 - satisfactory)
- 70-79 (3 - average)
- 80-89 (4 - good)
- 90-100 (5 - excellent)

Compulsory readings:
1. R. D. Kay – W. M. Edwards – P. A. Duffy (2007): „Farm Management" McGraw-Hill Inc. (Sixth Edition), 2007. ISBN-10: 0073028290 | ISBN-13: 978-0073028293Farm Business Management: The Fundamentals of Good Practice by Peter L. Nuthall ISBN-13: 978-1780646565, ISBN-10: 1780646569
2. Fundamentals of Farm Business Management by S.S. Johl – T.R. Kapoor Kalyani Publishers (2003) ISBN-10: 8176631809
Recommended readings:
1. K. OLSON (2010): „Economics of Farm Management in a Global Setting", John Wiley & Sons, Inc.; (First Edition), 2010. ISBN: 978-0-470-59243-4
2. The business of farming : a guide to farm business management in the Tropics by Johnson, David T. London : Macmillan, 1990. ISBN 0333499212

3. Ronald A. Schrimper: Economics of agricultural markets, North Carolina State Universty 2001, Upper Saddle River, New Jersey 07458, ISBN 0-13-775776-x

Week	Topics
1.	Description of requirements system; Basic definitions;
	LO *: Knows the basic concepts of operation and corporate economics, the different ideas, their peculiarities and the basic connections between them.
2.	The nature and formation of plant science, the company, the plant, multifunctional agriculture. Peculiarities of the company, the agricultural enterprise
	LO: Knows the functions and characteristics of the company, including the specialties and multifunctional nature of agricultural enterprises.
3.	Production value and categories
	LO: Knows the definition of production value and its elements, as well as how and in what area it can modify each element. He also knows the categories of production value.
4.	Production cost and categories
	LO: Knows the definition of production cost and its elements, and how and in what area it can modify each element. He also knows the categories of production cost.
5.	Income and efficiency
	LO: Students knows the definition of income and its elements, and how and in what area you can modify each element. He also knows the categories and methods of calculating income.
6.	First mid-term exam
	LO: It gives an account of the knowledge acquired in the first half of the semester in the form of theoretical and practical tasks.
7.	Resources: capital, capital management
	LO: Knows the principles of capital and the characteristics (advantages and disadvantages) of equity and debt.

8.	Resources: land
	LO: Able to determine the value of arable land, know the characteristics of arable land and the ways and principles of its use.
9.	Resources: labor management
	LO: Knows the main principles of manpower management in companies and the possibilities of hiring and motivating human resources. He is aware of the main areas of human resource management as well as wages and their contributions.
10.	Fixed assets, investment economy
	LO: Knows the characteristics and groups of fixed assets and is able to calculate investment economy calculations and indicators.
11.	Current assets
	LO: Knows the concept and grouping possibilities of current assets as well as the basics of inventory management and current asset turnover.
12.	Types of enterprise in agriculture I.
	LO: Knows the individual forms of business, their advantages and limitations, as well as the responsibilities of their managers and the circumstances of their establishment. You can compare different forms of business.
13.	Types of enterprise in agriculture II.
	LO: Knows the individual forms of business, their advantages and limitations, as well as the responsibilities of their managers and the circumstances of their establishment. You can compare different forms of business.
14.	Second mid-term exam
	LO: It gives an account of the knowledge acquired in the second half of the semester in the form of theoretical and practical tasks.

Themes of exercices

Week	Topics
1-2.	Yield and Production Value
3-4.	Production Cost
5-6.	Production Cost and Unit production cost calculations
7-8.	Income and their categories
9-10.	Current and noncurrent assets and depreciation
11-12.	Labor cost and critical volume calculation
13-14.	Repetition and Mid-term exam (Part 2)

Subject: **Agricultural Economics**
Neptun-code: GT_AVINE017-17
Institute: Rural Development, Regional Economics and Tourism Management
Number of lessons: 2+2 Requirement: Exam Credit: 4
Instructor: Dr. János Szenderák

Course goals: The aim of the course is for the student to get to know the role of agriculture in the national economy, to be able to place the discussed topics in an international perspective. Students should acquire the skills to use basic concepts during the training.
Competences:
Knowledge:
- The student is aware of that products produced in the primary sector are part of the food chain, in this connection the student knows and understands the basic concepts, contexts and processes of food chain safety.
- The student knows the facts, main characteristics and correlations of agricultural production and the agricultural economy as a whole, the relevant agricultural economic processes.
- The student knows the basic functions and connections of agricultural policy and policies (subsidies, taxation, etc.).
- The student is aware of the role of R & D & I activity.
- The student has the knowledge to identify problems in the sectors and methods for gathering, analyzing and solving relevant information.
Capabilities:
- In the field of the sectors, the student is able to plan and carry out the procedures preparing and serving the production, to allocate the resources professionally, to participate in the elaboration of proposals based on professional decisions, to draw conclusions, not only at the operational level.
- The student is able to formulate the professional problems of each sector, to recognize the expected trends, to form an independent professional position and to defend it during the discussions.
- The student is able to interpret the behavior of the actors of the agricultural economy, the formal and informal system of relations of the institutional background of agriculture, and to use it in his work.
- Able to analyze in detail on the basis of knowledge and methods in the field, to explore basic connections, to draw independent conclusions. In addition to professional supervision, the student is able to directly manage the sub-data of the project at the operational level in a research project.

Attitudes:
- Receptive to new information, new professional knowledge, open to new, independent and cooperative tasks and responsibilities.
Autonomy, responsibility:
- Takes responsibility for analyzes, conclusions and decisions.
Course content , topics:
The aim of the course is to acquaint the student with the role of agriculture in the national economy, not only in the traditional sense, but also in the approach of agribusiness and multifunctional agriculture. The student can also place the topics discussed in an international perspective, during the training the student will acquire the skills to use the basic concepts. Have information about agriculture that will help them learn about the system and build their future. Get to know the role of agriculture in the product path, gain information about the process and relationship system of food production. Find out about the situation and operation of the main sectors and new, modern technologies.
Learning methods:
Due to the interactive nature of the lectures, students are constantly involved in the lecture, thus developing their skills. Within the framework of the lectures, renowned guest lecturers from a research institute broaden their horizons to the students.
In addition to deepening their professional knowledge, students will give presentations on previously discussed topics during the exercises.
Assessment
Exam questions will be raised from the lectures. The lecture materials together with the accompanying written materials will be available to the students.
The exam is written, where the concepts are taken into account, and in addition to enumeration and short essay questions, true-false, test questions are to be expected.
Compulsory readings: Andrew Barkley, Paul W. Barkley, Principles of Agricultural Economics (2016)
Recommended readings: Cramer Gail L., Agricultural Economics and Agribusiness, (2000)

Week	Topics
1.	Description of basic concepts, the role of agriculture in the national economy.
	LO: Get to know the concepts of agribusiness and their characteristics
2.	Socio-economic structure of the food economy
	LO: It acquires knowledge of the most important contexts at both the social and economic levels.
3.	Resources in Agriculture I. - Land Market, Land Policy
	LO: Gain knowledge of some sources of agriculture.
4.	Resources in agriculture II. - Agricultural capital market
	LO: Gain knowledge of some sources of agriculture.
5.	Resources in agriculture III. - Agricultural labor market
	LO: Gain knowledge of some sources of agriculture.
6.	Presentation of the main agricultural sectors - Crop production
	LO: Get to know the main sectors of agriculture.
7.	Presentation of the main agricultural sectors - Livestock
	LO: Get to know the main sectors of agriculture.
8.	Agricultural organizations
	LO: Student gets acquainted with the farm structure and economic structure of agriculture.
9.	Cost - Changes in income in agricultural production
	LO: Learning about the main characteristics of changes in agricultural prices.
10.	Main features of agricultural foreign trade
	LO: Get to know the characteristics of agricultural foreign trade after EU accession.
11.	Global challenges for agriculture
	LO: Students will know the challenges what agriculture facing of.

12.	Modern technologies in agriculture - Precision agriculture
	LO: Students will learn about the most important features of precision agriculture.
13.	Modern technologies in agriculture - Biofuels
	LO: Students will know the most important areas related to energy.
14.	Summary
	LO: Synthesis of lectures.

Subject: **Regional Economics I.**
Neptun-code: GT_AVINE018-17
Institute: Rural Development, Regional Economics and Tourism Management
Number of lessons: 2+2 Requirement: Practical course mark
Credit: 4
Instructor: Dr. Anett Godáné Sőrés

Course goals:
are to provide solid knowledge for the students about the definition of the landscape and region, the special implementation of the general economic laws, the basic phenomenon of special economy in macro and micro level. During the course the student will be aware of the effects of the rearrangements of regional development sources on the territorial processes.
Competences:
Knowledge:
Capabilities:
Attitudes:
Autonomy, responsibility:
Course content, topics:
Theoretical models of the regional development
Regional Micro economics
Regional Macro economics
Factors identifying Regional developments
Learning methods:
Cooperative instruction methods, lectures, seminar, project works, individual presentation, home work
Assessment
A mid-term and an end-term will be organised during the semester. The students enrolled to the course will be asked to develop a research about a freely chosen EU member state and to present their findings during the seminars. The successful tests and the presentations are all requirements for the signature of the course, while a final grade will be given for them by the end of the semester based on their activity, achievement on the test and presentation. Students can gain extra points (max 10%) with active class behaviour at seminars. Mid-term and end-term is responsible for 30%-30% of the grade respectively, while 40% can be achieved by the presentation. The final grade will be qualified as: 0–55% failed (1), 56–65% acceptable (2), 66–75% medium (3), 76–85% good (4), 86–100% excellent (5).

Compulsory readings:
Roberta Capello: Regional Economics, Routledge, 2016
Recommended readings:
Edgar M. Hoover- Frank Giarratani: An Introduction to Regional Economics, Web Book of Regional Science. Regional Research Institute, West Virginia University, 2020

Week	Topics
1.	Introduction to the course LO: Students will be informed about the genaral requirements of the course, and the thematics of the semester
2.	The basic definition of the Regional Development, its goals and purpose, phenomenon of landscape and region LO: Students will gain information about the main actors of the Regional DEvelopment, the main factors effecting Development processes, the logic of the regulations the basic defenitions, relevant theories will be introduced.
3.	The subject of Regional Development, main issues of Regional Micro Economics LO: Students will gain information about the main actors of the Regional DEvelopment, the main factors effecting Development processes, the logic of the regulations the basic defenitions, relevant theories will be introduced.
4.	Neoclassical location theories I. LO: Students will gain information about the main actors of the Regional DEvelopment, the main factors effecting Development processes, the logic of the regulations the basic defenitions, relevant theories will be introduced
5.	Neoclassical location theories II. LO: Students will gain information about the main actors of the Regional DEvelopment, the main factors effecting Development processes, the logic of the regulations the basic defenitions, relevant theories will be introduced

6.	Regional Macro Economics, role of factors in Regional Development I. LO:
7.	Regional Macro Economics, role of factors in Regional Development I. II. LO:
8.	Mid-term LO: A mide-term test will be organised at the middle of the semester to check students' knowledge
9.	Social and Territorial Factors determining Regional Development LO: The practical interpretation of the Regional Science will be introduced the the students.
10.	Connection between production factors and Regional Development LO:
11.	Main models of Competition, Innovation LO:
12.	Demand and Supply-oriented Regional Strategy, Clasters LO:The practical interpretation of the Regional Science will be introduced the the students.
13.	Summary of the course LO:
14.	End-term LO: Written test is organised at the end of the semester to test students' knowledge about the subject

Subject: **Rural Development I.**
Neptun-code: GT_AVINE019-17
Institute: Rural Development, Regional Economics and Tourism Management
Number of lessons: 2+2 Requirement: Exam Credit: 4
Instructor: Dr. Károly Pető

Course goals:
The aim of the course is to acquaint students with the most important trends in development on a historical scale; the characteristics of modern development; interpretation of rural development in line with EU standards; aspects of the scientific characterization of the countryside; the condition of the countryside, the characteristics of its change; content requirements for rural development programs; complex assessment of local resources.
Competences: Knowledge:
-Should understand the importance of rural development
Capabilities:
-Should be able to control and improve rural development processes
Attitudes:
-Should be open-minded to know and apply the newest methods of rural development
Autonomy, responsibility:
-Should feel responsible for participate in rural development
Course content, topics:
-Within the framework of the course, students can get acquainted with historical features of development; current characteristics of development; agricultural and rural relations; development policy areas and their characteristics; the formation and development of rural policy; the concept of the countryside, the system of rural resources; characteristics of the countryside; rural development programs.
Learning methods:
-Lectures will be given during the training. Major teaching methods: lecture, illustration, discussion.
Assessment
-The exam is a written test which will be accepted from 60%
Compulsory readings:
-Ppt materials of the lectures
-Bálint J.-Nagy G. (ed.) (2007): Rural Development. University textbook, CD prepared within the framework of the program “Development and quality

development of practice-oriented training systems in agricultural higher education". DE ATC AVK, Debrecen. 380. P.
Recommended readings:
-J Kerek Z. - Marselek S. (2009) The practice of rural development, opportunities, measures, Szaktudás Kiadóház, Budapest, 2009., 404. p. ISBN 9789639935075, Financing rural development in the European Union. AKII study, 1999. Village-city-region c. magazine. Bp. KTM VÁTI
-Imre Madarász: How to prepare a rural development program? Agroinform Publishing House, Bp., 2000. Space and society c. magazine. Bp. MTA publication.
-Journal monitoring: Village - City - Region, The village, Territorial Statistics

