

2021



Engineering Management BSc

STUDY PROGRAM

UNIVERSITY OF DUNAÚJVÁROS

Table of Contents

Description of the Study Program	3
Course descriptions of the Engineering Management BSc study program	8
Informatics	8
Economics 1.	10
Mathematics 1.	12
Mechanics I.	14
Engineering Physics	15
Entrepreneurship	17
CAD	19
Machine Structures 1.	21
Chemistry and Materials Science	22
Mathematics 2.	24
Business Communication	26
Business Economics	28
Ergonomics	30
Machine Structures 2.	32
Introduction to Law	33
Mathematics 3.	35
Management	36
Technology of Structural Materials	38
Production Technology	39
Basics of Logistics	41
Marketing	43
Operations and Quality Management	45
Principles of Accounting	47
Basics of Finance	49
Project management	51
General and Business Statistics	53
Strategic Planning	55
Thesis Research – Research Methodology	57
	1

Engineering Management BSc

2021

Environmental Protection and Energy Management	59
Human Resource Management	61
Thesis Writing - MMENBSC	63
Professional Practice - MMENBSc	65
Packaging Technology	67
Analysis of Business Cases	69
Enterprise Information Systems	71
Business Logistics	73
Logistic Information Systems	75
Logistic Management	77
Management methods	79
Warehousing and Material Handling	81
Product Management and Value Analysis	83

Description of the Study Program

Engineering Management BSc	
The higher educational institution responsible for the study program	University of Dunaújváros (Dunaújvárosi Egyetem)
Identification number of the higher educational institution	FI60345
Address	1/A Táncsics Mihály utca, 2400 Dunaújváros, Hungary
Head of the higher educational institution	Dr. habil. István András, Ph.D., Rector
People responsible for the study program	
The institute responsible for the study program	Institute of Social Sciences
Director of the institute (name, scientific degree)	Dr. László Balázs Ph.D, Associate Professor
Responsible person for the study program (name, scientific degree)	Dr. habil István András Ph.D., College Teacher
Specializations and the person responsible for the specialization (name, scientific degree)	
Logistics specialisation:	Dr. Levente Rádai Ph.D., Associate Professor
Details of the study program	
Entry requirements	- General Certificate of Education or a certificate of secondary school final exam, that certificate, which is required to start a higher educational study program in the home country of the student, - The mother tongue of a foreign student is qualified as advanced language exam according to the Hungarian regulations.
Level	undergraduate
Qualification	bachelor (BSc)
Description of the qualification in Hungarian	műszaki menedzser
Description of the qualification in English	Engineering Manager

Duration of study	7 semesters (3 and a half year) full-time program
Credit points to be acquired	210
Educational goals of the study program	The objective(s) of the training is to train engineering managers, who have acquired adequate knowledge of natural sciences, engineering, economics and management in order to be able to resolve IT, financial and human resource related problems of products and services in an integrated manner. Furthermore, they must have in-depth knowledge that is adequate to enable them to continue with their studies in the graduate, master level.
Prerequisite(s) of starting a specialization and the way of classification	To take the Logistics specialisation the student must complete the study requirements of the following subjects until the end of semester nr. 4. DUEN-TVV-122 Entrepreneurship. DUEN-TVV-114 Management DUEN-TVV-219 Operations and Quality Management In the semester determined in the curriculum the Logistics specialisation will be started.
Work placement/Internship	Min 6 weeks in an internship place.
Prerequisite(s) of issuing the pre-degree certificate (absolutorium)	The university leaving certificate certifies the successful completion of the exam requirements in accordance with the curriculum and the completion of the other study requirements (e.g. physical education) and the collection of the required number of credit points defined in the study and output requirements (except the credit points related to the thesis). This certificate is a proof without qualification and evaluation that the student has fulfilled all the study and exam requirements defined in the curriculum.
Thesis	The thesis research means the solution of a Engineering management problem or the elaboration of a research task on such a special field, on which it can be completed on the basis of the knowledge acquired by the student during the years of his studies with the guidance of the first and second supervisor in one semester. The candidate proves with writing the thesis that he has adequate expertise in the practical use of the factual knowledge that he has learnt, and that he

	is able to do the tasks of an engineering business manager and that he is familiar not only with the course material, but with the related special literature, as well, and he is able to apply that in a value-creating way. Formal requirements: the extent of the thesis must be 40 – 60 pages.
Prerequisite(s) of the final exam	The prerequisites of the final exam are the receipt of the university leaving certificate and the thesis accepted for evaluation.
The final exam	The aim of the final exam is to check and assess the knowledge, skills and abilities required for the obtaining of a certificate on the study program. Students are also expected to prove their competence in applying the acquired theoretical knowledge in professional practice. The final exam consists of defending the student's thesis and an oral exam on the subjects defined in the curriculum (FES1, FES2)
Subjects of the final exam	<p>- Final Exam Subjects 1 (FES1) (Complex): DUEN-TVV-114 Management DUEN-TVV 111 Human Resource Management DUEN-TVV 216 Management Methods</p> <p>- Final Exam Subjects 2 (FES2) (Logistic Specialization): DUEN-TVV-110 Packaging Technology DUEN-TVV-121 Business Logistics DUEN-TVV-214 Logistics Management DUEN-TVV-218 Warehousing and Material Handling</p>
Average of the certificate	The average of the certificate should be calculated in the following way: $(FE + D + SA)/3$. Where (FE) is the mathematical average of the marks of the final exam subjects (FES1, FES2); (D) is the mark awarded for the thesis by the final exam committee; and (SA) is the cumulative average of the study marks weighted with the credits points obtained by the student.
Qualification of the certificate	excellent 4,51 - 5,00 good 3,51 - 4,50 satisfactory 2,51 - 3,50 pass 2,00 - 2,50
Preconditions of issuing the certificate	The precondition of the issue of certificate to prove the completion of higher educational

	studies is the successful final exam.
Language of Training	English
Physical Education	1-4 semester two lessons per week
Study mode	Full time

Required competencies:

The students graduated in Engineering Business Management BSc know

- the basic concepts and major correlations of the area of engineering and management;
- the science, arts and economic and social (inter)connections of production and supplying processes;
- the principles of operation of organisations;
- the engineering, economical and management like activities in organisations and their inter-relations;
- the knowledge necessary for founding and managing the manufacturing and supplying enterprises;
- the principles and usable results of marginal areas of related fields of science (e.g. sociology, psychology) and engineering and management sciences;
- the requirements of environmental protection, safety engineering, quality assurance, industrial-law protection and consumer protection.

The students graduated in Engineering Business Management BSc can and are able

- organise, manage and control technological, production, logistic, quality assurance and information technological processes;
- prepare business plans;
- fulfil decision-preparatory tasks;
- implement innovation strategies;
- manage groups at workplaces;
- manage information;
- fulfil the tasks of human resource management;
- surveying the accountancy system;
- fulfil operational tasks of production management, provide production and supply activities;
- define quality and efficiency indices;
- analyse the competitors, products and the possibilities of bringing products to the market.

The graduates of the course have skills for co-operation and making contacts, communication skills, knowledge of foreign languages, have a sense of responsibility, related to the engineering profession; they are quality conscious, and they have evaluation, self-evaluation, analysing and synthesizing skills.

Course descriptions of the Engineering Management BSc study program

Informatics

Subject name		In Hungarian	Informatika			Level	A
		In English	Informatics				DUEN-IFS-010
Subject code							
Responsible educational unit		Institute of Informatics					
Name of Mandatory Preliminary Study		-					
Number of Lessons					Requirements	Credits (ECTS)	Language of Education
	Lecture	Seminar	Laboratory				
Full-time	150/390	0	3	CA	5	English	
Correspondence	150/150	0	15	(Midterm mark)			
Teacher responsible for the course		Name	Mariann Váraljai			Position	College teaching Assistant
Educational goals		Basic ICT knowledge. Students competences at the end of the course: use of a graphical operating system, a word processor, creating worksheets, browsing the internet, writing emails, creating presentations.					
Typical delivery methods		Lecture					
		Seminar					
		Laboratory		In a classroom with the use of projector or computer in each seminar. Computer based exercises. PowerPoint presentations. Individual tasks.			
Requirements (expressed in learning outcomes/competencies to be acquired)		Knowledge Students get to know the required theoretical ICT knowledge and may use certain softwares as a semi-advanced user: operating system, MS Word, MS Excel, MS PowerPoint and Prezi.					
		Ability They are able to use the obtained skills even few years later, in real situations.					
		Attitude Strengthening the motivation for individual learning. Openness for new techniques and team work.					
		Autonomy and responsibility In professional questions, the students can play the role of using ICT tools for problem solving. They can tackle problems as responsible persons, i.e. in a certain situation, they can decide if there is a need to cooperate with others.					
Brief description of the subject content		Topics: - Operating systems in general, MS Windows (features, attributes, keyboard shortcuts, built-in applications, using zip files, file attributes/write-protected files) - MS Word (main attributes, using macros, typography)					

Engineering Management BSc

2021

	<ul style="list-style-type: none"> - MS Excel (most important functions, creating charts) - Creating presentations using Prezi and PowerPoint.
Activity forms of students	Lectures, using the computer with teacher supervision (40%). Individual tasks (60%).
Compulsory reading and its availability	<ol style="list-style-type: none"> 1. PCs For Dummies Quick Reference, 4th Edition, By Dan Gookin ISBN: 978-0-470-11526-8 2. Microsoft Office 2003 For Dummies, By Wallace Wang ISBN: 978-0-7645-3860-5 3. Parhami, Behrooz: Computer Architecture, ISBN 10: 019515455x ISBN 13: 9780195154559
Recommended reading and its availability	Microsoft Office Official Tutorial and examples (available on the internet).
Hand-in Assignments/ measurement reports	
Description of midterm tests	There will be 3 compulsory midterm tests. First test: MS Windows, Word, data protection, email. Second test: MS Excel. Third test: Presentation (Prezi and PowerPoint). All tests will be computer-based exercises. Duration: 60 minutes each.

Economics 1.