Week	Topics
1.	Our age and territorial development LO: the knowledge of the most important rural development rules according to the topic
2.	Components of quality of life, city vs. country LO: the knowledge of the most important rural development rules according to the topic
3.	The concept and development of the countryside and rural development LO: the knowledge of the most important rural development rules according to the topic
4.	Countryside, rurality, rural concept LO: the knowledge of the most important rural development rules according to the topic
5.	Rural resources LO: the knowledge of the most important rural development rules according to the topic
6.	The situation of the countryside LO: the knowledge of the most important rural development rules according to the topic
7.	Content requirements for rural development programs LO: the knowledge of the most important rural development rules according to the topic
8.	library week

9.	The farm world of the Great Plain - a documentary LO: the knowledge of the most important rural development rules according to the topic
10.	The role of backyard animal husbandry in rural development LO: the knowledge of the most important rural development rules according to the topic
11.	An insight into the tools of European rural policy LO: the knowledge of the most important rural development rules according to the topic
12.	Beginner domestic steps in rural development LO: the knowledge of the most important rural development rules according to the topic
13.	Opportunity for the functioning of the ecological function of the countryside LO: the knowledge of the most important rural development rules according to the topic
14.	Consultation LO: the knowledge of the most important rural development rules according to the topic

Subject: **Crop Production**
Neptun-code: GT_AVINE020-17
Number of lessons: 2+2 Requirement: Exam Credit: 4
Instructor: Dr. Péter Pepó

Course goals:
Main aims of course to study the basic knowledge of crop production, its ecological, biological and agrotechnical elements and to introduce in different crop models.
Competences:
Knowledge:
Capabilities:
Attitudes:
Autonomy, responsibility:
Course content, topics:
Ecologocal, biological-genetic and agrotechnical factors in crop production. Evaluation of processes in crop production. Introduction into some crop models.
Learning methods:
Lectures, practices, knowledge of field crops and seeds, field excursions.
Assessment
Oral and written (complex) exam
Compulsory readings:
Dr. Rajendra Prasad (ed.) Textbook of Field crop production I (New Delhi, 2018, Fourth Edition
II (New Delhi, 2018, Fourth Edition)
Recommended readings:
J.H. Martin–R.P. Waldren–D.L. Stamp: Principles of Field crop production (2006, Fourth Edition, Pearson-Prentice Hall)

Week	Topics
1.	History, development of crop production importance of crop sciences
2.	Crop models and their agronomic and economic evaluations.
3.	Ecological, biological and agrotechnical factors in crop production and their impacts on field formation processes.
4.	Special economic aspects of crop production, their increasing possibilities in the future.
5.	Importance of wheat production in the world and in Hungary, role of agroecological factors, site-specific agronomic technologies.
6.	Biological-genetic factors in wheat production, variety/hybrid selection, variety-specific technologies.
7.	Agrotechnical element in wheat production, wheat models with different intensity.
8.	Importance of maize production in the world and in Hungary, role of ecological factors, site specific agronomic technologies.
9.	Biological-genetic factors in maize production, hybrid-portfolio, hybrid-specific technologies.
10.	Agrotechnical elements in maize production, maize models with different intensity.
11.	Agronomic roles of oil crops in farming. Importance of sunflower production. Ecological factors in sunflower production.
12.	Biological factors in sunflower production. Agronomic elements in sunflower growing.
13.	Role of fodder crops in farming. Ecological and biological factors in alfalfa production.
14.	Agronomic factors of alfalfa production and their interactive models.

Subject: **Introduction to Finance** Neptun-code: GT_AVINE020-17
Institute: Accounting and Finance
Number of lessons: 2+2 Requirement: Practical course mark
Credit: 4
Instructor: Dr. Balázs Fazekas

Course goals:
In Finance Students get acquainted with the basic concepts of money and the time value of money, the financial system, money and capital markets, banking system, payment methods, stock exchanges and the major securities.
Course content , topics:
During the course Students get acquainted with money and time value calculation, the money and capital markets, financial intermediation and the major financial intermediaries, banking system and bank services, financial system, securities and stock exchange.
Learning methods:
Students need to process the topics discussed on the lectures at home as well. The understanding of the topics is helped by various calculation based practical exercises. Students have access to various e-learning systems.
Assessment
Requirements for getting the signatures:
Requirement for getting the signature is the regular attendance of seminars in accordance to the Statue of Teaching and Examination and the Ethical Code of UD. Based on the Statue of Teaching and Examination the number of absences cannot exceed 3 occasions, otherwise the signature is denied.
Learning materials:
In the e-learning course the lecturers publish the learning materials of lectures and seminars. The workload of lessons and home learning is approximately 50-50%, the materials for home learning are given in compulsory readings.
Grading system:
Exam opportunities:
For passing the course the requirement is to take a successful exam. Exam dates will be published for every week during the exam period. The limit of exams is 1.5 times the number of Students who are entitled for taking the exam. The exam dates will be published in the Neptun for the Students in the final week of the term-time. After that the limits won't be extended and further exam dates won't be published. Only those Students are entitled for participating on the exam, who registered for the given exam in the Neptun. Based on the Statue of Teachings and Examination if the number of Students

registered for the exam is below 10 the teachers are not liable to keep the exam.
Topics and structure of tests:
Exams cover all the topics of the semester. Tests are electronic written tests via the official e-learning site of UD. Tests include theory and practical questions in 50-50% ratio. The questions are connected to the topics of lectures and seminars and to the compulsory readings.
Evaluation of tests:
Exam grade is given based on the score of the test. (Theory and practical parts have 50-50% in evaluation, but there is no minimum requirement for the theory or the practical part alone, the final score is the average of the theory and practical parts.) Based on test score the grades are the following:
under 60%: 1, fail
60-69%: 2, pass
70-79%: 3, satisfactory
80-89%: 4, good
90-100%: 5, excellent
Teachers and Students must follow the guidelines in every situation the UD's Statue of Teaching and Examination and its Ethical Code.
Compulsory readings:
Topics of the lectures and seminars.
Becsky-Nagy, P. – Fazekas, B. (2018): Exercises and Case Studies from Corporate Finance I – Time value of money and the basics of the valuation of securities. University of Debrecen, Debrecen
Becsky-Nagy, P. – Fazekas, B. (2018): Exercises and Case Studies from Corporate Finance II – Investment decisions. University of Debrecen, Debrecen
Recommended readings:
Titman, Sharidan- Keown, A. J., Martin J. D. (2010): Financial Management. Principles and Applications – 11th edition- ISBN – 13: 978-0-13-217422-0
Mishkin, Frederic S. (2013): The economics of money, banking, and financial markets) 10th edition, (The Addison-Wesley series in economics), ISBN 0-321-12235-6

Week	Topics
1.	Syllabus. Money: functions and evolution. Modern money, inflation, exchange rates. I. LO: The Students understand the economic relevance of money and its role in the economy.
2.	Syllabus. Money: functions and evolution. Modern money, inflation, exchange rates. II. LO: The Students understand the economic relevance of money and its role in the economy.
3.	Principles of time value of money and future value LO: The Students understand the basic principles of time value.
4.	Present value and interest rates LO: Students understand basic time value calculations.
5.	Annuities LO: Students can valuate cash flow streams.
6.	Financial markets, financial intermediaries LO: The Students understand the logic of financial markets and financial intermediation.
7.	Banking and monetary policy I. LO: The Students understand the basics of monetary policy and banking system.
8.	Banking and monetary policy II. LO: The Students understand the basics of banking services.
9.	Basics of securities LO: The Students understand the logic of securities markets. The Students are familiar with the major securities.
10.	Bonds. LO: Students understand bond markets.
11.	Shares LO: Students understand stock markets.
12.	Financial intermediaries LO: Students are familiar with financial intermediaries
13.	Stock Exchanges LO: Students understand the basics of trading with securities on open markets.
14.	Summary

Subject: **Farm Business Management II.**
Neptun-code: GT_AVINE030-17
Institute: Applied Economic Sciences
Number of lessons: 2+1 Requirement: Exam Credit: 3
Prerequisite: Farm Business Management I.
Instructor: Dr. Krisztián Kovács

Course goals:
The aim of the course is for the students to get to know:
•agricultural characteristics of costs, yields and income behavior through cost, yield and income functions;
•the operational characteristics of the market for the main inputs used in agricultural production (fertilizers, pesticides, feed, livestock, machinery, etc.);
•the international and domestic economic importance of the crop, horticultural and livestock sectors, integration into the farming system, the structure, characteristics and regulation of the sector, as well as the main work processes of production and the peculiarities of its work organization.
The students through the exercises - complex example tasks (simulating real situations) - get acquainted with the methodology of preparing sectoral economics calculations (data collection, data processing, evaluation analysis), the interpretation of the necessary concepts and the mechanism and peculiarities of economic decision-making.
Competences:
Knowledge:
Knows the basic concepts of food chain security management and economics that form the basis of agricultural production.
Possesses all the knowledge that enables precise professional communication, direct participation in agricultural production, its support, as well as active - operative - participation in the practical implementation of R & D & I projects.
Capabilities:
Ability to start and run a family farm.
Able to recognize and eliminate routine problems in the process of agricultural production.
As a middle manager of agricultural enterprises, he has a sufficient ability to cooperate, through which he can clearly interpret professional instructions and communicate them to his subordinates.

Attitudes:
Approaches professional issues constructively.
The agricultural engineer performs his duties independently in the course of his work.
Plan your career independently.
Autonomy, responsibility:
Takes responsibility for the decisions made in the performance of his / her duties and for the work of himself / herself and the workforce entrusted to him / her.
Represents your professional beliefs responsibly in your professional communication.
Expresses his / her opinion independently, professionally, and responsibly.
Course content, topics:
The subject includes knowledge of yield, cost and income functions, the market of agricultural inputs and production resources, the business environment of the enterprise, the organization of crop production, livestock and horticulture, the structure and operation of these product lines.
Learning methods:
Requirement for signing the semester: Regular attendance of the practical sessions according to the relevant provisions of the “Study and Examination Regulations”. The presence is constantly monitored. Adequate progress is monitored by completing the required mid-term exams during the semester. The condition for obtaining the signature is during the regular participation in practical classes, in accordance to the relevant provisions of the "Study and Examination Regulations". The theoretical questions and practical tasks included in the exams are formulated from the course topics, in the form of short definitional questions, explanatory questions, and computational tasks.
Assessment
During the semester, full-time students write mid-term exam twice, which consists of a theoretical (max 30 points) and a practical (max 20 points) part. The “offered course grade” allows students who have reached at least 60% of the average of the two mid-term exams during the semester (min 60 points) and have passed the 50-50% threshold from the practical part of exam. Students who have obtained a signature during the semester during the examination period have the opportunity to take a written examination of the entire material of that semester, at which a performance of at least 60% is required for a sufficient grade.

The exam is a written test which will be evaluated according to the following grading schedule:
Points range:

- 0-59 (1 -failed)
- 60-69 (2 - satisfactory)
- 70-79 (3 - average)
- 80-89 (4 - good)
- 90-100 (5 - excellent)

Compulsory readings:

- Hungarian Central Statistical Office: The Hungarian agriculture and food industry in figures.

•The business of farming: a guide to farm business management in the Tropics by Johnson, David T. London: Macmillan, 1990. ISBN 0333499212
Recommended readings:
•R. D. Kay – W. M. Edwards – P. A. Duffy (2007): „Farm Management" McGraw-Hill Inc. (Sixth Edition), 2007. ISBN-10: 0073028290 | ISBN-13: 978-0073028293Farm Business Management: The Fundamentals of Good Practice by Peter L. Nuthall ISBN-13: 978-1780646565, ISBN-10: 1780646569
•Fundamentals of Farm Business Management by S.S. Johl – T.R. Kapoor Kalyani Publishers (2003) ISBN-10: 8176631809

Week	Topics
1.	Description of requirements system. Description and explanation of the topics and content of the lectures and exercises. By systematizing basic concepts related to production costs, yield, and income. LO*: Understanding the logic of lectures and exercises, building on each other. Understanding the basic concepts of operation
2.	Machine work and mechanization in agriculture. LO*: Peculiarities and costs of agricultural mechanization. Irrigation works and their peculiarities and characteristics in agriculture.
3.	Economic and technological factors related to irrigation in agriculture. LO*: Knowledge of economic and technological factors related to irrigation in agriculture

4.	Economics of fertilization management and plant protection in agriculture. LO*: Volume of the market of fertilizers and plant protection products, development tendencies, factors determining prices.
5.	Economics of feed management LO*: Understanding economic decisions related to feeding
6.	Economic issues of sector efficiency measuring LO*: Knowledge of the methodology of efficiency analysis
7.	Competitiveness and innovation LO*: Factors of agricultural competitiveness and their measurement, as well as knowledge of the conditions of innovation
8.	Management functions in the company LO*: Knowledge of the function of planning, analysis and decision making
9.	Temporal aspects of agricultural markets LO*: Getting to know stock market transactions and warehousing decisions
10.	Market relations in agriculture (integrations, cooperatives, supply chains) LO*: Knowledge of the system of various collaborations in agriculture. Risk and management in agriculture
11.	Coping with risk in agriculture LO*: Types of risks and knowledge of management strategies
12.	The role of Hungarian agriculture in the national economy, its structure, and tendencies LO*: Production volume and value of Hungarian agriculture, structure of foreign trade, weight, and role of the food industry
13.	Exam

Themes of exercises

Week	Topics
1-2.	Description of requirements system. Repetition of basic operational concepts
3-4.	Peculiarities of Food Business Management, Cost, Yield and Income Behavior - I. ("Bakery sample task", Part 1)
5-6.	Peculiarities of Food Business Management, Cost, Yield and Income Behavior - I. ("Bakery sample task", Part 2)
7-8.	Repetition and Mid-term exam (Part 1)
9-10.	Peculiarities of farming, cost, yield and income behavior - I. ("Pepper sample task", Part 1)
11-12.	Peculiarities of farming, cost, yield and income behavior - I. ("Pepper sample task", Part 2)
13-14.	Repetition and Mid-term exam (Part 2)

Subject: **Regional Economics II.**
Neptun-code: GT_AVINE0027-17
Institute: Rural Development, Regional Economics and Tourism Management
Number of lessons: 2+2 Requirement: Exam Credit: 4
Prerequisite: Regional Economics I.
Instructor: Dr. Anett Godáné Sőrés

Course goals:
In the first half of the semester students get acquainted with the phenomenon of territorial imbalance, with the definition and actors of Territorial Politics. Later the institutional system of the Regional Development in the European Union will be discussed. Students get to know the operation of the relevant institutions, and the logic of the Regional Development as a Community Policy. Last but not at least the Structural and Investment Funds, the Multiannual Financial Frameworks and its development objectives will be covered together with the notion of national development plans.
Course content, topics:
Context of Territorial imbalances
Regional Policy of the European Union (MFF of 2000-2006, 2007-2013, 2014-2020 and the current period): periods, budgets, objectives, sources, funds,
Main actors of the Hungarian Regional Policy, Operative Programmes of the different programming periods,
Relevant institutional members of the Hungarian Territorial Development
Future plans and goals of the Regional Development.
Learning methods:
Cooperative instruction methods, lectures, seminar, project works, individual presentation, home work
Assessment
A mid-term will be organised during the semester. The students enrolled to the course will be asked to develop a research individually about a freely chosen EU member state and the present their findings at the seminars. Successful mid-term and the presentation are all requirements for the signature of the course. Mid-term (30%) and presentation (20%) is

responsible for the 50% of the final grade, while the remaining 50% can be achieved from an exam taking within the exam period. Students can gain extra points (max 10%) with active class behaviour at seminars. The final grade will be qualified as: 0–55% failed (1), 56–65% acceptable (2), 66–75% medium (3), 76–85% good (4), 86–100% excellent (5).

Compulsory readings:

EU Cohesion Policy, Reassessing performance and direction, Edited By John Bachtler, Peter Berkowitz, Sally Hardy, Tatjana Muravska, Routledge, 2020

Recommended readings:

Edgar M. Hoover- Frank Giarratani: An Introduction to Regional Economics, Web Book of Regional Science. Regional Research Institute, West Virginia University, 2020

https://ec.europa.eu/regional_policy

Week	Topics
1.	Context of Territorial imbalances I. (definition of space, territorial imbalances, indicators of imbalances)
	LO: Main actors of the Regional Policy (Recap of the lessons learn from last semester)
2.	Context of Territorial imbalances II. (territorial development and its theoretical modells)
	LO: Students will be tought about the different theories of territorial imbalances
3.	Context of Territorial imbalances III. (Treatment of territorial imbalances, intervention to the territorial development)
	LO: Main tendencies lying being territorial imbalances will be highlighted, and the relevant aims and means and effects of potentional interventions.
4.	Regional Policy of the EU I. (Development of social and economical cohesion, operation of the Cohesion and Structural Funds between 2000-2006).
	LO: Financial sources of the Regional Policy, the different Funds and these activities, the objectives of the periods will be explaind.
5.	Regional Policy of the EU II. (Objectives, budget of the MFF in 2007-2013)
	TE: The programming period of 2007-2013 will be discussed in detiled, the first period when HU took part as full MS of the EU.

6.	EU2020 Strategy and Regional Policy in Europe between 2014-2020 (objectives, priorities, financial sources, Funds)
	LO: We will learn about the EU2020 strategy as a general framework of the 2014-2020 programming period.
7.	Regional Policy in Europe between 2021-2028 (objectives, priorities, financial sources, Funds)
	LO: Students will be informed about planning documents, evaluation reports, operative programmesof the last period.
8.	Mid-term
	Students should take an written testabout the characteristics of the European Regional Development
9.	Evolution of Territorial Politics in Hungary (Territorial Development Act in Hungary, actors of the Policy)
	LO: Introduction to the Hungarian Regional Development.
10.	Hungarian Development Plan and Institutions (Development strategy, Operative programmes, these objectives, budgets, projects, flagship projects)
	LO: Actors with compentences in the Hugarian territorial planning will be explained.
11.	Operative Porgammes in Hungary between 2007-2013
	LO: Framework of the Hugarian Regional Development between 2007-2013will be covered. Most important institutions responsible for the implementation, their tasks, budgets, goals, etc.
12.	Regional Policy of the last period (2014-2020) in Hungary (OPs, objectives, budgets, etc.)
	LO: HUngarian strategy, planning documents, evaluation reports will be covered.
13.	Regional Policy of 2021-2028
	LO: HUngarian strategy, planning documents, evaluation reports will be covered.
14.	Summary of the course, wrap-up, Q&A
	LO: Students will have a solid knowledge about the Regional Development in the EU, most important issues will identified to help students prepare for the exam

Subject: **Rural Development II.**
Neptun-code: GT_AVINE019-17
Institute: Rural Development, Regional Economics and Tourism Management
Number of lessons: 2+2 Requirement: practical course mark
Credit: 5
Prerequisite: Rural Development I.
Instructor: Dr. Károly Pető

Course goals:
The aim of the course is to acquaint students with the system of Global and European rural policy measure and institution. The content, conditions, economic, ecological and social impacts of the measures.
Competences:
Knowledge:
-Should understand the importance of rural development
Capabilities:
-Should be able to control and improve rural development processes
Attitudes:
-Should be open-minded to know and apply the newest methods of rural development
Autonomy, responsibility:
-Should feel responsible for participate in rural development
Course content, topics:
-Within the framework of the course, students can get acquainted with economic strengthening measures for rural policy. Measures to strengthen the ecological function of rural policy. Measures to strengthen the social function of rural policy. A network of opportunities for rural policy to exploit the economic, ecological and social resources of the countryside. The philosophy and operation of LEADER. Typical rural development measures: village development and renewal, preservation of rural heritage; development of rural infrastructure; economic diversification; local products
Learning methods:
-Lectures will be given during the training. Major teaching methods: lecture, illustration, discussion.
Assessment
-The exam is a written test which will be accepted from 60%
Compulsory readings:
-Ppt materials of the lectures

-Bálint J.-Nagy G. (ed.) (2007): Rural Development. University textbook, CD prepared within the framework of the program "Development and quality development of practice-oriented training systems in agricultural higher education". DE ATC AVK, Debrecen. 380. P.
Recommended readings:
-Ferenc Glatz (2010): Rural policy, rural development and its new institutions In. Successful rural areas (ed. F. Glatz) Institute of History of the Hungarian Academy of Sciences Council Regulation (EC) No 1698/2005 of 20 September 2005 on the European Agricultural Fund for Rural Development On support for rural development by the European Agricultural Fund for Rural Development (EAFRD).
http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2005:277:0001:0040:HU:PDFJournal monitoring: Village - City - Region, The village, Territorial Statistics

Week	Topics
1.	Economic strengthening measures for rural policy. LO: the knowledge of the most important rural development rules according to the topic
2.	Measures to strengthen the ecological function of rural policy LO: the knowledge of the most important rural development rules according to the topic
3.	Measures to strengthen the social function of rural policy LO: the knowledge of the most important rural development rules according to the topic
4.	A network of opportunities for rural policy to exploit the economic, ecological and social resources of the countryside. LO: the knowledge of the most important rural development rules according to the topic
5.	The philosophy and operation of LEADER. LO: the knowledge of the most important rural development rules according to the topic
6.	Typical rural development measures: village development and renewal LO: the knowledge of the most important rural development rules according to the topic

7.	Typical rural development measures: preservation of rural heritage LO: the knowledge of the most important rural development rules according to the topic
8.	library week
9.	Typical rural development measures: development of rural infrastructure LO: the knowledge of the most important rural development rules according to the topic
10.	Typical rural development measures: economic diversification LO: the knowledge of the most important rural development rules according to the topic
11.	Typical rural development measures: local products LO: the knowledge of the most important rural development rules according to the topic
12.	Subsidies in rural development - global LO: the knowledge of the most important rural development rules according to the topic
13.	Subsidies in rural development - EU LO: the knowledge of the most important rural development rules according to the topic
14.	Consultation LO: the knowledge of the most important rural development rules according to the topic

Subject: **Sociology of the Village/Village Studies**
Neptun-code: GT_AVINE032-17
Institute: Sports Economics and Management
Number of lessons: 2+0 Requirement: exam Credit: 3
Instructor: Dr. György Norbert Szabados

Course goals:
Students of the course will be familiar with the sociologic approach, areas, terms and researches of the village, as a territorial category. We will cover in the framework of the course works of most influential scholars and research issues will be covered so as to prepare students to hold presentations and carry out even private examinations in the field.
Competences:
Knowledge:
Capabilities:
Attitudes:
Autonomy, responsibility:
Course content, topics:
Sociology as a social science. The basics the territorial sociology. Overview of the social sciences' research methods. The history of the sociology of the village. Diverse sociological fields of the village (the approach of the faith, way of life, civic movements, culture, etc.).
Learning methods:
In the framework of the course, presentations and additional professional materials (such as articles) are available, provided by the lecturer. The students are expected to prepare and present a village level monograpy.
Assessment
Colloquium, fulfilled by the preparation and presentation of the village level monography.
Compulsory readings:
Jodhka, S.S. (2000): Sociology/Anthroplogy, Nation and the "Village Community". Panjab University. Availability: http://www.unipune.ac.in/snc/cssh/HistorySociology/A%20DOCUMENTS%20ON%20HISTORY%20OF%20SOCIOLOGY%20IN%20INDIA/A%201%20Debates%20on%20sociology%20and%20anthrpology%20of%20India/A%201%2023.pdf
Jodhka, S.S. (2012): Village Society. Orient Blackswan, Hyderabad, and Economic and Political Weekly, Mumbai

Recommended readings:
Christensen, K. – Levinson, D. (2003): Encyclopedia of Community. From the village to the virtual world. SAGE Publications, London.
Weyland, P. (1993): Inside the Third World Village. Routledge, London.
Gao, M.C.F. (2007): Gao Village. Rural Life in Modern China. University of Hawaii Press, Honolulu.

Week	Topics
1.	Introduction to the requirements. LO: Students will be familiar with the requirements.
2.	Sociology as a social science I. LO: Students will acquire most important finding s of the lecture.
3.	Sociology as a social science II. LO: Students will acquire most important finding s of the lecture.
4.	Sociology as a social science III. LO: Students will acquire most important finding s of the lecture.
5.	The basics the territorial sociology I. LO: Students will acquire most important finding s of the lecture.
6.	The basics the territorial sociology II. LO: Students will acquire most important finding s of the lecture.
7.	Overview of the social sciences' research methods to study the villages. LO: Students will acquire most important finding s of the lecture.
8.	The history of the sociology of the village I. LO: Students will acquire most important finding s of the lecture.
9.	The history of the sociology of the village II. LO: Students will acquire most important finding s of the lecture.

10.	The sociology of the religion with a specific attention to the village. LO: Students will acquire most important finding s of the lecture.
11.	The sociology of the way of life with a specific attention to the village. LO: Students will acquire most important finding s of the lecture.
12.	The sociology of the culture with a specific attention to the village. LO: Students will acquire most important finding s of the lecture.
13.	The sociology of the communities and civic movement in relationship with the villages. LO: Students will acquire most important finding s of the lecture.
14.	Social stratification and the villages LO: Students will acquire most important finding s of the lecture.

Subject: **Rural Community Development**
Neptun-code: GT_AVINE037-17
Institute: Rural Development, Regional Economics and Tourism Management
Number of lessons: 2+1 Requirement: Exam Credit: 3
Instructor: Dr. János Szenderák

Course goals:
The aim of the course is to deepen the importance of community and social cooperation, thinking in the system, during lectures and through their own observations. Understand the role and opportunities of the individual in the development of the community.
Competences:
Knowledge:
- The student knows the relationship between the rural economy, society and the agricultural sector, the social necessity of community development.
- The student is aware that products produced in the primary sector are part of the food chain, in this connection he knows and understands the basic concepts, contexts and processes of food chain safety.
-The student is aware of the role of R & D & I activity.
- The student has the knowledge needed to identify problems in the sectors and methods for gathering, analyzing and solving relevant information.
Capabilities:
- The student will be able to define, plan and organize the activity system of rural development.
- The student will be to form and manage a team or project.
- The student will have ability to communicate professionally and effectively orally and in writing.
- The student will be able to formulate the professional problems of the individual sector, to recognize the expected trends, to form an independent professional position and to defend it during the discussions.
- The student will be able to interpret the behavior of the actors of the agricultural economy, the formal and informal system of relations of the institutional background of agriculture, and to use it in his work.
- The student will be able to analyze in detail on the basis of knowledge and methods in the field, to explore basic connections, to draw independent conclusions. In addition to professional supervision, he is able to directly manage the sub-data of the project at the operational level in a research project.

Attitudes:
- The student knows and undertakes the comprehensive and special relations, the professional identity that make up the specific character, personal and community role of the spatial economy.
- Open to dissenting opinions of others if they are duly substantiated for professional reasons.
- Receptive to new information, new professional knowledge, open to new, independent and cooperative tasks and responsibilities.

Autonomy, responsibility:
- Reflects on and represents the ethical issues of the rural economy.
- Takes responsibility for analyzes, conclusions and decisions.