Subject name	In Hungarian	Közgazdaságtan 1.			Level	A
	In English	Economics 1.			Code	DUEN-TKT-151
Subject code		DUEN-TKT- 151				
Responsible educational unit		Institute for Social Sciences Department of Economics and Management Sciences				
Name of Mandatory Preliminary Study						
Number of Lessons				Requirements	Credits (ECTS)	Language of Education
	Lecture	Seminar	Laboratory			
Full-time	150/39	1	2	0	E	English
Correspondence	150/15	5	10	0	(Exam)	
Teacher responsible for the course		Name	Dr. Erzsébet Szász		Position	College Professor
Educational goals		This course is an introduction to economic concepts and basic economic theory. The course is split between the study of microeconomics, which focuses on the decision making of individual consumers and firms, and macroeconomics, which focuses on aggregate level economic questions such as interest rates, government spending, among others. Perhaps most important, this course will introduce you to the “economic way of thinking,” an approach to decision making that applies to personal decisions. It will: give you an idea of the range of behaviors that economists investigate, introduce you to the basic tools that we use to analyze the economy, and apply these tools to public policy issues.				
Typical delivery methods		Lecture	In a classroom with the use of projector or computer in each lecture.			
		Seminar	In a classroom with the use of projector or computer in each seminar.			
		Laboratory				
Requirements (expressed in learning outcomes/competencies to be acquired)		Knowledge Students as potential Economist know: the types, terminology and main principles of Economics basic concepts in Economics the steps of analysis in Economics				
		Ability Students will be able to: carry out basic analysis formulate a synthetic relationship carry out adequate evaluation activities				
		Attitude - Openness to authentic mediation and transmission of the overall mindset and the essential characteristics of practical operation of the profession. - Desire for continuous self-education in the field of economics.				
		Autonomy and responsibility In professional questions, the students can play the role of a decision-maker and are able to solve problems alone. They can tackle problems as responsible persons, i.e. in a certain situation, they can decide if there is a need to cooperate with others.				
Brief description of the subject content		The science of economics. Introduction to economic thinking. Macro- and microeconomics. Positive and normative approach to economics. The basic concepts of economics. Coordination mechanisms in the economy. The market and its basic concepts. The operation of the market and price mechanisms. The market balance. The agents of mixed economy. The motivations, income and expenditures of household. The management of business organizations. Production factors and their markets. The concept of national economic				

Engineering Management BSc

2021

	performance, its most important statistical indicators. The concepts, conditions and measurement of economic growth. Economic development and sustainable growth. The concept and functions of money. The basic categories of the labor market. The state and the market economy. The role and functions of the government. Globalization, international trends and issues of the global economy.
Activity forms of students	Guided learning 17% Individual learning 17% Guided task completion 17% Individual task completion 49%
Compulsory reading and its availability	Samuelson, Paul Anthony - Nordhaus, William D. Economics (2009) Mcgraw-Hill Publ.Comp. Handouts from the lecturer Materials on MOODLE
Recommended reading and its availability	Mankiw, Gregory Principles of Economics (2007) Sixth Edition, by Mason, Ohio: Thomson South-Western Begg, D., S. Fischer and R. Dornbusch Economics (2002) -7th Edition- (McGraw- Hill) Moffat, Mike: Online Microeconomics Textbook.
Hand-in Assignments/ measurement reports	Preparation and presentation of home assignments on pre-determined topics of micro and macroeconomics
Description of midterm tests	The test usually lasts for one hour and covers everything taught up to the date of test. The question paper will consist of multiple choice questions and short essay questions.

Mathematics 1.

Subject name		Hungarian	Matematika 1.			Level	A	
		English	Mathematics 1.			Code	DUEN(L)-IMA-151	
0								
Responsible educational unit			Institute of Information Technology					
Name of prerequisite subject								
Type		Class hours / week				Requirements	ECTS	Language of instruction
		Lecture	Seminar	Laboratory				
Full time course	150/39		1	2	0	E (Exam)	5	English
Long distance course	150/15	per Semester	5	per Semester	10			
Teacher responsible for subject			Name		Dr. Joós Antal		Position	Associate Professor
Educational goal (competencies to be acquired)			Short description of the subject's goal					
			A mathematical theory is introduced to solve quantitative problems in technical and other fields.					
			Education history, development goals					
			Methods of problem solving in the course topics are introduced and ability for students to use these methods are developed.					
Typical transfer ways			Lecture	Introducing notions and methods in lecture hall, using blackboard.				
			Seminar	Teaching in small groups, solving computational and applied exercises.				
			Laboratory	Teaching in small groups, in computer labs.				
			Other					
Requirements (expressed in educational results)			Knowledge					
			Knowing basics mathematical background and theoretical concepts. Knowing and understanding of the concepts needed in further studies. Basics in applying a computer algebra system.					
			Ability					
			Able to use the mathematical methods learned.					
			Attitude					
			Open-minded for the mathematical innovation on their field.					
			Autonomy and Responsibility					
			Responsible for their results.					
Brief description of the subject content			System of linear equations. Matrices. Determinants. Eigenvalues, eigenvectors. Set theoretical background. Functions of one variable. Basic properties of functions of one variable. Limits of functions and sequences. Differential calculus of functions of one variable. Differentiation rules. Mean value theorems. Applications of derivatives. Integral calculus of functions of one variable. The definite integral. The indefinite integral and its properties. Basic properties of functions of several variables. Differential calculus of functions of several variables.					
Forms of student activity			Directed learning of theoretical material (10%), Independent learning of theoretical material (30%), Directed exercise solving (30%), Independent exercise solving (30%)					
Compulsory reading and its availability			-Farág, I. et al. Introductory Course in Analysis, ELTE, Bp, 2009. http://www.cs.elte.hu/~simonp/jegyzet_2_ford.pdf					
Recommended reading and its availability			-Talata, I.: A Guide to Mathematical Analysis, Dunaújváros, 2007, pp. 1-79. Electronic Study Guide. -Smith, R.; Minton, R.: Calculus, Early Transcendental Functions, 3rd ed., McGraw-Hill, 2006 -Finney, R. L.; Thomas, G. B.: Calculus, Addison-Wesley, New York, 1990.					
Description of project works / measurement reports			-					

Engineering Management BSc

2021

Description of midterm tests	There will be four midterm exams (week 3, 6, 9, 12 for 10 points maximum each) The midterm exams consist of questions on theoretics and applied problems as well. 30 minute is provided to take each midterm exam.
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Mechanics I.

Subject name		Hungarian	Mechanika 1.			Level	A	
		English	Mechanics 1.			Code	DUEN-MUG-152	
Responsible educational unit			Institute of Engineering					
Name of prerequisite subject								
Type		Class hours / week				Requirements	ECTS	Language of instruction
		Lecture	Seminar	Laboratory				
Full time course	150/39		1		2			
Long distance course	150/15	per Semester	5	per Semester	10	per Semester	0	E (Exam) 5 English
Teacher responsible for subject			Name		Dr. András Zachár		Position	College Professor
Educational goal (competencies to be acquired)			Getting acquainted with the bases of statics and the strength of materials, forming the application skill.					
Typical transfer ways			Lecture		Introducing notions and methods in lecture hall, using blackboard.			
			Seminar		Teaching in small groups, solving computational and applied exercises.			
			Laboratory					
			Other					
Requirements (expressed in educational results)			Knowledge					
			Students will know the basic terms of mechanics, understand the effect mechanisms of mechanics, know the the elements of load-bearing structures, know the basics of design.					
			Ability					
			They are able to use the obtained skills even few years later, in real situations					
			Attitude					
			Open-minded for the mechanical innovation on their field.					
			Autonomy and Responsibility					
			Responsible for their results.					
Brief description of the subject content			Concept of force, system of forces, equilibrium. Resultant of system of forces (using a calculation or a construction). Elements of load-bearing structures. Restraints. Static and load models. Reaction forces, internal loading functions and beam diagrams. Cross sectional features: centre of gravity, first and second order moment of a cross section. Concept of deformations, strains and the mechanical stresses. Tensile test diagram and the main material properties of mechanics. Basics of design: stress analysis of pure and complex load cases (tensile/compression, shearing, bending, torsion and combinations). Stress state and general Hooke's law. Concept equivalent stress.					
Forms of student activity			Assimilation of the theoretical matter with/without assistance: 15/35 % Problem solving with/without assistance : 15/35 %					
Compulsory reading and its availability			1. - F.P. Beer, E.R. Johnston, E.R. Eisenberg: Vector Mechanics for Engineers ? Statics, McGraw Hill, New York, USA, 2004 2. F.P. Beer, E.R. Johnston, J.T. DeWolf: Mechanics of Materials, McGraw Hill, New York, USA, 2004					

Engineering Physics

Subject name		Hungarian		Mérnöki fizika		Level		A			
		English		Engineering Physics		Code		DUEN(L)-MUT-151			
Responsible educational unit				Institute of Engineering							
Name of prerequisite subject											
Type		Class hours / week				Requirements		ECTS		Language of instruction	
		Lecture		Seminar		Laboratory					
Full time course		150/39		1		1		1			
Long distance course		150/15		per Semester		5		per Semester		5	
		5		per Semester		5		per Semester		5	
Teacher responsible for subject				Name		Dr. Miklós Horváth		Position		College Professor	
Educational goal (competencies to be acquired)				<ul style="list-style-type: none"> - To understand and learn the principles of particle mechanics, electricity, - fluid and gas mechanics, thermodynamics, optics, quantum mechanics - the preparation of the BSc level in Physics and other related subjects. 							
Typical transfer ways				Lecture		Introducing notions and methods in lecture hall, using blackboard.					
				Seminar		Teaching in small groups, solving computational and applied exercises.					
				Laboratory							
				Other							
Requirements (expressed in educational results)				<p>Knowledge Students will know the basic terms of kinematics, axioms of mechanics understand the effect mechanisms of mechanics, know the basic phenomena of fluid dynamics, Archimedes' principle, know the basics of thermodynamics.</p> <p>Ability They are able to use the obtained skills even few years later, in real situations</p> <p>Attitude Open-minded for the mechanical innovation on their field.</p> <p>Autonomy and Responsibility Responsible for their results.</p>							
Brief description of the subject content				<p>Kinematics, axioms of mechanics, basic equation of dynamics, work, energy, power, linear momentum, and collisions, oscillatory motion, simple harmonic motion, damped oscillation, forced oscillation, resonance.</p> <p>Basic phenomena of fluid dynamics, buoyant forces, Archimedes' principle, continuity equation, Bernoulli equation.</p> <p>Thermodynamics, thermal expansion, work and heat, specific heat, latent heat, calorimetry, thermodynamic processes, First Law of thermodynamics, kinetic theory of gases, Second Law of thermodynamics, entropy and disorder, energy conservation.</p> <p>Electricity electrostatics, electric current, resistance, Ohm's law, network analysis, magnetic field, electromagnetic induction, alternating current circuits.</p> <p>Optics, geometric optics, propagation of light. Interference of light, single-slit diffraction, diffraction grating, photometry. Laboratory practices.</p>							
Forms of student activity				<ul style="list-style-type: none"> - to understand and learn the subjects of the presentation making notes and using the electronic course book 40% - executing the laboratory practices 20% - problem solving session 20% - solving tests 20% } 							
Compulsory reading and its availability				<ul style="list-style-type: none"> - Alvin Halpern: Beginning Physics I-II - SHAUM OUTLINE SERIES McGraw- Hill, ISBN 0-07-025653-5) 							

Engineering Management BSc

2021

Recommended reading and its availability	- Daniel Oman- Robert Oman: Physics for the Utterly Confused (McGraw- Hill Companies, ISBN: 0-07-048262-4) Daniel Oman- Robert Oman: How to solve Physics Problems (McGraw- Hill Companies, ISBN: 0-07-048166-0)
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Entrepreneurship

Subject name	In Hungarian	Vállalkozástan				Level	A
	In English	Entrepreneurship				Code	DUEN-TVV-122
Subject code							
Responsible educational unit		Institute for Social Sciences Department of Economics and Management Sciences					
Name of Mandatory Preliminary Study		-					
Number of Lessons					Requirements	Credits (ECTS)	Language of Education
	Lecture	Seminar	Laboratory				
Full-time	150/39	1	2	0	CA (Continuous assessment)	5	English
Correspondence	150/15	5	10	0			
Teacher responsible for the course		Name	Dr. Andrea Keszi-Szeremlei			Position	College Teacher
Educational goals		The learning material gives board knowledge in entrepreneurial skills such as establishing, operating and transforming firms, handling their assets and financial issues. By the end of the course the students will be able to use their managerial, entrepreneurial and business legal knowledge in practice.					
Typical delivery methods		Lecture	In a classroom with the use of projector or computer in each lecture.				
		Seminar	Flipchart, blackboard and other multimedia equipment in smaller seminar rooms suitable for group work				
		Laboratory	-				
Requirements		Knowledge Students will know the basic terms of entrepreneurship, understand the effect mechanisms of operating firms, know the legal background of companies, their internal and external environments, know the economic systems, aims and strategies of firms.					
		Ability Students will be able to use terms of this field professionally, to identify and determine the resources of companies, to understand the steps of company aims and strategies, to understand and use the relevant literature.					
		Attitude They are open and willing to discuss all points of the cases, as well as express their opinion, but without disclosing any important information about the circumstances of their own company. They have sensibility to find potentials for development.					
		Autonomy and responsibility Students feel responsibility for both their development and environment. They cooperate with each other. They have sensibility to find possible resolving opportunities for problems.					
Brief description of the subject content		The value chain and creation of double value both for buyers and suppliers. The technical and economic connections of value chain. The customer value and logistic buyer satisfaction. The customer value and the internet. The supply chain: system (network) of business relationships. The role of suppliers. Potential suppliers and the internet. Evaluation of suppliers, the criteria of supplier evaluation in internet. Strategic procurement. The methods and importance of demand anticipation in production logistics. Resource planning systems with buyer's cooperation. Management of customer relationship					

Engineering Management BSc

2021

	(CRM). The criteria of CRM systems (soft wares). The importance of services and its logistic problems. International transport. Competitiveness and supply chain management. Integration of supply chain. Measurement of supply chains. Tendencies in supply chain management.
Activity forms of students	Case study analysis, Presentations, Individual work, Frontal class work, Essay writing
Compulsory reading and its availability	William D. Bygrave - Andrew Zacharakis (2014): Entrepreneurship, 3rd Edition, John Wiley & Sons, DUE Library Materials on MOODLE
Recommended reading and its availability	Jerome Katz, Richard Green (2014) Entrepreneurial Small Business. 4th ed. McGraw-Hill International Ed., ISBN: 978-0078029424, DUE Library
Hand-in Assignments/ measurement reports	Processing and analysis of 1 chosen case study (On week 8th)
Description of midterm tests	Midterm tests on weeks 7th and 12th. Supplementary test on week 13th.

CAD

Subject name		Hungarian	CAD				Level	A	
		English	CAD				Code	DUEN(L)-MUG-211	
Responsible educational unit		Institute of Engineering							
Name of prerequisite subject									
Type		Class hours / week					Requirements	ECTS	Language of instruction
		Lecture	Seminar		Laboratory				
Full time course	150/39	0		0		3	CA	5	English
Long distance course	150/15	per Semester	0	per Semester	0	per Semester			
Teacher responsible for subject		Name		Dr.Gábor Vizi			Position	College Professor	
Educational goal (competencies to be acquired)		To make the students familiar with the practice of computer aided geometrical modelling through the use of a modern, parametrical modelling system (SolidWorks). Building parametrical models of machine parts. Making assemblies and generating documentation for manufacturing.							
Typical transfer ways		Lecture							
		Seminar							
		Laboratory		In a classroom with the use of projector or computer in each seminar.					
		Other							
Requirements (expressed in educational results)		<p>Knowledge Students will know the basic terms of CAD able to creat asemblies able to generate drawings from parts. able to create views, sections detail views</p> <p>Ability They are able to use the obtained skills even few years later, in real situations</p> <p>Attitude Open-minded for the mechanical innovation on their field.</p> <p>Autonomy and Responsibility Responsible for their results.</p>							
Brief description of the subject content		<p>Features of parametric modelling systems. Basic concepts. Parametric geometric models, associativity, features as building blocks, sketches, geometric relations etc. Pre-requisites of running the program, initial steps, screen areas. Contracting basic features. Adding and removing material.</p> <p>Features demanding a sketch. Features not demanding a sketch. Creating protrusion, cut, chamfer, fillet and shell. Creating a revolution solid. Sweep and loft. Geometrical relations in sketches. The application of equations to fulfil the designer's intentions. Linking dimensions. Creating configurations and part families. Creating assemblies. The Top-Down technique. Generating drawings from parts. Creating views, sections, detail views. Generating drawings from assemblies. Creating bills of material automatically.</p>							
Forms of student activity		<ul style="list-style-type: none"> - to understand and learn the subjects of the presentation making notes and using the electronic course book 40% - executing the laboratory practices 20% - problem solving session 20% - solving tests 20% } 							
Compulsory reading and its availability		SolidWorks Online Help							
Recommended reading and its availability		- Descriptions and documentations related to SolidWorks							

Machine Structures 1.

Subject name		Hungarian	Gépszerkeztan 1.			Level	A	
		English	Machine Structures 1.			Code	DUEN(L)-MUG-213	
Responsible educational unit			Institute of Engineering					
Name of prerequisite subject								
Type		Class hours / week				Requirements	ECTS	Language of instruction
		Lecture	Seminar	Laboratory				
Full time course	150/39		1		2		0	CA
Long distance course	150/15	per Semester	5	per Semester	10	per Semester	0	
Teacher responsible for subject			Name		Dr. Róbert Sánta		Position	College Professor
Educational goal (competencies to be acquired)			To make the students familiar with the basics of technical descriptions and to develop spatial sense and sense of form and the skills of reading technical drawings. To make the students familiar with the rules and prescriptions of the engineering technical descriptions, and with the aspects of selection of standard machine parts. To make the students familiar with the most popular machine parts.					
Typical transfer ways			Lecture	In a classroom with the use of projector or computer in each lecture.				
			Seminar	Flipchart, blackboard and other multimedia equipment in smaller seminar rooms suitable for group work				
			Laboratory					
			Other					
Requirements (expressed in educational results)			<p>Knowledge Students will know the basic terms of machine structures know the intersection of two planes, angles, distances. know the dimensional networks.</p> <p>Ability They are able to use the obtained skills even few years later, in real situations</p> <p>Attitude Open-minded for the mechanical innovation on their field.</p> <p>Autonomy and Responsibility Responsible for their results.</p>					
Brief description of the subject content			Plane of projection, coordinate system, projection. Description of point. Real size view and point view of a line. Law of projection and view change. Mutual position of spatial elements. Projections of a line depending on its position, crossing and skew lines. Transversal lines, special lines of a plane. Real size of a planar shape, constructions with rotation. Intersection of two planes, angles, distances. Regular solids. Solving problems by basic constructions. Basic standards of technical drawings. Theoretical survey of projection systems in the engineering practice. Using views and view systems. Using sections and segments. Dimensioning on technical drawings. Dimensional networks. Description of threaded parts. Rules on making assembly drawings, numbering systems. The most common machine parts, the description conventions of the most common machine parts. Autonomous use of standards and constructional aids, drafting and construction of drawing of components. Construction of simple structural units without strength analysis.					
Forms of student activity			Understanding and assimilation of the topics of presentations 30% Drafting practice 35% Homeworks 35%					
Compulsory reading and its availability			1] Robert L. Norton: Machine Design - An Integrated Approach, 2006, Pearson Prentice Hall Upper Saddle River NJ					

Chemistry and Materials Science

Subject name		Hungarian	Kémia és anyagismeret				Level	A	
		English	Chemistry and Material Science				Code	DUEN(L)-MUA-211	
Responsible educational unit			Institute of Engineering						
Name of prerequisite subject									
Type		Class hours / week				Requirements	ECTS	Language of instruction	
		Lecture	Seminar	Laboratory					
Full time course	150/39		1		0		2	English	
Long distance course	150/15	per Semester	5	per Semester	0	per Semester	10		
Teacher responsible for subject			Name		Dr. Imre Kovács		Position	College Professor	
Educational goal (competencies to be acquired)			<p>The objective of the subject is that the students get elementary knowledge of chemistry, to come to know the structure of the materials and the electron shell that determines the material properties, to learn about the chemical bondings that determine the macroscopic characteristics and to learn the microscopic structure and the test methods of different type materials (metals, ceramics and polymers). The students learn the relationships between the structure and the properties of materials and based on it in some simple cases they will be able to select the appropriate material for the given application.</p>						
Typical transfer ways			Lecture	In a classroom with the use of projector or computer in each lecture.					
			Seminar						
			Laboratory	In a classroom with the use of projector or computer in each seminar.					
			Other						
Requirements (expressed in educational results)			<p>Knowledge Students will know the basic terms of chemistry know the general characterisation of metals and their activity know the elementary knowledge of organic chemistry. know the cristal, crystallite, crystal defects, atom movement in the material and diffusion know the phases and structural constituents of metallic materials</p> <p>Ability They are able to use the obtained skills even few years later, in real situations</p> <p>Attitude Open-minded for the mechanical innovation on their field.</p> <p>Autonomy and Responsibility Responsible for their results.</p>						
Brief description of the subject content			<p>Atomic structure. The periodic(al) system of elements. Electronic configuration. The types and characteristics of the chemical bonds. Electron affinity, electron negativity, oxidation number. Strong bonds. Weak bonds. General characterisation of metals and their activity. Elementary knowledge of organic chemistry. Grouping of carbon compounds. nomenclature. Isomerism. The most important reactions of organic materials. Linking of macromolecules as the base of polymer production. Elementary silicate chemistry. Fundamentals of colloid chemistry. Solid state transformations. Polymorph transformations. The types of the engineering materials. Interaction of structure, processing and properties. Crystal structure, crystal systems. Crystal, crystallite. Crystal defects. Atom movement in the material, diffusion. The phases and structural constituents of metallic materials.</p>						

Engineering Management BSc

2021

	The importance of the equilibrium phase diagrams and their determination. The reading rules of binary and ternary phase diagrams. The types of the binary phase diagrams.
Forms of student activity	Understanding and assimilation of the topics of presentations 50% Testing of materials 30% Laboratory exercises 20%
Compulsory reading and its availability	[1] Clifford C. Houk, Richard Post: Chemistry: Concepts and Problems: A Self-Teaching Guide, 2nd Edition, 1996, Wiley [2] William D. Callister: Materials Science and Engineering, An Introduction, 2007, Wiley
Recommended reading and its availability	ASM Metals Handbook Desk Edition 2001

Mathematics 2.

Subject name	In Hungarian	Matematika 2.				Level	A	
	In English	Mathematics 2.				Code	DUEN-IMA-211	
Subject code								
Responsible educational unit		Institute for Informaticon Technology						
Name of Mandatory Preliminary Study		DUEN-IMA-151- Mathematics I.						
Number of Lessons					Requirements	Credits (ECTS)	Language of Education	
	Lecture	Seminar	Laboratory					
Full-time	150/39	1	2	0	CA (Continuous assessment)	5	English	
Correspondence	150/15	5	10	0				
Teacher responsible for the course		Name		Dr. Antal Joós		Position	Associate Professor	
Educational goals		To be acquainted with the basic knowledge referring to mathematics, probability, mathematical statistics which are required to the special subjects, as well as improvement of mathematical knowledge to study specialized literature. Student knows and understands the most remarkable relations, connections, and set of ideas.						
Typical delivery methods		Lecture		Introducing notions and methods in lecture hall using blackboard and projector.				
		Seminar		Teaching in small groups, solving computational and applied exercises. Using projector, blackboard, calculator.				
		Laboratory						
Requirements (expressed in learning outcomes/competencies to be acquired)		Knowledge Student knows methods and procedures required for solving of mathematical tasks from economic areas. Student has enough knowledge referring to mathematics, probability, and mathematical statistics which are required by his/her special field						
		Ability Student is able to apply the studied mathematical knowledge and activity. Student is able to apply the studied methods and procedures. Student is able to create an own solving-plan and argue. Student is able to organize his/her own learning procedure as well as to find and use different learning sources.						
		Attitude Student is willing getting acquainted with mathematical developments and innovations and their acceptance. Student is interested in new methods and means referring to his/her specialization.						
		Autonomy and responsibility Student takes responsibility for his/her own work and the works of fellows at school						
Brief description of the subject content		Combinatorial analysis. Experiment, sample space and events, basic event-operations. The probability of an event. Axioms of probability. Conditional probability. Independent events. Theorem of Total Probability. Bayes' Theorem. Random variables and their characteristics. Notable probability distributions. The Week Law of Large Numbers. The Central Limit Theorem. Basic notions in statistics. Samples. Descriptive statistics. Numerical and graphic characterization of data sets. Inferences about a population. Theory of estimation. Point estimation and estimation by confidence interval for the population mean, for standard deviation and for a proportion. Statistical hypotheses, basic concepts. Parametric tests for the mean and for the standard deviation. Nonparametric tests. The bases of correlation and regression analysis						
Activity forms of students		Learning of the theory with direction and without direction. Solving mathematical exercises with direction and without direction using pattern and examples. Directed learning of theoretical material 10 % Independent learning of theoretical material 30 % Directed exercise solving 30 % Independent exercise solving 30 %						
Compulsory reading and its availability		[1] R.E. Walpole, R.H. Myers, S.L. Myers, K. Ye: Probability and Statistics for Engineers and Scientists, 9th Edition, ISBN 978-0-321-62911-1						