Course content, topics:
The aim of the course is to acquaint the student with the outstanding role of community development. The student can also place the topics discussed in a non-international perspective, gain the skills to use the basic concepts during the training.
According to Vilmos Csányi (2012), if a culture of cooperation is established and there are some generations that socialize on it, the European Union can become a very well-functioning "nation", a cultural community. Understand and recognize the role of the individual in community development. To get acquainted with the most important theories and methodological issues of community development, which are also the basis for the success of rural development.

Learning methods:
Due to the interactive nature of the lectures, students are constantly involved in the lecture, thus developing their skills. Within the framework of the lectures, renowned guest lecturers from a research institute broaden their horizons to the students. During the practice, the theoretical knowledge is also adapted in practice, which is evidenced by lectures.

Assessment
Exam questions will be raised from the lectures. The lecture materials together with the accompanying written materials will be available to the students.
The exam is written, where the concepts are taken into account, and in addition to enumeration and short essay questions, true-false, test questions are to be expected

Compulsory readings: Mary Emery, Isabel Gutierrez-Montes, Edith Fernandez-Baca, Sustainable Rural Development (2013) ISBN: 9780415825207

Recommended readings: Shanna E. Ratner, Wealth Creation-A New Framework for Rural Economic and Community Development (2020) ISBN 9780367257422

Week	Topics
1.	Introduction to community development
	LO: Creating a learning document
2.	The role of community development in rural development
	LO: Getting know the possibilities of community development
3.	The meanings and functions of the community
	LO: Students can make a difference between communities
4.	Community development as a profession
	LO: Role of the individuals
5.	Measures adapted to the development of the community
	LO: Students will know the level of the used development tools
6.	Historical overview of community development development
	LO: Students will know the major milestones of community development
7.	Community Development Process I.
	LO: Students will know the steps of community development
8.	Community Development Process II.
	LO: Students will know the steps of community development
9.	Community Development Process III.
	LO: Students will know the steps of community development
10.	Community Development Process IV.
	LO: Students will know the steps of community development

11.	IT tools in community development
	LO: Understand the advantages and disadvantages of IT tools
12.	Case studies to illustrate the potential of community development
	LO: Students will know the implemented community developments
13.	Case studies to illustrate the potential of community development
	LO: Students will know the implemented community developments
14.	Summary
	LO: Synthesis of lectures given during the semester

Subject: **International Financial Accounting**
Neptun-code: GT_AVINE031-17
Institute: Accounting and Finance
Number of lessons: 2+2 Requirement: Exam Credit: 4
Instructor: Dr. Ildikó Dékán Tamásné Orbán

Course goals:
The main purpose of this subject is to provide insights into the impact of financial accounting in an international environment.
Competences:
Knowledge:
The subject will provide students with an international perspective on financial accounting including theory, practice, and its applications under International Financial Reporting Standards (IFRS).
Capabilities:
Students will be able to understand the information presented in financial statements prepared under International Financial Reporting Standards (IFRS). Nevertheless, students will become capable of accounting for several business transactions and preparing different financial statements or extracts.
Attitudes:
Students will accept the importance and necessity of financial reporting and accounting under IFRS.
Autonomy, responsibility:
Students will become responsible for improving their knowledge in financial and corporate reporting.
Course content, topics:
The course will provide students with an international perspective on financial accounting including theory, practice, and its applications under International Financial Reporting Standards (IFRS). Primary areas of study include definition and principles of accounting and double entry bookkeeping, recognition and measurement of assets, liabilities, and equity, the impact of economic transactions on different financial statements, the definition and recognition of revenue and income, accounting policies, general and special journals, the accounting cycle, and the process of preparation of different financial statements. Nevertheless, students will be introduced into several financial reporting issues under IFRS.
Learning methods:
Explaining the provisions of International Financial Reporting Standards (IFRS) through illustrative examples.

Assessment

1. Signature:

The lecture is not compulsory.

More than 3 missed seminars are not allowed.

2. Grade: Exams with theoretical and practical examples with tests, essays, excel are going to be on the e-learning system (50% - 2, 62,5% - 3, 75% - 4, 87,5%- 5) based on the Neptun-registration to the exam. The exam will take place at the university's computer room.

Compulsory readings:

David Alexander and Christopher Nobes: Financial Accounting: An International Introduction (selected, appointed chapters)

Suwardy, Suwardy, Harrison, Tietz, Horngren & Thomas: Financial Accounting, Global Edition, 11th Edition, 2019 (selected, appointed chapters)

Elliott & Elliott Financial Accounting and Reporting, 19th Edition, 2019 (selected, appointed chapters)

Cotter Advanced Financial Reporting: A Complete Guide to IFRS, 2019 (selected, appointed chapters)

Conceptual Framework for Financial Reporting 2010 (the IFRS Framework) approved by the IASB,

the Framework is available at http://www.ifrs.org/News/Press-Releases/Documents/ConceptualFW2010vb.pdf

Related International Accounting Standards/International Financial Reporting Standards: IAS 1, IAS 7, IAS 8, IAS 10, IAS 16, IAS 33, IAS 38, IAS 40, IFRS 5, IFRS 8

the standards are available at http://www.ifrs.org/IFRSs/Pages/IFRS.aspx (free registration required)

Study materials, illustrative examples, solutions provided by the instructor in the classes (They will be uploaded to the Moodle system)

Recommended readings:

Clyde P. Stickney, Roman L. Weil, Katherine Schipper, and Jennifer Francis: Financial Accounting: An Introduction to Concepts, Methods and Uses, South-Western Cengage Learning, 2010

Barry J. Epstein and Eva K. Jermakcowicz: Wiley IFRS: Interpretation and Application of International Accounting and Financial Reporting Standards 2010, Wiley, 2010

Thomas R. Ittelson: Financial Statements: A Step-by-Step Guide to Understanding and Creating Financial Reports, Career Press, 2010

Week	Topics
1.	Introduction. The context of accounting, basic requirements. The purposes and users of accounting. Fundamentals of financial accounting LO: Students will be able to understand the fundamentals of financial accounting
2.	Basic financial statements, statement of financial position, statement of profit or loss, statement of cash flows LO: Students will be able to understand the basic financial statements
3.	Introduction to International Accounting Standards/International Financial Reporting Standard LO: Students will be able to understand the structure and governance of the IFRS Foundation
4.	The contents of financial statements, statement of financial position, comprehensive income (CI) other comprehensive income (OCI). LO: Students will be able to understand the the contents of financial statements under IFRS
5.	The contents of financial statements, statement of changes in equity, statements of cash-flows, Notes LO: Students will be able to understand the the contents of financial statements under IFRS
6.	Spring holiday
7.	Non-current Assets Held for Sale and Discontinued Operations (IFRS 5), Operating segments (IFRS 8), LO: Students will be able to understand the accounting treatment of Non-current Assets Held for Sale and Discontinued Operations, and the operating segments under IFRS
8.	Earnings per Share (EPS) LO: Students will be able to understand how Earnings per Share is calculated under IFRS
9.	The double-entry bookkeeping system. Journals, journalizing and posting transactions, adjusting and closing procedures, composition of financial statements I. LO: Students will be able to understand the the double-entry bookkeeping system

10.	The double-entry bookkeeping system. Journals, journalizing and posting transactions, adjusting and closing procedures, composition of financial statements II. LO: Students will be able to understand the the double-entry bookkeeping system
11.	Financial reporting issues, recognition of assets and liabilities, revenues/expenses I. LO: Students will be able to understand the recognition of assets, liabilities and revenues/expenses under IFRS
12.	Financial reporting issues, recognition of assets and liabilities, revenues/expenses II. LO: Students will be able to understand the recognition of assets, liabilities and revenues/expenses under IFRS
13.	Measurement of the elements of financial statements. LO: Students will be able to understand the measurement of the elements of financial statements under IFRS
14.	Depreciation of cost of assets. Measurement subsequent to initial recognition under IFRS LO: Students will be able to understand the depreciation of cost of assets

Subject: **Farm Business Management III.**
Neptun-code: GT_AVINE030-17
Institute: Applied Economic Sciences
Number of lessons: 2+1 Requirement: Exam Credit: 3
Prerequisite: Farm Business Management II.
Instructor: Dr. Krisztián Kovács

Course goals:
The aim of the course is to acquaint students with the crop production, horticulture and livestock sectors:
•integration into the management system,
•the international and domestic economic significance of each sector,
•the structure and characteristics of the sector, as well as its regulation,
•the economic characteristics of the sector,
•the main work processes of production and the particularities of work organization,
•the relationship between production value, production cost and income in the sectors.
Education is limited to the main sectors (winter wheat, maize, sunflower, winter rape, apples, cherries, sweet corn, green peas, tomatoes, peppers, cattle, pigs, poultry) and aims to familiarize students with the basics of these sectors, sectoral key figures and farming characteristics that they need for professional orientation both in production practice and in other areas of agribusiness.
Through the exercises - through complex example tasks (simulating real situations) - students get acquainted with the methodology of preparing sectoral economic calculations (data collection, data processing, evaluation-analysis), the interpretation of the necessary concepts and the mechanism and particularities of economic decision-making.
Competences:
Knowledge:
- Knows the basic spatial concepts, facts, main characteristics and connections of agricultural production and the agricultural economy as a whole, the relevant agricultural economic actors, functions and processes at the national and international level.
- Knows the basic connections of food chain safety.
- Knows the economic and financial contexts and interactions of the processes taking place in rural development and agriculture.

- Knows the statistical methods necessary for the identification of rural development and agricultural problems, the relevant information collection, analysis and problem-solving methods, marketing processes.
Capabilities:
- Able to form an independent professionally established position in the field of rural development and agriculture and to pass it on.
- Able to have a comprehensive overview of the conditions required for professional advancement in the field of rural development, agriculture and environmental protection.
- Ability to plan and implement rural development programs, allocate resources, participate in the development of proposals based on professional decisions, draw conclusions, not only at the operational level.
Attitudes:
- Open to representing the social role of rural development and related disciplines.
- Inclusive views of others on the sectoral, regional, national and European values of rural development.
- Open to the management of (family) farms.
Autonomy, responsibility:
- At the middle level of the production organizational units, it independently exercises the management functions and takes responsibility for its decisions.
- Takes responsibility for the work of himself and the employees he manages.
- Independently able to plan management processes, manage purchasing and sales processes.
- Takes responsibility for the findings and professional decisions made in his / her expert opinion, and for the work processes carried out by him / her or under his / her direction.
Course content, topics:
The course includes, in relation to the main agricultural sectors listed above, the integration of the sectors into the farming system, the international and domestic economic significance of each sector, the structure and characteristics and regulation of the product line, the economic characteristics and peculiarities of the sector, the main production processes and the specifics of its work organization, the relationship between the production value of the sectors, the cost of production and income, and the system of correlations that determine the efficiency and competitiveness of production.
Learning methods:
Requirement for signing the semester: Regular attendance of the practical sessions according to the relevant provisions of the “Study and Examination

Regulations". The presence is constantly monitored. Adequate progress is monitored by completing the required mid-term exams during the semester. The condition for obtaining the signature is during the regular participation in practical classes, in accordance to the relevant provisions of the "Study and Examination Regulations". The theoretical questions and practical tasks included in the exams are formulated from the course topics, in the form of short definitional questions, explanatory questions, and computational tasks
Assessment
During the semester, full-time students write mid-term exam twice, which consists of a theoretical (max 30 points) and a practical (max 20 points) part. The "offered course grade" allows students who have reached at least 60% of the average of the two mid-term exams during the semester (min 60 points) and have passed the 50-50% threshold from the practical part of exam. Students who have obtained a signature during the semester during the examination period have the opportunity to take a written examination of the entire material of that semester, at which a performance of at least 60% is required for a sufficient grade.
The exam is a written test which will be evaluated according to the following grading schedule:
Points range:

- 0-59 (1 -failed)
- 60-69 (2 - satisfactory)
- 70-79 (3 - average)
- 80-89 (4 - good)
- 90-100 (5 - excellent)

Compulsory readings:
•Ronald A. Schrimper: Economics of agricultural markets, North Carolina State University 2001, Upper Saddle River, New Jersey 07458, ISBN 0-13-775776-x
•The business of farming: a guide to farm business management in the Tropics by Johnson, David T. London: Macmillan, 1990. ISBN 0333499212
Recommended readings:
•R. D. Kay – W. M. Edwards – P. A. Duffy (2007): „Farm Management" McGraw-Hill Inc. (Sixth Edition), 2007. ISBN-10: 0073028290 | ISBN-13: 978-0073028293Farm Business Management: The Fundamentals of Good Practice by Peter L. Nuthall ISBN-13: 978-1780646565, ISBN-10: 1780646569

Week	Topics
1.	Review of requirements system. Description and explanation of the topics and content of the lectures and exercises. Operating mechanisms of agricultural markets. LO*: Operating mechanisms and regularities of agricultural markets.
2.	Operational planning and analysis in the Agriculture LO*: Knowledge of the basics of sectoral planning and analysis and its practical applicability
3.	Economics of the cereals sector (wheat, maize, barley, oats, triticale) LO*: Organization and economics of the sector, business characteristics, cost-income ratios and efficiency.
4.	Economics of oil and protein crops (rapeseed, sunflower, soybean, pea) LO*: Organization and economics of the sector, business characteristics, cost-income ratios and efficiency.
5.	Economics of industrial plants (potatoes, sugar beets) LO*: Organization and economics of the sector, business characteristics, cost-income ratios and efficiency.
6.	Economics of the fruit, vegetable and wine sector LO*: Organization and economics of the sector, business characteristics, cost-income ratios and efficiency.
7.	Economics of the dairy sector LO*: Organization and economics of the sector, business characteristics, cost-income ratios and efficiency.
8.	Economics of beef production LO*: Organization and economics of the sector, business characteristics, cost-income ratios and efficiency.
9.	Economy of the pig sector LO*: Organization and economics of the sector, business characteristics, cost-income ratios and efficiency.
10.	Economic issues of poultry meat and egg production LO*: Organization and economics of the sector, business characteristics, cost-income ratios and efficiency.