Engineering Management BSc

2021

Recommended reading and its availability	<p>[2] Ross, Sheldon: A First Course in Probability, Pearson Education Inc., ISBN 0-13-201817-9 http://zalsiary.kau.edu.sa/Files/0009120/Files/119387_A_First_Course_in_Probability_8th_Edition.pdf</p> <p>[3] Hoel, Paul G.: Introduction to Mathematical Statistics (A Wiley Publication in Mathematical Statistics) Third Edition, John Wiley & Sons, Inc. New York-London-Sydney</p>
Hand-in Assignments/ measurement reports	
Description of midterm tests	<p>Test 1. Probability 1. Content of the lectures and seminars. Combinatorial analysis. Operation with events. Applications of the theorems of probability. Dependency and independency of events. Theorem of Total Probability and Bayes' Theorem. (20 scores, 20 minutes, according to the course program)</p> <p>Test 2. Probability 2. Content of the lectures and seminars. Random variables. Cumulative distribution function and density function and their properties and applications. Calculation notable numerical characteristics. Notable discrete and continuous probability distributions. Law of Large Numbers. (30 scores, 25 minutes, according to the course program)</p> <p>Test 3. Mathematical statistics 1. Content of the lectures and seminars. Basic terms and definitions. Graphical and numerical characterization of data sets. Point estimation and estimation by confidence intervals. (20 scores, 20 minutes, according to the course program)</p> <p>Test 4. Mathematical statistics 2. Content of the lectures and seminars labors. Testing hypotheses. Basis of correlation and regression analysis. (30 scores, 25 minutes, according to the course program)</p> <p>Usage of cellular phone is prohibited.</p>

Business Communication

Subject name		In Hungarian	Üzleti kommunikáció			Szintje	A	
		In English	Business Communication			Level	A	
Subject code		DUEN-TKM-220						
Responsible educational unit		Institute for Social Sciences Department of Organizational Dev. and Comm.Science						
Name of Mandatory Preliminary Study								
Number of Lessons						Requirements	Credits (ECTS)	Language of Education
	Lecture	Seminar	Laboratory					
Full-time	150/39	1	2	0	CA	5	English	
Correspondence	150/15	5	10	0	(Continuous assessment)			
Teacher responsible for the course		Name		Dr. habil István András		Position	College Teacher	
Educational goals		<p>The goal of the course is to develop the essential skills required in the field of business. The aim of the course is to familiarize students with certain communication roles required to fulfill managerial roles in an organization, to make students recognize the differences between horizontal and vertical business communication needs.</p> <p>Certain personal development processes will also be discussed during the course (self knowledge, group work, communication of decisions)</p>						
Typical delivery methods		Lecture		In a classroom with the use of projector or computer in each lecture.				
		Seminar		In a classroom with the use of projector or computer in each seminar with the application of group work, role play and simulation game.				
		Laboratory						
Requirements (expressed in learning outcomes/competencies to be acquired)		<p>Knowledge Students as potential business communicators know: the types, terminology and main principles of business communication the steps of effective business communication how to develop own business skills</p>						
		<p>Ability Students will be able to: analyse relevant literature choose and apply the business communication method appropriate for the professional situation define practices that will help the development of own business environment</p>						
		<p>Attitude Good business communicators are patient, well-educated and have empathy, i.e. they can successfully deal with communication issues with the hierarchy of a company Good, future-oriented bargainers respect their counterpart, are trustworthy. They are open to self development and self criticism.</p>						
		<p>Autonomy and responsibility In professional questions business communicators can play the role of a decision-maker and are able to solve problems alone. They can decide on the steps of usable method and support autonomy of co-workers.</p>						
Brief description of the subject content		The course familiarizes students with the types of business and institutional communication with the key concepts and phrases. The course presents students the barriers of successful self-advocacy.						
Activity forms of students		<p>Weekly online tests: 20%</p> <p>Frontal work: 30 %</p> <p>Individual or group work: 35%</p>						

Engineering Management BSc

2021

	Test: 15%
Compulsory reading and its availability	Harvard Business Essentials. Negotiation (2003). Boston/Massachusetts: Harvard Business School Press.
Recommended reading and its availability	Ramsborg, G (2015) Professional Meeting Management: A Guide to Meetings, Conventions and Events. PCMA 6th edition Streibel, B (2002) The Manager's Guide to Effective Meeting. Briecase Book Series
Hand-in Assignments/ measurement reports	Home paper, presentations and case study analysis
Description of midterm tests	Defintion of main terms, multiple choice test and essay witing about a given business communication situation.

Business Economics

Subject name		In Hungarian	Vállalatgazdaságtan			Szintje	A	
		In English	Business economics			Level	A	
Subject code		DUEN-TVV-220						
Responsible educational unit		Institute for Social Sciences Department of Economics and Management Sciences						
Name of Mandatory Preliminary Study		-						
		Number of Lessons				Requirements	Credits (ECTS)	Language of Education
		Lecture	Seminar	Laboratory				
Full-time	150/39	1	2	0	CA (Continuous assessment)	5	English	
Correspondence	150/15	5	10	0				
Teacher responsible for the course		Name				Position		
Educational goals		The learning material gives board knowledge in Business economics such as types of new companies, tasks during their establishing. The course deals with the role of business, activity systems of operating firms like production and services. It also focuses on capital and planning of companies. By the end of the course the students will be able to understand economic and financial results of firms, how to handle changes and crisis in firms' life, transition and finishing of enterprises.						
Typical delivery methods		Lecture		In a classroom with the use of projector or computer in each lecture.				
		Seminar		Flipchart, blackboard and other multimedia equipment in smaller seminar rooms suitable for group work				
		Laboratory		-				
Requirements		Knowledge						
		<p>Students will</p> <ul style="list-style-type: none"> • know the basic terms of business economics, • know the capital structure of companies, and the role and functions of planning in companies, • know the different types of changes and crisis of firms, • know the tasks of transition and finishing of firms. 						
		Ability						
		<p>Students will be able</p> <ul style="list-style-type: none"> • to use terms of this field professionally, • to evaluate the capital structure of companies, • to understand the steps of company aims and strategies, • to handle changes and crisis of firms. 						
		Attitude						
		They are open and willing to discuss all points of the cases, as well as express their opinion, but without disclosing any important information about the circumstances of their own company. They have sensibility to find potentials for development.						
		Autonomy and responsibility						
		Students feel responsibility for both their development and environment. They cooperate with each other. They have sensibility to find possible resolving opportunities for problems.						
Brief description of the subject content		Becoming an entrepreneur. Success fails and experiences in enterprises. The essence, term, necessity, fulfilment and stakeholders of business. The role,						

Engineering Management BSc

2021

	types, operation, life stages of enterprises. The business plan. Recession, transition and termination of firms. Success, as motivating factor.
Activity forms of students	Case study analysis, Presentations, Individual work, Frontal class work, Essay writing
Compulsory reading and its availability	<ul style="list-style-type: none">• Sloman, John - Kevin Hinde - Dean Garratt (2013) Economics for business. Pearson, DUE Library• Materials on MOODLE
Recommended reading and its availability	<ul style="list-style-type: none">• Paul Keat; Philip K Young; Steve Erfle (2013): Managerial Economics (7th Edition), Prentice Hall, ISBN : 0133020266, DUE Library

Ergonomics

Subject name		In Hungarian	Ergonómia			Szintje	A
		In English	Ergonomics			Level	A
Subject code		DUEN-TVV-112					
Responsible educational unit		Institute for Social Sciences Department of Economics and Management Sciences					
Name of Mandatory Preliminary Study		-					
		Number of Lessons			Requirements	Credits (ECTS)	Language of Education
		Lecture	Seminar	Laboratory			
Full-time	150/39	1	2	0	CA (Continuous assessment)	5	English
Correspondence	150/15	5	10	0			
Teacher responsible for the course		Name		Dr. habil Mónika Rajcsányi-Molnár		Position	College Teacher
Educational goals		To enable the students to improve the man-machine-environment system, ergonomic aspects of the interpretation, the effective design and operation of safe and convenient to use human. The student will be familiar with: The ergonomic, security and health-saving regulations in workplaces.					
Typical delivery methods		Lecture		In a classroom with the use of projector or computer in each lecture.			
		Seminar		Flipchart, blackboard and other multimedia equipment in smaller seminar rooms suitable for group work			
		Laboratory		-			
Requirements		Knowledge					
		<p>Students will</p> <ul style="list-style-type: none"> • have the basic terms of ergonomics and how to apply these into practice, • know the features and correlations of strain and stress • know the characteristics of sensation and perception, • know the ergonomic aspects of tool design, • know the special features and planning conditions of the man-machine-environment system, • know the security and health-saving regulations in workplaces. 					
		Ability					
		<p>Students will be able</p> <ul style="list-style-type: none"> • to evaluate and plan of the man-machine-environment systems from ergonomic aspects, • to use in practice the learnt planning rules and methods, • to determine and maintain safe and healthy working conditions, • to share their knowledge, experience so as to create more effective, safer and more comfortable conditions. 					
		Attitude					
		<ul style="list-style-type: none"> • They are open and willing to discuss all points of the cases, as well as express their opinion. • For them it is important to maintain their and others' safety and health. • To achieve these goals they endeavour to have ergonomic facilities and environments both at home and in workplaces. • Obey the relevant safety,- health regulations and ergonomic requirements. 					
		Autonomy and responsibility					

	Students feel responsibility for both their development and environment. They cooperate with each other. They have sensibility to find possible resolving opportunities for problems.
Brief description of the subject content	The interpretation of ergonomics, the conceptual system, the development of history and social usefulness. Application of the ergonomics and features, The strain and stress correlations. The relationship between stress and performance. The man, as a consumer and user features attitudes, perception, cognition, cognitive processing, and anthropometry. The man-machine interface system /tool design, management/. Design and Selection. The man-machine-environment system characteristics, the design conditions. Physical environment from ergonomic aspects. Safety and healthcare issues in organizations.
Activity forms of students	Case study analysis, Presentations, Individual work, Frontal class work, Essay writing
Compulsory reading and its availability	<ul style="list-style-type: none"> • McCauley-Bush, Pamela (2012) Ergonomics: foundational principles, applications and technologies. Boca Raton: CRC Press, ISBN 9781439804452, DUE Library • Materials on MOODLE
Recommended reading and its availability	<ul style="list-style-type: none"> • Kroemer K, H. K. E. (2001): Ergonomics: How to design for ease and efficiency, Upper Saddle River, NJ, Prentice Hall, DUE Library

Machine Structures 2.

Subject name		Hungarian		Gépszerkezettan 2.		Level		A		
		English		Machine Structures 2.		Code		DUEN(L)-MUG-110		
Responsible educational unit				Institute of Engineering						
Name of prerequisite subject				DUE-MUG-152 Mechanics 1. DUEN-MUG-211 CAD DUEN-MUG-213 Machine Structures 1.						
Type		Class hours / week				Requirements	ECTS	Language of instruction		
		Lecture		Seminar						Laboratory
Full time course	150/39		2		1		0	CA	5	English
Long distance course	150/15	per Semester	10	per Semester	5	per Semester	0			
Teacher responsible for subject				Name		Dr. Róbert Sánta		Position		College Professor
Educational goal (competencies to be acquired)				To make the students familiar with the typical constructions of the mechanical equipments, and with the conditions of selecting, dimensioning and operating them. Teaching the thinking style and problem solving methods of engineering practice through relatively simple projects, based on previously obtained knowledge in mechanics, technical description and CAD.						
Typical transfer ways				Lecture		In a classroom with the use of projector or computer in each lecture.				
				Seminar						
				Laboratory		In a classroom with the use of projector or computer in each seminar.				
				Other						
Requirements (expressed in educational results)				Knowledge Students will know the basic terms of machine structures know the definition, classification, description, mechanical dimensioning, correct setup, operation and amintenance of machne parts						
				Ability They are able to use the obtained skills even few years later, in real situations						
				Attitude Open-minded for the mechanical innovation on their field.						
				Autonomy and Responsibility Responsible for their results.						
Brief description of the subject content				Repeatedly occuring parts and units of engineering equipments with similar structure and shape - machine parts. Definition, classification, description, mechanical dimensioning, correct setup, operation and amintenance of machine parts. The machine parts to be discussed in detail: fixing and actuating screws, shafts and axles, shaft-hub joints, couplings, bearings, belt and chain drives, gears. During the exposition of the subject the emphasis is mainly put on the description and the general review of the machine parts.						
Forms of student activity				Guided proccession of the theoretical curriculum 20 % Autonomuou proccession of the theoretical curriculum 20 % Guided solution of problems 20 % Autonomuou solution of problems 40 % Guided laboratory tests - Creating laboratory reports.						
Compulsory reading and its availability				Robert L. Norton: Machne Design - An Integrated Approach, 2006, Pearson Prentice Hall Upper Saddle River NJ						
Recommended reading and its availability										

Introduction to Law

Subject name	In Hungarian			Jogi alapismeretek				Level	A	
	In English			Introduction to Law				Code	DUEN-TKM-150	
Subject code										
Responsible educational unit										
Institute for Social Sciences Department of Communication and Media Science										
Name of Mandatory Preliminary Study										
Number of Lessons										
	Lecture			Seminar		Laboratory		Requirements	Credits (ECTS)	Language of Education
Full-time	150/39		3		0		0	E (Examination)	5	English
Correspondence	150/15		15		0		0			
Teacher responsible for the course		Name			Dr. habil Orsolya Falus			Position	College Professor	
Educational goals		The goal of the course is to introduce the terminology of law and the rule of law in Hungary, in the European Union and from an international perspective, as well. Students will learn the principals of the Fundamental Law and the basics of public administration in Hungary, in the EU and the countries of the international community. They should be able to understand laws and apply the principle rules regulating business life.								
Typical delivery methods		Lecture			In a classroom with the use of projector or computer in each lecture.					
		Seminar			In a classroom with the use of projector or computer in each seminar.					
		Laboratory								
Requirements (expressed in learning outcomes/competencies to be acquired)		Knowledge Students know: the types, terminology and main principles of law, how to understand and apply rules, how public administration works, how legal entities are established and registered, the content of basic contracts.								
		Ability Students will be able to: find, understand and apply law, see the structure of law, establish and operate a legal entity, create basic contracts.								
		Attitude They should be open-minded, unprejudiced and creative to find the appropriate legal solution for certain cases.								
		Autonomy and responsibility They should use legal jargon properly and be able to find and explain the appropriate law alone. They should recognize legal conflicts and exert a review concerning them with correct application of legal terms. They should understand the system of public administration and be aware of the importance of civic responsibility.								
Brief description of the subject content		The definition of law and the rule of law. The system of legal sources. Fundamental Law of Hungary. The National Assembly and the national referendum. The concept and principles of public administration. Bureaucracy. The concept of legal personality. The types of companies and company registration system. Basic types of economic contracts.								
Activity forms of students		Frontal work: 30 % Individual or group work: 35% Test: 15%								

Engineering Management BSc

2021

	Communication situation exercises: 20%
Compulsory reading and its availability	The Fundamental Law of Hungary (25 April 2011) (http://hunmedialaw.org/dokumentum/151/THE_FUNDAMENTAL_LAW_OF_HUNGARY.pdf) Charles Szypszak: Understanding Law for Public Administration (http://samples.jbpub.com/9780763780111/80111_FMxx_Szypszak.pdf) Materials on MOODLE
Recommended reading and its availability	Sources and Scope of European Law (http://www.europarl.europa.eu/ftu/pdf/enFTU_1.2.1.pdf) Saylor Academy, 2012: Law for Entrepreneurs https://saylordotorg.github.io/text_law-for-entrepreneurs/
Hand-in Assignments/ measurement reports	On 7th week MIDTERM ESSAY, On 13th week presentation.
Description of midterm tests	According to the predetermined items.

Mathematics 3.

Subject name	In Hungarian In English	Matematika 3. Mathematics 3.				Level	A
Subject code							
Responsible educational unit	Institute for Information Technology						
Name of Mandatory Preliminary Study	DUEN-IMA-151 Mathematics 1.						
Number of Lessons					Requirements	Credits (ECTS)	Language of Education
	Lecture		Seminar				
Full-time	150/39	0	3		0		CA (Continuous assessment)
Correspondence	150/15	0	15		0		
Teacher responsible for the course	Name		Dr. Bálint Nagy			Position	College Professor
Educational goals	A mathematical theory is introduced to solve quantitative problems in technical and other fields. Methods of problem solving in the course topics are introduced and abilities for students to use these methods are developed						
Typical delivery methods	Lecture		Introducing notions and methods in lecture hall using blackboard and projector.				
	Seminar						
	Laboratory		Teaching in small groups, solving computational and applied exercises. Using projector, blackboard, calculator.				
Requirements (expressed in learning outcomes/competencies to be acquired)	Knowledge Student knows methods and procedures required for solving of mathematical tasks from economic areas. Student has enough knowledge referring to mathematics, probability, and mathematical statistics which are required by his/her special field						
	Ability Student is able to apply the studied mathematical knowledge and activity. Student is able to apply the studied methods and procedures. Student is able to create an own solving-plan and argue. Student is able to organize his/her own learning procedure as well as to find and use different learning sources.						
	Attitude Student is willing getting acquainted with mathematical developments and innovations and their acceptance. Student is interested in new methods and means referring to his/her specialization.						
	Autonomy and responsibility Student takes responsibility for his/her own work and the works of fellows at school						
Brief description of the subject content	Special differentiation rules. Geometric application of derivatives. Area. Volumes and surfaces of revolution. Length of a curve. Centre of gravity. Multiple integration. Numerical integration. Solving nonlinear equations. Separable differential equations. Variable transformation: $ax+by+c$. Variable transformation: y/x . First order linear differential equations. Second order linear differential equations. Missing variable in second order differential equations.						
Activity forms of students	Learning of the theory with direction and without direction. Solving mathematical exercises with direction and without direction using pattern and examples. Directed learning of theoretical material 10 % Independent learning of theoretical material 30 % Directed exercise solving 30 % Independent exercise solving 30 %						
Compulsory reading and its availability	Talata, I.: A Guide to Mathematical Analysis, Dunaújváros, 2007, pp. 1-79. Electronic Study Guide.						
Recommended reading and its availability	Finney, R. L. ; Thomas, G. B.: Calculus, Addison-Wesley, New York, 1990.						
Hand-in Assignments/ measurement reports							

Management

Subject name		In Hungarian	Menedzsment				Level	A
		In English	Management					DUEN-TVV-114
Subject code								
Responsible educational unit		Institute for Social Sciences Department of Management and Enterprise Sciences						
Name of Mandatory Preliminary Study								
Number of Lessons						Requirements	Credits (ECTS)	Language of Education
		Lecture	Seminar	Laboratory				
Full-time	150/39	1	2	0	CA			
Correspondence	150/15	5	10	0	(Continuous assessment)	5	English	
Teacher responsible for the course		Name			Dr. habil Mónika Rajcsányi-Molnár	Position	College Teacher	
Educational goals		<p>The module provides a comprehensive understanding of management in theory and in practice.</p> <p>The course is designed to familiarize students with the most important information for the management of labor organizations, to provide insight into the "special" management dimensions, and those determinants.</p>						
Typical delivery methods		Lecture	In a classroom with the use of projector or computer in each lecture.					
		Seminar	In a classroom with the use of projector or computer in each seminar.					
		Laboratory						
Requirements		<p>Knowledge</p> <p>Students as potential manager: Familiar with the fundamental aspects of science organization, the most important concepts, requirements, relationships and procedures. It learns supply management tasks, theoretical and methodological foundations of the exercise of the functions. Familiar with the planning, organization and management frequently used procedures and methods. Familiar with the leadership style models and understand their role in effective leadership behavior.</p> <p>Ability</p> <p>Students will be able to: analyse and develop the management and decision making mechanisms of work organizations effectively organize individual and team work identify and solve problems integrate knowledge recognize and evaluate alternatives handle operative planning tasks work in groups accept divergent views manage time select and focus on various tasks identify, understand and apply different leadership styles understand and manage organizational processes</p> <p>Attitude</p> <p>Open to accommodate new innovative approaches.</p>						

	<p>Avoids the stereotypes. Not think schemas. Susceptible development opportunities for exploitation. Good, future-oriented bargainers respect their counterpart, are trustworthy and not aggressive. They are open and willing to discuss all points of the negotiation process, as well as express their opinion, but without disclosing any important information about the circumstances of their own company.</p> <p>Autonomy and responsibility In professional questions negotiators can play the role of a decision-maker and are able to solve problems alone. They can tackle problems as responsible persons, i.e. can decide if it is a need in a certain negotiation phase or situation to cooperate with others.</p>
Brief description of the subject content	<p>Interpretation and origin of management. The role and importance of management in the governance of companies. Historical overview of management studies: concepts, schools, trends; similarities and differences. Practicing management functions: - Planning: vision of the future, goal hierarchy, short term and operative planning, planning methods. - Organizing: changing the structure, processes, defining organizations, division of labor, developing processes and organizational structures, structural differences of organizations, organization types and characteristics. - Control: changing conditions, exercise authority, define norms, measurement, evaluation and adjusting, managing everyday problems. - Coordinating: harmonizing goals-processes-organization, coordination tools, operation control, task-authority-responsibility fit, control processes of organizations: rules of organization and operation, professional rules and regulations, job description. - Leadership: leadership effectiveness, leadership styles: characteristics, decision making theories, behavioral theories, contingency-approach. Organizational culture and strategy. Components and dimensions of culture. Understanding and analyzing cultural differences. Managing corporate culture.</p>
Activity forms of students	<p>Frontal work: 30 % Individual presentation 20% Group work: 35% Test: 15%</p>
Compulsory reading and its availability	<p>Williams-DuBrin-Sisk (1995): Management & Organization, South-Western Publishing Co. Cincinnati, Ohio, USA Materials on Moodle</p>
Recommended reading and its availability	<p>Chelsom-Payne-Reavill (2005): Management for Engineers, Scientists and Technologists, John Wiley & sons, Ltd, England</p>
Hand-in Assignments/ measurement reports	<p>Case study analysis Group work Individual presentation: An organization working goal, process and organizational structure</p> <p>These tasks cannot be replaced during the exams.</p>
Description of midterm tests	<p>Test</p>