11.	Economics of the sheep and goat sector LO*: Organization and economics of the sector, business characteristics, cost-income ratios and efficiency.
12.	Economics of fisheries and aquaculture LO*: Organization and economics of the sector, business characteristics, cost-income ratios and efficiency.
13.	Exam

Themes of excercises

Week	Topics
1-2.	Description of requirements system. Repetition of basic operational concepts
3-4.	An overview of the theoretical background of the complex example task to be solved in the exercises. Method of data collection for cost-benefit analysis of crop production sectors.
5-6.	The method of data processing for the cost-benefit analysis of the crop production sectors is to master the application of a suitable calculation model.
7-8.	Methodology of economic analysis and evaluation on the sample of the complex field crop production example task.
9-10.	An overview of the theoretical background of the complex livestock production example task to be solved in the exercises. Method of data collection for cost-benefit analysis of livestock sectors.
11-12.	The method of data processing for the cost-benefit analysis of the livestock sectors, the acquisition of the application of a suitable calculation model.
13-14.	Methodology of farm economic analysis and evaluation on the sample of the complex livestock production example task.

Subject: **Business Planning**
Neptun-code: GT_AVINE029-17
Institute: Applied Economic Sciences
Number of lessons: 0+2 Requirement: Practical course mark
Credit: 3
Instructor: Dr. László Szőllősi

Course goals:
The aim of the course is to let and make students understand and acquire the knowledge that is connected to the business planning activities of enterprises in market economies and the theoretical knowledge these activities are based on; the main points and necessity of business planning, its information requirements, its role in how enterprises work and the details of the planning itself, on which the course wished to put special emphasis. The course creates a synthesis of a lot of the material covered by other subjects, which means the students are supposed to have become familiar with; the material of all those economic subjects that have been covered by studies prior to the course: micro- and macro-economics, finances, enterprise finance, marketing, enterprise management, accountancy, management and economic analysis. In addition, students prepare a business plan in teamwork (3-4 persons) based on the instructor's guideline
Competences:
Knowledge:
Graduates will be able to collect and utilize data needed to prepare business plans of the company, make strategic and tactical decisions, apply modern planning and management methods, assess the situation and make proposals for the realization of business development goals.
They will have acquired the synthesized knowledge of the fundamental, comprehensive concepts, theories, corporate-level relationships of economic science, relevant economic functions and processes.
They will have acquired a thorough knowledge of cooperation in projects, teams or work organizations; of the rules and ethical norms of project management.
As part of business planning, they will be know and apply the toolkit and methodology of marketing, recognize its role in the company's operations and its relationship with other processes and functions of the organization.
They will be familiar with the principles of corporate finance.
They will have acquired the theoretical basis and practice of the planning of real and financial processes related to business, the techniques of evaluation.

Capabilities:
Graduates will be able to plan and organize economic activities and projects. By applying principles and methods studied, they will explore, systematize and analyze facts and essential links; draw conclusions independently and make critical comments, prepare proposals for decision-making, bring decisions in a routine and also partly unknown environment.
They will be able to prepare financial and investment decisions, make and evaluate credit applications and financial plans. They will be able to get directions in the long and medium term decision making process of marketing and sales. They will be able to recognize and adapt to market changes.
Attitudes:
For delivering work to a high standard of quality, graduates will adopt a problem sensitive, proactive approach and they will be constructive, cooperative and initiative in projects or teamwork.
They will be receptive to include new information, new professional know-how and methodology; open to undertaking new and independent tasks and responsibilities requiring cooperation. They will seek to develop their knowledge base and working relations through cooperation with others.
Autonomy, responsibility:
In a supervised professional work environment, they will be able to work and organize activities set out in their job description independently. They will take responsibility for their analyses, conclusions and decisions. They will be able to work independently (methodology and technique selection; organization, planning and managing of work; data collection, systematization, analysis and evaluation; general and professional development).
Course content, topics:
−Introduction of the requirements;
−Planning in businesses, types of business plans; the process and methodology of business planning;
−Strategic planning, strategy creation in enterprises, strategic planning process, phases, strategic planning tools and methods;
−Action planning, aspects of action planning, planning of innovation; business planning, business planning practice, methods and content;
−Executive summary;
−Introduction of enterprise;
−Analysis of business sector;
−Introduction of products and services;
−Operational plan;

−Marketing plan;
−Management and organizational structure;
−Structure and capitalization;
−Financial plan;
−Risk assessment;
−Road map for main phases;
−Written exam;
–Submission a home essay (a business plan);
−Student presentations;

Learning methods:

The students prepare a business plan in a team of 3-4 people. The main content and formal requirements of the business plan are contained in the appendix to the course program, which is supplemented by the instructor's regulations. The essay can be submitted electronically via the e-learning system, on the interface of the given course. Preparing of the business plan without proper content and form requirements and failure to comply with the deadline will result in the rejection of the essay and the course signature.

Condition for obtaining the course signature: 1) Regular attendance of classes. The administration of student's class attendance takes place in the e-learning system. 2) Prepare and submit a business plan to be prepared according to the instructor's instructions by the deadline.

Following the submission of the business plan, the students will give an oral presentation and defend their work in 15 minutes.

The theoretical questions and practical (computational) tasks in the written exam are formulated from the course topics as true-false questions, definition-type questions, explaining questions as well as simpler or more complex computing tasks.

Assessment

The semester ends with a practical (seminar) grade. The final grade includes the result of the home essay (business plan) prepared on the basis of the regulations and submitted to the deadline (max. 15 points), the result of the oral presentation (max. 5 points) and the result of a written exam (classroom test) (up to 50 points). The result of the home essay is determined by its professional, methodological quality and numerical accuracy of the data contained therein. There is no possibility to improve the home essay (business plan) after the submission. The date of writing the classroom test is in the 13th week of the term-time during the class. After it there will be 2 other make-up times. First one is in the 14th week of the term-time and the 2nd one is in the beginning of the examination period. The semester is considered as

completed if both of the business plan submitted and the classroom test are successful (minimum 60% performance) and the presentation is accepted too.

Borders points: 0-41 points (0-59%) (1)
41-48 points (60-69%) (2)
49-55 points (70-79%) (3)
56-62 points (80-89%) (4)
63-70 points (90-100%) (5)

Compulsory readings:

−Szőllősi, L (ed.): Business Planning: University Textbook – Theory. DE AGTC, Debrecen, 2013. 129 p.
−Siegel, E.S. – Ford, B.R. –Bontsein, J.M.: The Ernest & Young Business Plan Guide. CONEX Kft, Budapest, 1996. 226 p.
−Szőllősi, L. – Kovács, K. – Vida, V.: Business Planning Basics – workbook. University of Debreceni, Debrecen, 2019. 64 p.

Recommended readings:

−Dewhurst, J.A.: An Introduction to Business and Business Planning – Introducing Business throught the Development of a Business Plan. Bookboon, 2014. 123 p. https://www.academia.edu/34567143/An_introduction_to_business_and_business_planning
−Whiteling, I. (ed.): Start Your Own Business 2010. Crimson Publishing, 2009. 291 p. https://www.pdfdrive.com/start-your-own-business-e158036005.html
−McKinney, A. (ed.): Real Business Plans & Marketing Tools. Prep Publishing, 2003. 192 p.
−McKeever, M.: How to Write a Business Plan. Nolo, 2010. 290 p. https://www.academia.edu/35931618/How_to_Write_a_THE_LEADING_BUSINESS_PLAN_BOOK_FOR
−Friend, G. – Zehle, S.: Guide to Business Planning. The Economist, 2004. 288 p. https://www.semanticscholar.org/paper/Guide-to-business-planning-Friend-Zehle/6c1762df37af05db7e026a9977b454e07a131ec8

Week	Topics
1.	Introduction of the requirements; Elements; LO: Students know the basic concepts and elements of business planning.
2.	Planning in businesses, types of business plans; the process and methodology of business planning; LO: Students knows the various plans, their specifics and the basic relationships between them. They are familiar with the basic goals and objectives of the business planning, the main processes of planning, the necessary information and their resources, they are able to develop business concepts and know the main content and structure of business plans.
3.	Strategic planning, strategy creation in enterprises, strategic planning process, phases, strategic planning tools and methods; LO: Students know the basic methodological and professional issues of strategic planning, they are able to draft long-term vision, mission and strategic goals, and assign them medium-term goals and actions.
4.	Action planning, aspects of action planning, planning of innovation; Business planning, business planning practice, methods and content; Executive summary; Introduction of enterprise; LO: Students know the methodological and professional issues of action (tactical) planning, know the practice, methods and detailed content of it. They know the basic professional and content elements of writing an executive summary. They are familiar with the content and professional elements of a factual presentation of an existing or starting business.
5.	Analysis of business sector; LO: Students are familiar with the main professional and methodological issues of sectoral analysis, they are able to collect secondary data, to present an industry and to make findings and conclusions about the situation of the proposed enterprise within the industry.

6.	Introduction of products and services; LO: Students know the technique of presenting the product / service and the professional questions needed to present the product / service market needs. They are able to collect and process related data.
7.	Operational plan; LO: Students know the professional issues to be addressed in the operational plan. They are able to compile and professionally view the real processes of a given production / service / trade activity. They are able to identify and calculate the resources (fixed and current assets) needed to implement the business concept and their quantity.
8.	Marketing plan; LO: Students know the professional questions to be answered in the marketing plan and the methods to be applied (PEST, SWOT, Porter-five forces model). Based on this, they are able to collect data and compile a marketing situation report. They are able to formulate marketing objectives and related marketing strategy. They are familiar with the core professional issues and relationships of market segmentation, target market definition, target-market strategies, pricing and sales promotion, and marketing budgeting.
9.	Management and organizational structure; Capitalization and structure; LO: Students are able to develop and present a human resource policy and strategy related to the needs derived from the operational plan. They are familiar with the principles of corporate finance and able to make decisions about involving external financial resources.
10.	Financial plan I.; LO: Students know the financial statements of business activity, the data and methods necessary to prepare these statements, and the relationships between real and financial processes. They are able to compile, evaluate and analyze a sales plan, cost plan, profit and loss plan. They know the professional and methodological context of the compilation of a balance sheet. They are able to prepare and evaluate a cash flow plan.

11.	Financial plan II.; LO: Students know the methods and indicators used to analyze the financial plan data: Breakeven analysis, investment analysis (net present value, internal rate of return, profitability index, discounted payback period), financial indicators (liquidity measurement ratios, debt and credit ratios, profitability ratios, efficiency ratios, capital structure ratios, financial strength ratios, growth rates).
12.	Risk assessment; Road map for main phases; LO: Students know the forms and types of risks that can arise in the business and the general tools and methods that can be applied to control them. They are know the sensitivity analyses and able to perform critical and scenario analysis of the business plan. They are able to view and timely schedule the tasks required to carry out a business concept.
13.	Written exam; LO: Students demonstrate the knowledge they have acquired during the semester in the form of theoretical and practical assignments.
14.	Business plan submission; Student presentations; Replacement of written exam; LO: During the preparation of the homework (business plan), students will be able to work with their peers in team work, share ideas with each other, and gain experience in developing a business concept of a start-up business through a practical example. As a result of the presentation, students will be able to highlight and introduce the most important relationships and develop their presentation and debate skills.

Content and form requirements of the business plan

The required structure and content requirements of the business plan:

Cover page;
Contents;
1. Identification data;
2. Executive summary;
3. General company description;
4. Sectorial analysis;
5. Products and services;
6. Operational plan;
7. Marketing plan;
8. Management and organization;
9. Capitalization and structure;
10. Financial plan;
11. Risk management;
12. Schedule of major milestones;

Annexes;

It is a requirement for each chapter to be elaborated in detail with the topic. Submission of a business plan with incomplete content (missing chapter) will result in the rejection of the essay and the course signature.