Technology of Structural Materials

Subject name		Hungarian		Szerkezeti anyagok technológiája				Level	A	
		English		Technology of Structural Materials				Code	DUEN(L)-MUA-116	
Responsible educational unit				Institute of Engineering						
Name of prerequisite subject				DUEN-MUA-211 Chemistry and Materials Sciences						
Type		Class hours / week						Requirements	ECTS	Language of instruction
		Lecture		Seminar		Laboratory				
Full time course	150/39		1		0		2	CA	5	English
Long distance course	150/15	per Semester	5	per Semester	0	per Semester	10			
Teacher responsible for subject				Name		Dr. Zsolt Csepeli		Position	College Teacher	
Educational goal (competencies to be acquired)				The aim is that the students be able to select the materials and production technologies that are the most suitable for a given objective. The students learn the manufacturing, properties, application and property modification technologies (alloying, melting, plastic deformation, heat treatment, surface treatment), melting and forming technologies of the most important metallic and non-metallic structural materials. The students learn most important welding technologies and their application.						
Typical transfer ways				Lecture		In a classroom with the use of projector or computer in each lecture.				
				Seminar						
				Laboratory		In a classroom with the use of projector or computer in each seminar.				
Requirements (expressed in educational results)				<p>Knowledge Students will know the basic terms of material structures know the Phase diagrams and transformations know the steel production methods know the steel applications</p> <p>Ability They are able to use the obtained skills even few years later, in real situations</p> <p>Attitude Open-minded for the mechanical innovation on their field.</p> <p>Autonomy and Responsibility Responsible for their results.</p>						
Brief description of the subject content				Phase diagrams. The Fe-Fe ₃ C equilibrium phase diagram. Phase transformations. Steel production. Basic oxygen steelmaking. Electric arc furnace. Continuous casting. Steel processing. Hot rolling. Cold rolling. Forging. Casting. Heat treatment of steels. Mechanical properties. Strengthening mechanisms. Steel applications Sustainability (steel and the environment, principles of life cycle thinking). Aluminum production and processing. Properties of aluminum. Heat treatment of aluminum. Case studies for the industrial application of aluminum.						
Forms of student activity				Understanding and assimilation of the topics of presentations 50% Testing of materials 30% Laboratory exercises 20%						
Compulsory reading and its availability				1. William D. Callister: Materials Science and Engineering, An Introduction, 2007, Wiley 2. www.steeluniversity.com 3. www.alumatter.info						
Recommended reading and its availability				4. ASM Metals Handbook Desk Edition 2001 5. ASM Metals Handbook Volume 14 - Forming And Forging 6. core.materials.ac.uk						

Production Technology

Subject name		Hungarian	Gyártástechnológia			Level	A	
		English	Production Technology			Code	DUEN(L)-MUG-252	
Responsible educational unit			Institute of Engineering					
Name of prerequisite subject			DUEN-MUG-110 Machine Structure 2					
Type		Class hours / week			Requirements	ECTS	Language of instruction	
		Lecture	Seminar	Laboratory				
Full time course	150/39	2	1	0	E (Exam)	5	English	
Long distance course	150/15	per Semester	10	per Semester				
Teacher responsible for subject			Name		Dr. Gábor Vizi		Position	College Professor
Educational goal (competencies to be acquired)			The students shall learn the basics of production technology. Cutting: the students shall learn the basics of cutting and its results. Knowledge of the basic cutting processes. Calculation and selection of the technological data. Calculation of machine time and standard time norm and determination of costs. Knowledge of other cutting processes.					
Typical transfer ways			Lecture	In a classroom with the use of projector or computer in each lecture.				
			Seminar	In a classroom with the use of projector or computer in each seminar with max. 20 students				
			Laboratory	Presentations and exercises in a cutting workshop				
			Other					
Requirements (expressed in educational results)			<p>Knowledge Students will know the basic terms of cutting processes know the type and features of cutting able to do calculation of machining time and cost analysis able to do calculation of dimensional chain</p> <p>Ability They are able to use the obtained skills even few years later, in real situations</p> <p>Attitude Open-minded for the mechanical innovation on their field.</p> <p>Autonomy and Responsibility Responsible for their results.</p>					
Brief description of the subject content			Cutting processes. Type and features of cutting. Technologies of turning, planing, boring, milling, grinding. Calculation of allowances, feeds, speeds, number of cycles in case of every process. Calculation of machining time and cost analysis. Unconventional cutting processes, sawing, broaching, threading, gearing. EDM technologies. Determination of stock. Calculation of dimensional chain.					
Forms of student activity			Assimilation of the theoretical material with assistance: 5 % Assimilation of the theoretical material without assistance: 40 % Problem solving with assistance: 15 % Problem solving without assistance: 40 %					
Compulsory reading and its availability			1. Manufacturing Technology, (Manufacturing processes) R.K.RAJPUT LAXMI PUBLICATIONS (P) LTD 113, Golden House, Daryaganj, New Delhi-110002, EMT-0750-350-ATB OF MANUFACTURING TECH 2. Production Technology, HMT Bangalore, Tata McGraw-Hill Education, 2001, ISBN-13: 978-0-07-096443-3, ISBN-10: 0-07-096443-2					

Engineering Management BSc

2021

	3. Production engineering, K.C. Jain, A. K. Chitale, 2010, PHI learning Private Limited, New Delhi, ISBN-978-81-203-3526-4
Recommended reading and its availability	Manufacturing process-I, H.S.Bawa, 2004, Tata McGraw-Hill Publishing Company Limited, second reprint 2006. ISBN 0-07-053525-6

Basics of Logistics

Subject name		In Hungarian	Logisztika alapjai			Szintje	A
		In English	Basics of Logistics			Level	A
Subject code		DUEN-TVV-212					
Responsible educational unit		Institute for Social Sciences Department of Management and Enterprise Sciences					
Name of Mandatory Preliminary Study							
		Number of Lessons			Requirements	Credits (ECTS)	Language of Education
		Lecture	Seminar	Laboratory			
Full-time	150/39	2	1	0	CA	5	English
Correspondence	150/15	10	5	0			
Teacher responsible for the course		Name		Dr. Levente Rádai		Position	College Professor
Educational goals		The goal of the course is to provide a broad overview on the basic mechanisms and processes of logistics and supply chain management, material flow and warehousing. The course enables students to gain both practical and theoretical knowledge on the logistics processes of procurement, production and distribution, and to become familiar with the mechanisms of material handling, information technology and transportation management.					
Typical delivery methods		Lecture		Flipchart, blackboard and other multimedia equipment in auditorium			
		Seminar		Flipchart, blackboard and other multimedia equipment in smaller seminar rooms suitable for group work.			
		Laboratory					
Requirements		Knowledge					
		By the end of the course, students will <ul style="list-style-type: none"> • understand the basic concepts of logistics • know the necessary operation mechanisms to successfully manage logistics activities • know the main laws and regulations applied in contemporary logistics • know the main strategies and techniques applied in logistics 					
		Ability					
		Students will be able to: <ul style="list-style-type: none"> • Use and apply the basic terms and vocabulary of the profession with confidence • Synthesize and organize their knowledge and apply it in the appropriate situations • Identify the main resources and activities in logistics • Apply the strategic planning tools used in contemporary logistics • Use and apply the literature of the profession with confidence 					
Requirements		Attitude					
		Students should be: <ul style="list-style-type: none"> • Open to classroom case studies, and to the active interpretation of discussed situations. • Sensitive and critical towards theoretical and practical innovation • Susceptible to development opportunities for exploitation. 					
Requirements		Autonomy and responsibility					
		Responsible for his/her own development.					

Engineering Management BSc

2021

	Cooperate with the instructor and fellow students, seeks to solve the discussed problems. Feel responsible for the development of his/her working environment
Brief description of the subject content	Basic logistics concepts and phenomena. Logistics systems and modules. The flow of materials and information. Procurement and distribution. Warehousing, storing and inventory management. Production management, Transportation systems. Supply chain management and the bullwhip effect. Simulations and <u>planning in logistics</u>
Activity forms of students	Case study analysis, Presentations, Individual work, Frontal class work, Group work, role play
Compulsory reading and its availability	<ul style="list-style-type: none"> • Jacobs, R.F. – Chase, R.B.: Operations and supply chain management, McGraw Hill, 2011, DUE Library, ISBN-10: 0071220909 ISBN-13: 978-0071220903 • Gourdin, K: Global Logistics management: A competitive advantage for the 21st century, 2nd edition, Wiley-Blackwell, 2006, DUE Library, ISBN-13: 978-1405127134, ISBN-10: 1405127139 • Materials on MOODLE
Recommended reading and its availability	<ul style="list-style-type: none"> • Mangan, J. – Lalwani, C. – Butcher, T.: Global logistics and supply chain management, Wiley, 2008, DUE Library, ISBN-13: 978-0470066348, ISBN-10: 0470066342

Marketing

Subject name		In Hungarian	Marketing				Szintje	A		
		In English	Marketing				Level	A		
Subject code		DUEN-TVV-215								
Responsible educational unit		Institute for Social Sciences Department of Management and Enterprise Sciences								
Name of Mandatory Preliminary Study		DUEN-TVV-122 Entrepreneurship								
Number of Lessons							Requirements	Credits (ECTS)	Language of Education	
		Lecture	Seminar		Laboratory					
Full-time	150/ 39		1		2		0	CA	5	English
Correspondence	150/ 15		5		10		0			
Teacher responsible for the course		Name			Dr. Andrea Györgyi Szalay		Position	College Professor		
Educational goals		The curriculum supports the student's mastery of marketing concepts and highlights their interconnections with different disciplines. During the course, students understand and apply the concepts of the market, the tools of marketing environment analysis, market sharing criteria and methodologies, become familiar with the purchasing decision process and the factors influencing customer behavior. Students understand the diversity and variations of marketing tools, and become proficient in using the most important marketing techniques and institutional marketing communications.								
Typical delivery methods		Lecture			Flipchart, blackboard and other multimedia equipment in auditorium					
		Seminar			Flipchart, blackboard and other multimedia equipment in smaller seminar rooms suitable for group work.					
		Laboratory								
Requirements		Knowledge By the end of the semester, students as potential marketing practitioners comprehend the basic concepts used in marketing and PR know the basic tools of marketing and recognize the relationships among them know the elements of an organization's internal and external environment and their interaction with the company's marketing and PR activities know and appropriately apply market research methodologies								
		Ability Students will be able to: Use and apply the basic terms and vocabulary of the profession with confidence Synthesize and organize their knowledge and apply it in the appropriate situations Examine business problems with a marketing approach Analyze the market of a product or service Detect correlations between strategic and operational marketing processes. Detect the relationship and interactions between the company, its customers and business partners								
		Attitude Students should be: Open to classroom case studies, and to the active interpretation of discussed situations. Sensitive and critical towards theoretical and practical innovation Susceptible to development opportunities for exploitation.								
		Autonomy and responsibility Responsible for his/her own development. Cooperate with the instructor and fellow students, seeks to solve the discussed problems.								

Engineering Management BSc

2021

	Feel responsible for the development of his/her working environment
Brief description of the subject content	Concepts and instruments of marketing, main communication channels and strategies. Components of the marketing mix, market participants, the basic processes of marketing management. Consumer behavior, B2B markets, the basic methods of marketing research. Pricing, product development, brands, branding and challenges of contemporary marketing
Activity forms of students	Case study analysis, Presentations, Individual work, Frontal class work, Group work, Role play
Compulsory reading and its availability	Kotler, P. – Wong, V. – Saunders, J. – Armstrong, G.: Principles of Marketing, 4th European Edition, Pearson, 2005, DUE Library
Recommended reading and its availability	Kotler, P. – Armstrong, G.: Marketing: An Introduction, Pearson, 2015 Kotler, P. – Kartajaya, H. – Setiawan, I.: Marketing 4.0: Moving from traditional to digital, Wiley, 2017 Palmer, A.: Introduction to marketing, Oxford University Press, 2003
Hand-in Assignments/ measurement reports	Group work (Week 11): Creating and presenting the marketing plan of a chosen company. The marketing plans have to be submitted the day before the presentation the latest. Individual work (Week 7): Students have to analyse their own consumer habits (5-10 pages) and behaviours, and submit it in written form. The essay should contain citations from relevant scientific literature.
Description of midterm tests	The goal of the final test is to assess the students' knowledge and comprehensive understanding on the main marketing concepts, tools and strategies, and to measure and evaluate their knowledge in a system-wide context through complex problem solving. (Week 13.)

Operations and Quality Management

Subject name		In Hungarian	Termelés- és minőségmenedzsment			Szintje	A		
		In English	Operation and Quality Management			Level	A		
Subject code		DUEN-TVV-219							
Responsible educational unit		Institute for Social Sciences Department of Communication and Media							
Name of Mandatory Preliminary Study		-							
Number of Lessons							Requirements	Credits (ECTS)	Language of Education
		Lecture	Seminar	Laboratory					
Full-time	150/39	1	2	0	CA		5	English	
Correspondence	150/15	5	10	0	(Continuous assessment)				
Teacher responsible for the course		Name		Dr. Anita Varga		Position	College Professor		
Educational goals		<p>The goal of this course is to prepare the students for efficient management of the production and quality assurance. It introduces the engineering business management students to the definition, scope and role of production management in system approach. In frame of this fundamental topic the students learn the Function Matrix and its application, the basic production systems and layout and their features, the basics of the marketing and technical life cycle management of product and related production technology. To understand the production management issues, the course contains the summary of the definition, methods and hierarchical levels of control, the stages of the product structure. The second part summarize the quality management systems, standards and the history of main quality standards and some hard and soft techniques of the quality management.</p>							
Typical delivery methods		Lecture		In a classroom with the use of projector or computer in each lecture.					
		Seminar		In a classroom project work, small team and cooperative work with the use of projector or computer in each seminar.					
		Laboratory							
Requirements		<p>Knowledge overviews the system of production and quality management, has a strategic and system-oriented thinking, knows the principles, policies and processes of production and quality management teams.</p>							
		<p>Ability Students will be able to: applies the theoretical knowledge systematically in practice, manages the system components individually and in system, sketches the stages of control, implements the ISO 9001 standard, regulates basic-level processes, overviews the documentation of the quality system, manages changes, understands the professional literature, applies the definitions of the specialization professionally.</p>							
		<p>Attitude opened for the innovations of the specialization pursue continuous self-improvement Able to solve problems alone. Can tackle problems as responsible persons. Self-training ability.</p>							

	Open for cooperation with professionals on other related fields.
	Autonomy and responsibility responsible for self-training co-operates with colleagues search the solutions for problems responsible for the development of work environment takes responsible part in forming professional opinions and its explanations
Brief description of the subject content	Definition of production, production management, interpretation in system approach. Production processes and process structures. Product structure. Production structure. Construction, manufacturing, industrial specialties. Technical, economic, human and IT factors of production. Price, cost and profit functions of production. Basic documentation of the production management. Quality, value, value hierarchy. Top management activities related to the quality. Components of the quality policy. Practical factors of the enterprise quality related activities. Quality management of services and business processes. Definition and parts of TQM and TVM.
Activity forms of students	Frontal work: 40 % Individual or group work: 40% Test: 20%
Compulsory reading and its availability	[1] KUMAR, S. Anil. <i>Production and operations management</i> . Second edition, ISBN : 978-81-224-2425-6, New Age International, 2008.
Recommended reading and its availability	[2] Graeme Knowles: <i>Quality management</i> , ISBN 978-87-7681875-3, BookBoon, 2011.
Hand-in Assignments/ measurement reports	Students have to write an industrial case study in 20-25 pages.
Description of midterm tests	Mid-term written exams (2 times): theoretical questions, practical tasks.

Principles of Accounting

Subject name	In Hungarian	Számvitel alapjai				Level	A
	In English	Principles of Accounting					DUEN-TKT-217
Subject code							
Responsible educational unit		Institute for Social Sciences Department of Economics and Management Sciences					
Name of Mandatory Preliminary Study							
Number of Lessons					Requirements	Credits (ECTS)	Language of Education
	Lecture	Seminar	Laboratory				
Full-time	150/39	1	2	0	CA	5	English
Correspondence	150/15	2	10	0	(Continuous assessment)		
Teacher responsible for the course		Name		Dr.Erzsébet Szász		Position	College Professor
Educational goals		By the end of the course, students will get acquainted with the purpose, philosophy, structure, requirements and principles of the (Hungarian) Law of Accounting. They will have an overall view of the interrelations of tax systems and accounting in economic practice. They will be familiar with the materials and tools necessary for the application of accounting software programs. They will be able to understand business processes and analyze them under professional guidance.					
Typical delivery methods		Lecture		In a classroom with the use of a projector or a computer in each lecture.			
		Seminar		In a classroom with the use of a projector or a computer in each seminar.			
		Laboratory					
Requirements (expressed in learning outcomes/competencies to be acquired)		Knowledge Students know the most important context and theories of accounting and they make up the terminology. the basic knowledge acquisition and problem-solving methods of accounting					
		Ability Students will get acquainted with the purpose, philosophy, structure, requirements and principles of the (Hungarian) Law of Accounting; and they will have an overall view of the interrelations of tax systems and accounting in economic practice. They will be able to: apply accounting software programs. understand business processes analyze them under professional guidance understand economic phenomena analyze their effects on the balance and results of a business					
		Attitude Good accountants are patient, well-educated and have empathy, i.e. they can identify with the representatives of the other side and accept their opinion. Good, future-oriented bargainers respect their counterpart, are trustworthy and not aggressive. They are open and willing to cooperate discussing all points of the negotiation process, as well as express their opinion, but without disclosing any important information about the circumstances of their own company. They take responsibility for their work.					
		Autonomy and responsibility Students are expected to consider comprehensive, fundamental professional problems independently based on the literature and other recommended sources for the course.					

Engineering Management BSc

2021

	Students are open to cooperate with other professionals of the field and take responsibility for their professional stand.
Brief description of the subject content	
Activity forms of students	Weekly tests: 20% Frontal work: 30 % Individual or group work: 35% Test: 15%
Compulsory reading and its availability	Materials on MOODLE from accountingcoach.com http://www.accountingcoach.com/
Recommended reading and its availability	Accounting Principles: Finance Skills [free-management-ebook]. Full text at http://www.free-management-ebooks.com/dldebk/dlfi-principles.htm AGTARAP-SAN JUAN, Donatila (2007): Fundamentals of Accounting: Basic Accounting Principles Simplified for Accounting Students. Bloomington: Author House, 408 p. ISBN 978 1 434 32299 9 CELENDER, Michael A. (2013): Accounting Basics: Complete Guide. Create Space Independent Publishing Platform, 378 p. ISBN 978 1 482 32481 5
Hand-in Assignments/measurement reports	
Description of midterm tests	General principles, case study

Basics of Finance

Subject name		In Hungarian	Pénzügytan alapjai				Level	A
		In English	Basic of Finance					DUEN-TKT-114
Subject code								
Responsible educational unit		Institute for Social Sciences Department of Economics and Management Sciences						
Name of Mandatory Preliminary Study								
Number of Lessons						Requirements	Credits (ECTS)	Language of Education
		Lecture	Seminar	Laboratory				
Full-time	150/39		1	2	0	CA (Continuous assessment)	5	English
Correspondence	150/15		5	10	0			
Teacher responsible for the course		Name		Dr. Andrea Keszi-Szeremlei		Position	College Teacher	
Educational goals		By the end of the course the student is expected to understand the essential financial concepts and processes and to be prepared for more advanced economic, business and financial studies. The course covers a wide range of topics related to the basic concepts of finance, such as the role of the financial assets, the financial institutions and the financial system in modern economy. They learn about how the financial markets, the public budget processes and the international financial systems are functioning. They see the links between the domestic and international financial processes. They possess the basic toolbox for performing financial calculations.						
Typical delivery methods		Lecture		In a classroom with the use of projector or computer in each lecture.				
		Seminar		In a classroom with the use of projector or computer in each seminar.				
		Laboratory						
Requirements (expressed in learning outcomes/competencies to be acquired)		Knowledge Students as potential financial professionals will know: the terminology, types and principles of financial markets, institutions and decisions, the steps of effective financial performance measurement, how to implement public finance and international financial, information in individual or collective financial decision situations, how to create and claim value.						
		Ability Students will be able to: collect and analyze financial information, make financial decisions in their professional and private activities, apply professional experiences learnt during their economic, business, and financial activities to improve their financial decisions and the effectiveness of their activities.						
		Attitude Students are expected to be good at understanding financial situations, to become well-educated financial professionals with empathy, i.e. they can identify and solve financial situations with the other players of financial markets and institutions, based on financial reasoning; competent, development-oriented financial professionals, who respect their counterparts, are trustworthy and purposeful; open and willing to discuss all aspects of financial problems which they face in their activities, as well as express their opinion, but without disclosing any sensitive information about the economic, business and financial circumstances of the company or the institution where they are working.						
		Autonomy and responsibility						

Engineering Management BSc

2021

	In professional financial questions, students can understand complex financial situations, play the role of a decision-maker; are able to solve basic financial problems alone; can tackle problems as responsible persons, i.e. can decide if there is a need in a certain financial situation to cooperate with others.
Brief description of the subject content	The course makes students acquainted with the main financial concepts, financial markets, institutions, and decisions. The course presents students introductory issues of public finance and international finance, contributing to the development of their financial thinking skills.
Activity forms of students	Discussing theoretical financial concepts and case studies/applications under the tutor's guidance: 30% Solving exercises under the tutor's guidance: 40% Learning course material and doing exercises independently: 30%
Compulsory reading and its availability	Lecturer's notes available on MOODLE Study materials provided on MOODLE
Recommended reading and its availability	Pamela Peterson –Drake-Frank J.Fabozzi: The Basics of Finance, An Introduction to Financial Markets, Business Finance and Portfolio Management, The Frank J.Fabozzi Series, 665 pages, Wiley Online Library, Elérhető: http://elib.peaceland.edu.ng:8383/greenstone3/sites/localsite/collect/peacelan/index/assoc/HASHc0b1.dir/doc.pdf Eddie McLaney- Business Finance, Theory and Practice, 8th Edition, Pearson Education, Letölthető: http://www.books.mec.biz/tmp/books/E58R5U5EUTFE1SF8SBF3ZSBVUI16N6.pdf
Hand-in Assignments/ measurement reports	Submitting the study material of the presentations delivered in the seminars (10 pages, type space: 1.5, font size: 12, Times New Roman)
Description of midterm tests	The midterm in-class tests will take 120 minutes. The composition of each midterm test: quiz questions with true or false and open ended questions on theory (40%), calculations and problem solving (60%). Solutions will be accepted only with exact demonstration and comments on how the student obtained his/her results.