Formal requirements of the business plan:

- Min. 35 page;
- Font type: Times New Roman, font size: 12, single spacing, margin: 2.5 cm;
- For the editing of tables and figures and for other formal requirements, the formal requirements of the diploma work are guiding.
- The essay can be submitted electronically by sending to the instructor's e-mail address, which includes three files:
  1) Business plan in a Word document (*.doc);
  2) An excel document containing figures and background calculations presented in the business plan (*.xls);
  3) Slides of the presentation (*.ppt);

Subject: **Settlement Development and Management**
Neptun-code: GT_AVINE019-17
Institute: Rural Development, Regional Economics and Tourism Management
Number of lessons: 2+2 Requirement: Exam Credit: 5
Instructor: Dr. Péter Horváth

Course goals:
The aim of the course is to acquaint students with the formation of residential communities, spatial structure processes, local societies, the historical development of local and regional charters, the principles and vision of settlement development.
Competences:
Knowledge:
-Should understand the importance of settlement development and management
Capabilities:
-Should be able to control and improve settlement development and management processes
Attitudes:
-Should be open-minded to know and apply the newest methods of settlement development and management
Autonomy, responsibility:
-Should feel responsible for participate in settlement development and management
Course content, topics:
-Within the framework of the course, students can get acquainted with the formation of settlements, their classification, and the peculiarities of towns and villages. In the second half of the training, students can gain insight into the practical operation of settlements, deepen their knowledge in the areas of settlement development and operation, settlement planning and settlement marketing.
Learning methods:
-Lectures will be given during the training. Major teaching methods: lecture, illustration, discussion.
Assessment
-The exam is a written test which will be accepted from 60%
Compulsory readings:
-Ppt materials of the lectures

-György Kőszegfalvi, Tamás Loydl (2001): Settlement Development, Eötvös Publishing House, Budapest
-László Mária, Pap Norbert (2007): Introduction to regional and settlement development, Lomart publishing house, Pécs
-Zoltán Kovács (2007): Population and settlement geography, Eötvös Publishing House, Budapest
Recommended readings:
-János Rechnitzer (2007): Settlement and Development, KSZK ROP 3.1.1. Program Directorate, Budapest
-Journal monitoring: Village - City - Region, The village, Territorial Statistics

Week	Topics
1.	The concept of settlement, the classification of settlements, the factors influencing the development of settlements LO: the knowledge of the most important settlement development rules according to the topic
2.	The settlement hierarchy LO: the knowledge of the most important settlement development rules according to the topic
3.	City concept, city types LO: the knowledge of the most important settlement development rules according to the topic
4.	The concept and interpretation of urbanization, the history of urbanization LO: the knowledge of the most important settlement development rules according to the topic
5.	Characteristics of rural settlements, geographical characteristics of scattered settlements LO: the knowledge of the most important settlement development rules according to the topic

6.	Design theory LO: the knowledge of the most important settlement development rules according to the topic
7.	The system of goals and means of settlement development LO: the knowledge of the most important settlement development rules according to the topic
8.	library week
9.	Town planning LO: the knowledge of the most important settlement development rules according to the topic
10.	Settlement marketing LO: the knowledge of the most important settlement development rules according to the topic
11.	Sustainable development LO: the knowledge of the most important settlement development rules according to the topic
12.	International connections of settlement development LO: the knowledge of the most important settlement development rules according to the topic
13.	Security policy and migration LO: the knowledge of the most important settlement development rules according to the topic
14.	Consultation LO: the knowledge of the most important settlement development rules according to the topic

Subject: **Business Competitiveness Development**
Neptun-code: GT_AVINE031-17
Institute: Applied Informatics and Logistics
Number of lessons: 2+0 Requirement: Exam Credit: 3
Instructor: Dr. János Felföldi

Course goals:
is to learn to assess the business environment and identify opportunities for business development. Furthermore, adopt a value-based approach to development. Focus on the competitive environment, the related business environment, and its philosophy of valuation. Understand competition, the competitive situation, the concept and content of the competing business. Be able to identify and define a particular business line. Master the method of analyzing the value chain of a business line. To prepare students to adapt to the current economic and market conditions, to establish and operate an efficient business.
Competences:
Knowledge:
Knowledge and correct use of basic concepts. Knowledge and recognition of the processes characteristic of the field. It possesses the information collection, analysis, task and problem-solving methods required to implement the analysis and assessment tasks. Related to all this is the state of application of current digital devices, knowledge of their main features.
Capabilities:
Using their theoretical, conceptual and methodological knowledge, they collect and organize the facts and data necessary for the performance of the task; can explore simpler causal relationships and draw conclusions, make suggestions in the routine processes of the organization. Recognizes potential or necessary development points based on the opportunities provided by digitalization.
Attitudes:
The student should go through an attitude development that develops a positive attitude towards logistics as a discipline and knowledge. Through all of this, it inspires the audience to expand and deepen their knowledge in an autonomous way. You can critically look at your own work. You will strive to improve your knowledge and working relationships.
Autonomy, responsibility:
The subject develops the student's logical ability, the ability to interpret context, which develops the ability to take autonomous responsibility. The

student will be able to evaluate his / her professional environment and tasks in an autonomous way. The ability to objectively decide autonomy also increases. He takes responsibility and bears for his own work and decisions. They can assess their ability to perform a task assigned to them. At the same time, they perform their job duties independently, preparing the professional reports and small presentations independently.
Course content, topics:
Students get to know the value chain approach, the business environment and its influencing factors, value creation and its possibilities.
Learning methods:
In the lecture, frontal educational mode, here the application of PowerPoint and materials and articles currently discussing a topic will be published and studied.
Assessment
The colloquium mark is awarded by the grade of the written examination taken during the examination period.
Regular visitors (2/3) and active participants of the lecture can receive a mark based on the study written at the end of the semester as an option.
Compulsory readings:
Porter, M. E. Competitive Strategy: Techniques for Analyzing Industries and Competitors. New York: Free Press, 1980. (Republished with a new introduction, 1998.)
Recommended readings:
Scientific papers discussing business planning

Week	**Topics**
1.	The business environment and its role in management I. Knowledge of LO: macro-environment
2.	The business environment and its role in management II. LO: micro-environmental knowledge
3.	The business environment and its role in management III. LO: knowledge of the internal environment
4.	Business analysis LO: Getting to know the analysis approach
5.	Business analysis Databases that can be used for LO: analysis
6.	Identification of the business line, exploration of development tendencies LO:Knowledge of identification aspects

7.	Business competition factors (5-factor model) I. LO: Getting to know the model
8.	Business line competition factors (5-factor model) II. LO: Getting to know the model
9.	Expansion of business line competition factors I. LO: knowledge per competition factor
10.	Expansion of competition factors in the business line II. LO: knowledge per competition factor
11.	Corporate value chain LO: Acquiring a value chain approach
12.	The business value chain LO: Acquiring a value chain approach
13.	Value chain analysis LO: Enforcing the value chain approach
14.	Value analysis LO: Exploring the value of product and service

Subject: **Land Policy**
Neptun-code: GT_AVINE039-17
Institute: Applied Economic Sciences
Number of lessons: 2+0 Requirement: Exam Credit: 3
Instructor: Dr. László Posta

Course goals:
The goals of the course are that students get a view about the economic role of land and the land ownership and use changes in Hungary. They get a picture about the former systems in land administration (cadastrial and land registrational system) and about the system of nowadays (through the role of Land Administration Offices). They also get a view about the Hungarian land ownership and use (about prices and rents), and about the tenancy forms and contracts used in Hungary. Besides the Hungarian examples they introduce the internatioanl practice of land policy and management by British examples and they can introduce their own countries practice in this field, as well.
Competences:
Knowledge:
Students have a detailed knowledge about the processes in rural development and agriculture, and its interactions on economic and fiscal fields. They know the rural and agricultural policy functions and coherences. They also know the changes and coherences of the aspects of countryside-society-agriculture. Their digital competence is developing by subject materials, getting the material of lectures in digital form, as well, for the use in learning.
Capabilities:
They are able to create and give through a well-established, and self-sufficient personal equation. They know, understand and use the principles of environment and nature protection and their prescriptions in connection with rural development. They are able to attend their tasks as specialists in agriculture in the field of rural development and use their informatics knowledge (working with data base and use of different programs).
Attitudes:
They are open minded for deputizing the society role of rural development and connecting scientific fields. In questions of rural development they are initiative and responsive for news. They are also open for managing family businesses.
Autonomy, responsibility:
They assume responsibility for consequences of their declarations and opinions. By their knowledge and methods on rural development they can

make detailed and self-sufficient analysis of basic coherences, forming self-sufficient conclusions. They assume responsibility for their conclusions announced in advisements and professional decisions and processes made by them or the managing people. Their digital competence is developing.

Course content, topics:

The economic role of land. Changes of land ownership and use in Hungary in the 20th century. Former land administrational systems: Cadastre and Land registration. Nowadays system: the role of Land Administrational Offices. Land ownership and use today in Hungary. Land tenancy forms and tenancy contracts used in Hungary. The international practice of land policy and management by British examples. Land ownership, land use, land policy in other countries practice (case studies of students).

Learning methods:

The students get lectures on the mentioned topics, using projector by the lecturer. They receive the material (slides) in digital forms, as well.

Assessment

At the end of the semester the students make a written exam as a form of test. The result of the test together with their activity on the lessons (presentation of case studies of their own countries practice) is considered also, within the creation of their final result. The exam is a written test which will be evaluated according to the following grading schedule:

0 – 60% - failed (1)
61 – 70% accepted (2)
71 – 80% medium (3)
81 – 90% good (4)
91 – 100% excellent (5)

Compulsory readings:

1.John Nix – Paul Hill – Nigel William: Land estate management Packard Publishing Ltd. 2nd ed.: 1989. 1 – 225 p.
2.Up to dated material of lectures (slides)

Recommended readings:

1.E. N. Castle – C. E. Becker – J. Nelson: Farm business management Prentice Hall, 1986. 1 – 420 p.
2.Jean – David Gerber – Thomas Hartmann – Andreas Hengstermann: Instruments of land policy – Dealing with scarcity of land Kindle Edtion (ebook)

Week	Topics
1.	The economic role of land.
	LO: The students introduce the economic role of land.
2.	Changes of land ownership and use in the 20th century in Hungary.
	LO: The students get a view on the changes of land ownership and use in Hungary in the last century.
3.	Former land administrational systems I. The Cadaster, and Golden Crown System
	LO: The students introduce a former land administrational system used in Hungary.
4.	Former land administrational systems II. The Land Registration.
	LO: The students introduce the other former land administrational system used in Hungary.
5.	Land administration nowadays in Hungary: Land Administration Offices.
	LO: The students introduce the nowadays land administrational system in Hungary.
6.	Land ownership and use nowadays in Hungary (land prices, land rents).
	LO: The students get a view on the Hungarian conditions about land ownership and use.
7.	Land tenancy forms nowadays used in Hungary, content of tenancy contracts.
	LO: The students introduce the tenancy forms used in Hungarian practice and the content of tenancy contracts.
8.	International examples for land policies by British examples I. (land ownership)
	LO: The students get a view about the practice of land ownership in Britain.
9.	International examples for land policies by British examples II. (types of land tenure)
	LO: The students get a view about the practice of land tenure in Britain.

10.	International examples for land policies by British examples III. (farm rents, price and economic value of land)
	LO: The students get a view about the farm rents, prices and value of land in Britain.
11.	Case studies of the students' countries practice of land policy I. – European and American countries
	LO: The students introduce the land policy practice of different European and American countries.
12.	Case studies of the students' countries practice of land policy II. – Asian countries
	LO: The students introduce the land policy practice of different Asian countries.
13.	Case studies of the students' countries practice of land policy III. – African countries
	LO: The students introduce the land policy practice of different African countries.
14.	Written exam (test)
	The students present their knowledge in the field of land policy.

Subject: **Suppport and Regulatory of Systems**
Neptun-code: GT_AVINE040-17
Institute: Applied Economic Sciences
Number of lessons: 3+0 Requirement: Exam Credit: 3
Instructor: Dr. Hajnalka Madai

Course goals: The main aim of the course is to give an insight into the most widely accepted supporting and regulatory systems. The aim of the lectures is to acquaint the students with the current international, global Rural Development Programs, thus gaining their knowledge. After acquiring the subject, the students will enable to carry out and manage projects in the typically support-oriented agricultural economy and rural development area in the future.
Competences:
Knowledge: Knows the basic concepts of food chain security management and economics that form the basis of agricultural production. Possesses all the knowledge that enables precise professional communication, direct participation in agricultural production, its support, as well as active - operative - participation in the practical implementation of R & D & I projects.
Capabilities: Ability to start and run a family farm. Able to recognize and eliminate routine problems in the process of agricultural production. As a middle manager of agricultural enterprises, he has a sufficient ability to cooperate, through which he can clearly interpret professional instructions and communicate them to his subordinates.
Attitudes: Approaches professional issues constructively. The agricultural engineer performs his duties independently in the course of his work. Plan your career independently.
Autonomy, responsibility: Takes responsibility for the decisions made in the performance of his / her duties and for the work of himself / herself and the workforce entrusted to him / her. Represents your professional beliefs responsibly in your professional communication. Expresses his / her opinion independently, professionally and responsibly.
Course content: The students of the course can be acquainted with the current Rural Development Programs and the most important elements of the Agricultural Policy. By learning about current or recent calls for proposals, students receive practical training to gain competitive knowledge.

Topics:
Introduction the course, basic information
Farm landing programs
Production linked incentive programs
Animal welfare programs
Greening and biodiversity programs
Food safety programs
Water programs
Environmental programs
Waste disposal programs
Sustainability programs
Energy programs
Low carbon and climate change programs
Rural business investment programs
Learning methods:
Lectures are responsible for transferring theoretical knowledge and basic concepts. During the lectures, the current forms and types of support and regulatory system will be introduced. The framework of the lectures consists of PowerPoint presentations, which given to the students later, thus helping them to prepare.
Assessment
The course ends with a colloquium (exam), so students have the opportunity to take a written exam during the exam period, with which they can obtain the final grade. The exam is a written test, which evaluated according to the following grading schedule:
0–59% failed (1)
60–69% satisfactory (2)
70–79% average (3)
80–89% good (4)
90–100% excellent (5)
Compulsory readings: Slides of lectures
Michael P. Todaro - Stephen C. Smith (2020): Economic Development, 13th Edition. Pearson publishing house.
Recommended readings: Actual EU edited DG outcomes in relation with CAP and agricultural policies
Stuart Wall (2014): Economics Express: Environmental Economics. Pearson publishing house.

Roger Perman - Yue Ma - Michael Common - David Maddison - James Mcgilvray (2011): Natural Resource and Environmental Economics, 4th Edition. Pearson publishing house.

Week	Topics
1.	Introduction the course, basic information
	LO*: The students will understand the course information, and about basic definitions.
2.	Farm landing programs
	LO*. Students gain knowledge about the theoretical background and the basic elements of farm landing programs.
3.	Production linked incentive programs
	LO*. Students gain knowledge about the theoretical background and the basic elements of production linked incentive programs.
4.	Animal welfare programs
	LO*. Students gain knowledge about the theoretical background and the basic elements of animal welfare programs.
5.	Greening and biodiversity programs
	LO*. Students gain knowledge about the theoretical background and the basic elements of greening and biodiversity programs.
6.	Food safety programs
	LO*. Students gain knowledge about the theoretical background and the basic elements of food safety programs.
7.	Water programs
	LO*. Students gain knowledge about the theoretical background and the basic elements of water programs.
8.	Environmental programs
	LO*. Students gain knowledge about the theoretical background and the basic elements of environmental programs.

9.	Waste disposal programs
	LO*. Students gain knowledge about the theoretical background and the basic elements of waste disposal programs.
10.	Sustainability programs
	LO*. Students gain knowledge about the theoretical background and the basic elements of sustainability programs.
11.	Energy programs
	LO*. Students gain knowledge about the theoretical background and the basic elements of energy programs.
12.	Low carbon and climate change programs
	LO*. Students gain knowledge about the theoretical background and the basic elements of low carbon and climate change programs.
13.	Rural business investment programs
	LO*. Students gain knowledge about the theoretical background and the basic elements of rural business investment programs.
14.	Written exam
	LO*. Students write the written exam required to complete the semester.

Subject: **Agricultural Consultancy**
Neptun-code: GT_AVINE0033-17
Institute: Rural Development, Regional Economics and Tourism Management
Number of lessons: 2+2 Requirement: Exam Credit: 4
Instructor: Dr. Károly Pető

Course goals:
The main goal of the course is to let know with students the most important methods of Professional Business Consultancy, System of Agricultural Consultancy, organizing and other management tasks of consultancy. What kind of communicational channels can we use of consultancy and how to organize successful consultant work in progress.
Course content, topics:
Basics of Agricultural Consultancy
Definition of Agricultural Consultancy, System and Organizing of Agricultural Consultancy
Management of Agricultural Consultancy
Communicational tools and methods of Agricultural Consultancy
Ethics of Agricultural Consultancy
Learning methods:
Lecture, seminar, presentation, explanation, interactive tasks and multifunctional problem solving tasks
Assessment:
The exam is a written test.

Week	Topics
1.	Definition, Formation, Goals of Agricultural Consultancy. Main roles of Agricultural Consultancy in Rural Development
2.	Obligations and Tasks of Agricultural Consultant. Most important characteristics of successful Consultant, Priorities of Improving a Suitable Agricultural Consultant System
3.	Types of Agricultural Consultancy, Conditions of Official Consultant Listing I.
4.	Conditions of Official Consultant Listing II.
5.	Improving of Agricultural Consultancy System
6.	Supporting System of Agricultural Consultancy (2007-2013, 2014-2020)
7.	Decision Making Ways and Suitable Methods
8.	Crisis Forecast, Business Reorganization
9.	Management of Agricultural Consultancy I. (basics of management, self-management)
10.	Management of Agricultural Consultancy I.(management of consultancy, marketing of consultancy
11.	Process, organization, logistical questions of consultancy (Pre-solving and Problem Solving methods)
12.	Methods of Consultancy
13.	Ethics of Consultancy
14.	Communicational Tools and Methods of Consultancy

Subject: **Basics of Agrarian Trade** Neptun-code: GT_AVINE007-17
Institute: Economics and World Economy
Number of lessons: 2+0 Requirement: Exam Credit: 3
Instructor: Dr. Zsolt Csapó

Course goals:
Students know the general knowledge of Agrarian foreign trade activities of companies, arrangement of foreign trade activities, filling out documents
Competences:
Knowledge: Graduates will have acquired:
- a comprehensive and fundamental knowledge of the concepts, theories, facts, national and international relations of economics with regard to relevant economic players, functions and processes.
- a comprehensive understanding of the basic facts, avenues and restrictions in the special field of trade and marketing; the structure, operation and relation systems of organizations in the given professional areas; the behaviour of players and its decisive factors in external and internal environments, information gathering for decision-making; and motivational factors.
Capabilities: Graduates will:
- plan and organize economic activities and projects, manage and control small enterprises or economic operators. By applying principles and methods studied, they will explore, systematize and analyze facts and essential links; draw conclusions independently and make critical comments, prepare proposals for decision-making, bring decisions in a routine and also partly unknown - national or international - environment.
- follow and interpret processes in the world economy and international business, changes and their impacts in relevant professional policies and regulations concerning economic policies in the given professional areas; take all these into consideration in their analyses, proposals or decisions.
Attitudes: - They will be receptive to include new information, new professional know-how and methodology; open to undertaking new and independent tasks and responsibilities requiring cooperation.
- They will seek to develop their knowledge base and working relations through cooperation with others.
- They will foster efforts to use their informal learning as a means of achieving their professional objectives.

- In decision-making that is unexpected or requires a complex approach, they will seek to bring a decision taking full account of regulations and ethical norms.

Autonomy, responsibility:

- In a supervised professional work environment, they will be able to work and organize activities set out in their job description independently.
- They will take responsibility for their analyses, conclusions and decisions.
- They will be able to manage, organize and control organizational units, working groups and undertakings or small economic operators in business organizations, taking responsibility for the organization and employees.

Course content, topics:

Systematization and participants of Agrarian foreign trading activities. Role of documents in the foreign trade. Foreign trade activities from third country, to third country and within the EU.

Learning methods:

Lectures and seminars

Assessment

Students have to solve an international trading transaction and filling out its documents, which will be evaluated according to the following grading schedule:

0-59 % failed
60-69 % grade 2
70-79 % grade 3
80-89 % grade 4
90-100 % grade 5

Compulsory readings:

Presentations and documents of lectures.

Recommended readings:

S. Tamer Cavusgil – Gary Knight – John Riesenberger: International Business, The New Realities, Forth Edition. Pearson Education Limited, Edinburgh Gate, Harlow, Essex CM20 2J!, England, 2017.

Week	Topics
1.	LO: Basic elements of Agrarian Foreign Trade
2.	LO: Systematization of Foreign Trade activities
3.	LO: Participants of Foreign Trade activities: seller, byer, goods, money, documents.
4.	LO: Documents in Agrarian Foreign Trade activities.
5.	LO: Foreign Trade activity from EU to third country: export (1)
6.	LO: Foreign Trade activity from EU to third country: export (2)
7.	LO: Foreign Trade activity from third country to the EU: import (1)
8.	LO: Foreign Trade activity from third country to the EU: import (2)
9.	LO: Trading activity within the EU (1)
10.	LO: Trading activity within the EU (2)
11.	LO: Trading activity within the EU (3)
12.	LO: Special Foreign Trade activities
13.	LO: Summary 1

Subject: **Logistics**
Neptun-code: GT_AVINE016-17
Institute: Applied Informatics and Logistics
Number of lessons: 2+0 Requirement: Exam Credit: 3
Instructor: Dr. János Felföldi

Course goals:
The course is designed for students according to the latest conception, get to know the interdisciplinary scientific foundations of modern logistics from the discussion of processes and activities of logistics ie from material flow systems to the supply chain approach. Furthermore, students who meet the subject requirements can apply the knowledge to find out the links and units necessary to operate such a system.
Competences:
Knowledge:
Knowledge and correct use of basic concepts. Knowledge and recognition of the processes characteristic of the field. Evaluator's analysis is the basic elements of procurement, production, service, distribution, warehousing, as well as the calculation of productivity indicators, the analysis of freight management processes. It possesses the information collection, analysis, task and problem-solving methods required to implement the most basic logistics tasks. Related to all this is the state of application of current digital devices, knowledge of their main features.
Capabilities:
Using their theoretical, conceptual and methodological knowledge, they collect and organize the facts and data necessary for the performance of the task; can explore simpler causal relationships and draw conclusions, make suggestions in the routine processes of the organization. Application of the basics of shipping decision analysis tools, eg shipping model. Recognizes potential or necessary development points based on the opportunities provided by digitalization.
Attitudes:
The student should go through an attitude development that develops a positive attitude towards logistics as a discipline and knowledge. Through all of this, it inspires the audience to expand and deepen their knowledge in an autonomous way. You can critically look at your own work. You will strive to improve your knowledge and working relationships.

Autonomy, responsibility:
The subject develops the student's logical ability, the ability to interpret context, which develops the ability to take autonomous responsibility. The student will be able to evaluate his / her professional environment and tasks in an autonomous way. The ability to objectively decide autonomy also increases. He takes responsibility and bears for his own work and decisions. They can assess their ability to perform a task assigned to them. At the same time, they perform their job duties independently, preparing the professional reports and small presentations independently.
Course content, topics:
Basic concepts of logistics, logistics systems, supply chain, basics of purchasing, warehousing and warehousing, distribution, performance indicators and performance measurement.
Learning methods:
In the lecture, frontal educational mode, here the application of PowerPoint and materials and articles currently discussing a topic will be published and studied.
Assessment
The colloquium mark is awarded by the grade of the written examination taken during the examination period.
Regular visitors (2/3) and active participants of the lecture can receive a mark based on the study written at the end of the semester as an option.
Compulsory readings:
Donald Waters (2003): Logistics. Palgrave Macmillan, USA. ISBN 0-333-96369-5
Recommended readings:
Russel-Taylor (2003): Operations Management, Prentice Hall, USA, , ISBN 0-13-049363-5
Peter R. Attwood - Nigel Attwood (1992): Logistics of a distribution system. in Aldershot by Gower
Benson, D. - Bugg, R. – Whitehead, G. (1994): Transport and logistic. Woodhead-Faulkner (Publishers) Limited, Hertfordshire.
Emmett, S. (2009): Excellence in Freight Transport: How to Better Manage Domestic and International Logistics Transport Cambridge Academic, ISBN: 1903499496

Week	Topics
1.	Basics of logistics management; logistics in the corporate management system; total cost concept. Productivity and competitiveness: calculation of productivity indicators
2.	Calculation of TE * skill level productivity indicators, place of logistics in farming
3.	Calculation of the result of production, Calculation of the unit cost,
4.	Production management: production organization and management, LO skill level
5.	Purchasing Management: Tasks, Supply Management Systems LO skill level MRP I. calculations
6.	Procurement process, steps, procurement practice, order letter, confirmation letter, receipt documents LO document knowledge
7.	Freight Management; Road freight transport, rail freight transport, water freight transport, air freight transport, pipeline freight transport, combined freight transport systems, Process layout design: block diagram method, Mother's grid method LO:skills for process layout design
8.	Shipping Decision Analysis Tools: Shipping Model Knowledge of TE decision methods, development of decision skills
9.	Stockpiling and storage; physical process control, Shipping decision analysis tools: transhipment model LO: knowledge level knowledge of shipping decision processes
10.	Forecast: time series methods Improving LO:risk recognition
11.	Stockpiling and storage; physical process control, Inventory valuation LO: skill level inventory value calculations
12.	ABC analysis, methodological knowledge LO: ability level inventory analysis
13.	Supply Chain Management: Processes and Characteristics in the Supply Chain I .: Warehouse Manager. Indicators, LO: skill level indicator knowledge
14.	Supply Chain Management: Processes and Characteristics in the Supply Chain II .: LO: skill level logistics system knowledge and thinking

Subject: **Project Management**
Neptun-code: GT_AVINE041-17
Institute: Applied Economic Sciences
Number of lessons: 1+2 Requirement: Practical course mark
Credit: 3
Instructor: Dr. Beáta Bittner

Course goals:
students learn the basics of project management, methodology and the most important project management methods and processes (initiation, planning, implementation, follow-up and supervision, closure). Within the course, students acquire the basic knowledge needed to prepare projects.
By completing the course, students will be able to:
- generate projects in line with the company or rural's strategy,
- structure activities,
- generate time, resource and cost plans,
- set up and manage a project team
- learn to control the project and check the results achieved.

Competences:
a)Knowledge's: The student acquires basic knowledge of project management methodology, understanding the specific procedures and methods of developing the most modern approaches. The lectures of the course focus on three main areas: 1. The process of project planning, 2. The areas of project implementation, organization, management, and team building. 3. Project implementation and monitoring process. During the course, the student learns about the methods used in project planning and the most important knowledge related to project management.
b)Abilities: Be aware of the importance of the business environment for project planning as well as analyzing its methods. Understand the possibilities and limitations, advantages and disadvantages of the different tools and technics. Then, students can use the knowledge in practice.
c)Attitude: The course helps the student to have the appropriate knowledge of the science of knowledge management. After completing the new methodological information, the results can be correctly interpreted and evaluated to understand economics further. Thus, the student has the economic foundations to help them perform their professional duties effectively.

d)Autonomy, responsibility: The course helps the students be innovative, creative, inclusive, work effectively alone and in teams, and form an opinion reasonably and responsibly on matters related to future professional construction.
Course content, topics:
Course content, topics:
Defining “project management”
Project life cycle and organization
Project management process
Project management techniques
Resources management
Stakeholder analysis
Risk management
Project communication
Project evaluation, monitoring and control
Assembling and handling a project team
Project closing
Learning methods:
lectures and seminars will be substituted by interactive in-class exchange of ideas while students are planning an independent project. Students will have compulsory tasks week to week. Seminars are part of the course, and the students prepare their project plan in teamwork under the guidance of the lecturer. During the semester students must prepare a project plan in a team of 3-4 people. The content and formal requirements of the project plan are contained in the appendix to the course program, which supplemented by the instructor’s regulations. The project plan submitted electronically by elearning systemAt the end of semester students write an exam and present their own projects.
Assessment
Students are expected to fulfill criteria as follows:
-Active presence on classes
-Make a complex project plan for an rural area in teams of three or four
-Attending seminars is compulsory
Grade 100% based on a written exam, signature based on a success presentation of a case study developed in teams.

The exam is a written test which will be evaluated according to the following grading schedule:
0-59%- fail (1)
60-69% - passed (2)
70-79% - satisfactory (3)
80-89% - good (4)
90-100 - excellent (5)

Compulsory readings:
Slide of lectures and exercises
Jeffrey K Pinto (2019): Project Management: Achieving Competitive Advantage, 5th Edition, Penn State University-Erie

Recommended readings:
J. K. Pinto: Project Management: Achieving Competitive Advantage, Global Edition, 5/e, 5th Edition, Pennsylvania State University – Erie, 2019, Pearson. ISBN: 9781292269153.
Jack R. Meredith – Samuel J. Mantel. Jr. (2009): Project management – A Managerial Approach, Seventh edition, USA, John Wiley & Sons, Inc. ISBN-13 978-0-470-22621-6
J. M. Nicholas – H. Steyn (2012): Project Management for Engineering, Business and Technology fourth edition, 2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN, ISBN: 978–0–08–096704–2
M. C. Thomsett (1990): The Little Black Book of Project Management, AMACOM, 1990.

Week	Topics
1.	Lecture: Course introduction. Seminar: Project planning case studies.
	LO*: The students will understand the course information, and gain knowledge about case studies.
2.	Seminar: Project life cycle, project strategy, SMART.
	LO. The students will understand how features are about the inner structure of projects.
3.	Lecture: Project management, teamwork, organization in Project management. Seminar: Problem tree – Objective tree analysis.
	LO. Students gain knowledge about the theoretical background and the basic methods of project planning.

4.	Seminar: Project planning: PEST analysis.
	LO: Students gain knowledge about the theoretical background and the basic methods of project planning.
5.	Lecture: SWOT – TOWS analysis. Seminar: Stakeholders of the project.
	LO: Students gain knowledge about the theoretical background and the basic methods of project planning.
6.	Seminar: .Exercises, case studies about project planning.
	LO: Students gain knowledge about the theoretical background and the basic methods of project planning.
7.	Lecture: Logical Framework Matrix (LFM), planning, activities. Seminar: Project organization, project management, PM team building.
	LO: Students gain knowledge about the theoretical background and the basic methods of Logical Framework Matrix and project organization.
8.	Seminar: .Exercises, case studies about project planning.
	LO: Students gain knowledge about the theoretical background and the basic methods of project planning.
9.	Lecture: Type of plans Seminar: Exercises, case studies about project organization.
	LO: Students gain knowledge about the project organization case studies.
10.	Seminar: Project communication (levels, forms, guidelines, PR), a communication plan for projects.
	LO: Students gain knowledge about the theoretical background and the basic methods of project communication.
11.	Lecture: Cost planning, project risk, and risk management Seminar: Project time schedule - Gantt-chart
	LO: Students gain knowledge about the theoretical background and the techniques of project cost planning, risk management and time schedule.
12.	Lecture: Closing and controlling the project. Seminar: Project closing in practice
	LO: Students gain knowledge about the theoretical background and the techniques of closing projects.

13.	Lecture: Pitch Seminar: Pitch.
	LO: Students gain knowledge about project presentations.
14	Seminar: Project presentation + written exam
	LO: Students gain knowledge about project presentations.

Content and form requirements of the project plan

The required structure and content requirements of the project plan:

Cover page;
Contents;

1. Introducing the project idea (Project scope)
2. Introducing the project team
3. Problem tree
4. Objective tree
5. PEST analysis
6. SWOT analysis
7. Stakeholder analysis
8. Communication matrix
9. Gantt chart
10. Budget – Risk analysis

Annexes;

It is a requirement for each chapter to elaborate in detail with the topic. Submission of a project plan with incomplete content (missing chapter) will result in the rejection of the project plan and the course signature.

Formal requirements of the project plan:

- Min. 20-25 page;
- Font type: Times New Roman, font size: 12, 1,5 line spacing, margin: 2.5 cm;
- Page numbers at the bottom, in the middle;
- Figures, charts, graphs, table should be labelled, marked with sources;
- The tables and graphics editing and other formalities can be found in the thesis requirements;
- The project plan can be uploaded electronically to the elearning system, which includes two files:
  1) Project plan in a Word document (*.doc);
  2) Slides of the presentation in a Powerpoint document (*.ppt);

Subject: **Human Resource Management**
Neptun-code: GT_AVINE028-17
Institute: Management and Organizational Sciences
Number of lessons: 2+2 Requirement: Practical course mark
Credit: 4
Instructor: Dr. Krisztina Dajnoki

Course goals:
The objective of the course is to acquaint students with the basic tasks related to human resource management. Acquisition of basic knowledge, concepts, models and methods related to the topic, explores the connections between systems and methods, which, supplemented with practical examples, enables the student to interpret the integrated system of human resource management.
Competences:
Knowledge:
The student has knowledge of basic, comprehensive concepts, theories, models, facts of human resource management, relevant economic actors, functions and processes. He knows the rules of cooperation in a work organization, the connections of the functions of human resource management, their interaction with each other. Knows the methods of HR activities related to the main areas of activity, the basic operation of HR systems.
Capabilities:
The student using the learned HR theories and methods, he explores, systematizes and analyzes facts and basic connections, formulates independent conclusions and critical remarks, makes decision-making proposals in the field of HR, and makes decisions in routine and partly unknown - domestic and international - environments. He is aware of the peculiarities of working in an international, multicultural environment, HR orientations, international approaches. Able to lead the HR organizational unit in an organization after gaining practical knowledge and experience.
Attitudes:
The student strives to develop his knowledge and working relationships, to work with his colleagues in this. It seeks lifelong learning in the world of work and beyond. In the interest of quality work, he shows problem-sensitive, proactive behavior, is constructive, cooperative and proactive in projects and group tasks. He is open to the changes of the wider economic and social environment of the given job, work organization, enterprise, he strives to follow and understand the HR activities of the changes. Receptive to new

information, new professional knowledge and methodologies, open to new, independent and collaborative tasks and responsibilities.
Autonomy, responsibility:
Independently organizes the analysis of HR activities and processes, data collection, systematization and evaluation. He is responsible for his analyzes, conclusions and decisions. He/She is responsible for complying with professional, legal, ethical standards and rules related to his/her work and conduct. It independently monitors changes in the field of socio-economic-legal environment.
Course content, topics:
Basics of human resource management; Job creation (analysis, planning, evaluation); Human strategy, human resource and workforce planning in the organization; Human flow in the organization; International development, characteristics, approaches; Motivation, incentive management, Performance Appraisal, Training and development, Basics of Career Management; The system of labor relations; The practice of Equal Opportunity Human Resource Management; Basics of human controlling; HR trends, new tendencies
Planned educational activities, learning methods
Knowledge transferring interactive lecture. Participation at the events are expected as included in Terms of Education and Examination of the Faculty.
Assessment
Colloquium (written test)
Compulsory readings:
Armstrong, M. (2017): „Armstrong's Handbook of Human Resource Management Practice" Kogan Page Publishers, London and Philadelphia, 14th Edition 738.P.
Purcell, J. - Boxall, P. (2015): Strategy and Human Resource Management (4th Edition). Macmillan International Higher Education
Dessler, G. (2013): „Human Resource Management" Pearson Education, Prentice Hall, 692.P.
+ Lecture Presentations
Recommended readings:
Héder, M. - Szabó Sz. - Dajnoki K. (2018) Effect of Labour Market Changes on HR Functions. Anali Ekonomski Fakulteta U Subotici / The Annals of The Faculty of Economics Subotica (0350-2120): 54 39 pp 123-138.
Poór, J. - Dajnoki K. – Kovács, I. É. – Tóth, A. – Kálmán, B. (2021) : The COVID-19 Pandemic and Hungarian Human Resources (Challenges and

Responses) In: The Impact of COVID-19 on Human Resource Management London: Proud Pen Limited

Week	Topics
1.	L: Basics of human resource management
	S: Requirements, the role of personality in the organization
	LO*: The student will learn the concept, goals, functions and development of human resource management.
2.	L: Job creation (analysis, planning, evaluation)
	S: Intelligence, IQ test
	LO: The student will learn the concept of the job, the process of analysis, the methods of planning and evaluation, new directions.
3.	L: Human strategy, human resource and workforce planning in the organization
	S: Job design in practice, the content of job description, specification
	LO: The student will learn the concept of strategy, the process of strategic creation, the phases of human resource planning, and the peculiarities of personnel planning. The student gets to know the phases of human resource planning, the process of staff planning, the basics of labour demand and supply.
4.	L: Human flow in the organization
	S: CV and motivation letter
	LO: The student will learn the peculiarities and methods of recruitment, selection and inclusion.
5.	L: International development, characteristics, approaches
	S: Interview
	LO: The student will learn the development of HR and the international orientations
6.	L: Motivation, incentive management
	S: Effectiveness in the organization
	LO: The student will learn the motivational theories on which the incentive is based, the main criteria for the development of incentive management, the types of incentive systems.

7.	L: Training and development
	S: Human development methods in different situations
	LO: The student will learn the significance, model and development methods of human resource development.
8.	Library Usage Week
9.	L: Basics of Career Management
	S: Exploring work values in practice
	LO: The student will learn the definition and perception of career, the process of the career planning system.
10.	L: Performance appraisal
	S: Performance appraisal interview
	LO: The student will learn the concept of performance, the process of developing a performance appraisal system, performance appraisal methods.
11.	L: The system of labor relations
	S: Labour law case studies
	LO: The student will learn the types of labor relations, the criteria of collective bargaining, the importance of interest representation.
12.	L: The practice of Equal Opportunity Human Resource Management
	S: Discrimination
	LO: The student will learn the HR characteristics of disabled and changed labour capacity people.
13.	L: Basics of human controlling
	S: Leader selection
	LO: The student will learn the importance of human controlling with indicators for measuring and analyzing HR activity.
14.	L: HR trends, new functions
	S: Well-beeing
	LO: The student will learn the basics and significance of the new areas of activity formed during the development of HRM.

Subject: **Rural and Civil Security**
Neptun-code: GT_AVINE043-17
Institute: Rural Development, Regional Economics and Tourism Management
Number of lessons: 2+0 Requirement: Exam Credit: 3
Instructor: Dr. Péter Horváth

Course goals:
The main goal of this course is to get students to know the risks to the settlements, the possible human and natural factors that threaten the countryside and the agricultural activities, the use of possible crime prevention procedures, cooperation opportunities.
Competences:
Knowledge:
-Should understand the importance of rural and civil security
Capabilities:
-Should be able to control and improve rural and civil security processes
Attitudes:
-Should be open-minded to know and apply the newest methods of rural and civil security
Autonomy, responsibility:
-Should feel responsible for participate in rural and civil security
Course content, topics:
-Within the framework of the course, students can get acquainted with the complex system of rural and civil security, the basic concepts, as well as the challenges threatening the security environment and security. The course deepens knowledge on issues related to disasters, civil protection, water, soil, air, food security, migration and virtual hazards.
Learning methods:
-Lectures will be given during the training. Major teaching methods: lecture, illustration, discussion.
Assessment
The exam is a written test which will be accepted from 60%
Compulsory readings:
-Ppt materials of the lectures;
-Hornyacsek J .: (2009): Basics of Civil Defense 1. Budapest, Zrínyi Miklós National Defense University Publishing House, 188 p., 5-30. p., ISBN: 978-963-7060-66-3

-J. Hornyacsek: (2011): Settlement protection capacities in the light of disaster challenges, disaster response tasks of settlements, basic areas of local defense capability necessary for their implementation, the process of their development. “For Our Safety” Educational and Consulting Scientific Association Budapest, 195.p. 25-32. p. ISBN: 978-963-08-2606-8

Recommended readings:

-Ürmösi K .: (2013): The concept of safety, security. Military Science Review. Vol. 6. No. 4. 147-156. p., ISSN: 2060-0437

-Szász J .: (2000): Types of disasters, in: Edited by Dr. Júlia Hornyacsek: Book of Preparers, BM OKF, Budapest.

Week	Topics
1.	Introduction to the course (topics, requirements, attendance, exam) LO: the knowledge of the most important security rules and solutions according to the topic
2.	Interpretation of security LO: the knowledge of the most important security rules and solutions according to the topic
3.	Security environment, security challenges – global LO: the knowledge of the most important security rules and solutions according to the topic
4.	Security environment, security challenges – regional LO: the knowledge of the most important security rules and solutions according to the topic
5.	Security environment, security challenges – internal LO: the knowledge of the most important security rules and solutions according to the topic
6.	Security environment, security threats – military LO: the knowledge of the most important security rules and solutions according to the topic
7.	Disasters of civilization LO: the knowledge of the most important security rules and solutions according to the topic
8.	library week
9.	Natural disaster risk LO: the knowledge of the most important security rules and solutions according to the topic

10.	Rules for the civil protection classification of settlements LO: the knowledge of the most important security rules and solutions according to the topic
11.	Water and soil safety, Air and food safety LO: the knowledge of the most important security rules and solutions according to the topic
12.	Dangers of virtual world users LO: the knowledge of the most important security rules and solutions according to the topic
13.	Security policy and migrationLO: the knowledge of the most important legal rules and solutions according to the topic
14.	Consultation LO: the knowledge of the most important security rules and solutions according to the topic