Project management

Subject name	In Hungarian	Projektmenedzsment				Level	A
	In English	Project management				Code	DUEN-TVV-116
Subject code							
Responsible educational unit		Institute for Social Sciences Department of Management and Enterprise Sciences					
Name of Mandatory Preliminary Study							
Number of Lessons per semester					Requirements	Credits (ECTS)	Language of Education
	Lecture	Seminar	Laboratory				
Full-time	150/39	1	2	0	CA (Continuous assessment)	5	English
Correspondence	150/15	5	10	0			
Teacher responsible for the course		Name	Dr. Anita Varga			Position	College Professor
Educational goals		<p>The goal is to develop the following student skills:</p> <ul style="list-style-type: none"> Project oriented leadership Construction project organizations Project configuration Management of project phases Process skills Project documentation system development Project controlling and monitoring system configuration Change management Project culture to achieve organizational System approach 					
Typical delivery methods		Lecture	In a classroom with the use of projector and computer in each lecture.				
		Seminar	In a classroom with the use of projector and computer in each seminar.				
		Laboratory					
Requirements		<p>Knowledge</p> <p>Students as potential project member or manager know:</p> <ul style="list-style-type: none"> the scope of project management is essential, comprehensive facts, directions and boundaries the project management professional vocabulary techniques and methods used in project management the project life cycle phases 					
		<p>Ability</p> <p>Students will be able to:</p> <ul style="list-style-type: none"> group collaboration and cooperative problem solving approach multilateral professional issues use and understand the literary sources of the project management field manage a variety of resources 					
		<p>Attitude</p> <ul style="list-style-type: none"> Good negotiators are patient, well-educated and have empathy, i.e. they can identify with the representatives of the other side and accept their opinion. Open to accommodate new innovative approaches Avoid using schemes Susceptible to development opportunities for exploitation Consider all of the professional issues An equal partner in co-operation with professional 					
		<p>Autonomy and responsibility</p> <p>In professional questions negotiators can play the role of a decision-maker and</p>					

Engineering Management BSc

2021

	are able to solve problems alone. They can tackle problems as responsible persons, i.e. can decide if it is a need in a certain negotiation phase or situation to cooperate with others.
Brief description of the subject content	The course familiarizes students with different between project and routine work. Learning about the project design and realization methods. The features of project management.
Activity forms of students	Max 10% for one individual presentation during the semester Max 20% for group work Max 30% for midterm test Max 40% for final test
Compulsory reading and its availability	Samuel J. Mantel (2008) Project Management in Practice., International Student Version, 4th Edition, John Wiley & Sons, Inc. 2011. 4th Edition, DUE Library Materials on MOODLE
Recommended reading and its availability	Kerzner, Harold (2013) Project management: a system approach to planning, scheduling and controlling, 11th ed Hoboken: John Wiley & Sons, DUE Library A Guide to the Project Management Body of Knowledge (PMBOK® Guide) Project Management Institute 2013. 5th Edition (e-book)
Hand-in Assignments/ measurement reports	Group work presentation, individual presentation
Description of midterm and final tests	Multi choice questions

General and Business Statistics

Subject name		In Hungarian		Általános és gazdasági statisztika		Level		A			
		In English		General and business statistics		Code		DUEN-TKT-211			
Subject code											
Responsible educational unit		Institute for Social Sciences Department of Economics and Management Sciences									
Name of Mandatory Preliminary Study											
Number of Lessons		Lecture		Seminar		Laboratory		Requirements		Credits (ECTS)	Language of Education
Full-time	150/39		1		0		2	CA	5	English	
Correspondence	150/15		5		0		10	(Continuous assessment)			
Teacher responsible for the course		Name		Dr. Antal Joós		Position		Associate Professor			
Educational goals		<p>Students will be aware of and able to use the electronic databases. They know and are able to use high-level statistical methods to analyse economic and social phenomena. They acquire high-level statistical tools necessary for carrying out analyses. After the course students can apply the basic statistics methods. They can prepare statistic reports necessary to understand business processes. They can make simple statistic analyses from the data available. They can apply mean, dispersion and distribution methods used for analysing quantitative data. They are capable of making and analysing PIVOT tables. They can quantify factors affecting complex economic processes by standardisation. They can apply the method of correlation calculation and variance analysis to explore relations as well as association indices. Having completed the course the students are able to use statistic databases online. They can collect, systematise, process and analyse the data needed to solve a certain task or make a decision, and present them to the decision maker in an appropriate form.</p>									
Typical delivery methods		Lecture		In a classroom with the use of projector or computer in each lecture.							
		Seminar		In a classroom with the use of projector or computer in each seminar.							
		Laboratory									
Requirements (expressed in learning outcomes/competencies to be acquired)		<p>Knowledge Students will be able to: use the electronic databases know and use statistic methods for the purpose of economic and social analysis know statistic methods to solve analysis tasks</p> <p>Ability Students will be able to: use simple statistic methods make simple statistical analysis .use mean, scatter and dispersion for analyzing quantitative data create and analyze Pivot chart use statistical databases on the internet collect, organize, process and analyze data, use a statistical software individually</p> <p>Attitude They are open to the authentic transmission and delivery of the comprehensive way of thinking and fundamental characteristics of their profession. They are curious about and interested in learning, and elementary work situation.</p>									

	Ready to share the common work and knowledge with others. Autonomy and responsibility They work independently, under constant control. Make decisions in legal and ethical rules of the field. Feel responsibility about own or group led work, about the achievements and failures
Brief description of the subject content	Basic definitions of statistics. Methods of purchasing and using data. Basic statistical operations. Simple analysis, ratios, graphical representations. Definition of multitude according to a criterion. Arrangement and classification according to quantitative criteria. Types of quantitative series. Quantitative values. Graphical representations and attributes of frequency distributions. Position indexes. Types of means. Diffusion indexes. The analysis of concentration. Shape indexes. Description of multitude according to several criteria. Description of heterogenic multitude. Part and complex ratio. Part and main means. Dispersion and variance of part and main multitude. Description of the relation between criteria. Types of relations between criteria. Association, mixed relation, correlation, rank correlation. Comparison with standardization and index calculation. Resolution of differences, resolution of quotient. Comparison of aggregates with index calculation. Aggregated types of indexes. Mean types of indexes. Laspeyres- and Paasche indexes. Price – scissors. Analysis of timelines. Decomposition timeline models. Smoothing, clearing, prognosis, cyclicity, seasonality
Activity forms of students	Weekly online tests: 20% Frontal work: 40 % Individual or group work: 20% Test: 20%
Compulsory reading and its availability	BLACK Ken: Business Statistics for contemporary decision making, Sixth edition, Letöltés: http://fac.ksu.edu.sa/sites/default/files/business-statistics-for-contemporary-decision-making-by-ken-black_1.pdf
Recommended reading and its availability	HANKE, John E. – REITSCH, Arthur G. (1991): Understanding business Statistics. Boston: Richard Irwin Inc. 878 p. ISBN 0-256-06627-2 TRIOLA, Mario F. (2012): Elementary Statistics Plus. 12th ed. Upper Saddle River: Pearson Education 864 p. ISBN 978-0-321-8369-60 FREEDMAN, David – PISANI, Robert – PURVES, Roger (2007): Statistics. 720 p. ISBN 978-0-393-92972-0 (Teljes szöveggel: http://www.e-bookspdf.org/download/statistics-4th-edition-david-freedman.html) (Letöltve: 2014. május 28.)
Hand-in Assignments/ measurement reports	Written mid-term tests (2)
Description of midterm tests	Questions concerning the basic concepts of statistics. Numerical exercises.

Strategic Planning

Subject name		In Hungarian	Stratégiai Tervezés			Szintje	A	
		In English	Strategic Planning			Level	A	
Subject code		DUEN-TVV-250						
Responsible educational unit		Institute for Social Sciences Department of Management and Enterprise Sciences						
Name of Mandatory Preliminary Study		DUEN-TVV-114 Management						
		Number of Lessons per semester				Requirements	Credits (ECTS)	Language of Education
		Lecture	Seminar	Laboratory				
Full-time	150/39	1	2	0	E (Examination)	5	English	
Correspondence	150/15	5	10	0				
Teacher responsible for the course		Name		Dr. habil Mónika Rajcsányi-Molnár		Position	College Teacher	
Educational goals		<p>The goal of the course is to develop the essential skills required of employees at the workplace and to expand students' planning skills.</p> <p>The course is designed to familiarize students with the planning processes taking place in work organizations on key information. Provided by the knowledge of the course enables the students to the need for long-term planning and the importance of understanding claim. In practical terms, students will be able to interpret theoretical knowledge of the relevant relationships to recognize.</p>						
Typical delivery methods		Lecture		In a classroom with the use of projector and computer in each lecture.				
		Seminar		In a classroom with the use of projector and computer in each seminar.				
		Laboratory		-				
Requirements		Knowledge						
		<p>Students as potential manager know and understand:</p> <ul style="list-style-type: none"> the difference between the traditional and the strategic management approach the main steps of the strategic management process and apply management methodologies the implementation of the required change management strategy, particularly sociological and psychological aspects of the organization 						
		Ability						
		<p>Students will be able to:</p> <ul style="list-style-type: none"> use the concepts of area of specialty choose the most suitable method in terms of business logic apply the methods of approaches based on the theoretical approach draw correct conclusions from the analyzes Structured, systemic problems identified, to identify cause and effect relationships. 						
		Attitude						
		<ul style="list-style-type: none"> Good negotiators are patient, well-educated and have empathy, i.e. they can identify with the representatives of the other side and accept their opinion. Open to accommodate new innovative approaches. Avoids the stereotypes. Not think schemas. 						

	<ul style="list-style-type: none"> • Susceptible development opportunities for exploitation..
	<p>Autonomy and responsibility</p> <p>In professional questions negotiators can play the role of a decision-maker and are able to solve problems alone. They can tackle problems as responsible persons, i.e. can decide if it is a need in a certain negotiation phase or situation to cooperate with others.</p>
Brief description of the subject content	The course familiarizes students with definition the strategic position of the organization (environment-, resources-- and analysis of the stakeholder). The strategic decision. Corporate and business level strategies. The strategic portfolio analysis. Implementation of the strategy, organizational development and change management.
Activity forms of students	30% Student-workbook 30% mid-term test 30% final test 10% Individual presentation
Compulsory reading and its availability	<ul style="list-style-type: none"> • Robert M. Grant & Judith Jordan (2012) Foundations of Strategy, John Wiley & Sons, Inc. DUE Library • Materials on MOODLE
Recommended reading and its availability	<ul style="list-style-type: none"> • Art of War, Sun-Tzu (e-book) • Blue Ocean Strategy, Kim Chan & Renee Mauborgne, Harvard Business Review Press; 1st edition 2005. • Business Model Generation, Alexander Osterwalder & Yves Pigneur 2010. • Hand-outs from the lecturer, case studies, additional materials (Moodle)

Thesis Research – Research Methodology

Subject name	In Hungarian	Szakdolgozat – kutatómódszertan			Szintje	A
	In English	Thesis research – research methodology			Level	A
Subject code		DUEN-TVV-090				
Responsible educational unit		Institute for Social Sciences Department of Economics and Management Sciences				
Name of Mandatory Preliminary Study						
Number of Lessons				Requirements	Credits (ECTS)	Language of Education
	Lecture	Seminar	Laboratory			
Full-time		0	0	0	Signature)	English
Correspondence		0	0	0		
Teacher responsible for the course		Name	Dr. Anita Varga		Position	Colleague Professor
Educational goals		The goal of the course is to develop the essential research skills required to thesis writing, that is a compulsory task for graduation. The course enables students to find comprehensive solutions to practical problems, as well as to present the findings of their thesis research in a clear and convincing way, both in oral and in writing. The course familiarizes students with various ways of conducting a research, making a questionnaire, carrying out a qualitative interview research. The course will teach students to note down their research results either in a descriptive or numerical way.				
Typical delivery methods		Lecture	group activity			
		Seminar				
		Laboratory				
Requirements (expressed in learning outcomes/competencies to be acquired)		<p>Knowledge</p> <p>Students as potential graduates know:</p> <p>how to create a questionnaire</p> <p>how to analyze and critically evaluate secondary literature</p> <p>the most important terminology and definition required for a successful thesis writing</p> <p>the most important scientific interconnections within the field of economics</p> <p>Ability</p> <p>Students will be able to:</p> <p>analyze the knowledge system that characterizes economic research</p> <p>learn, understand and apply the library resources and the scientific literature of the field of economics</p> <p>Attitude</p> <p>Successful researchers have an open-minded and impartial attitude towards newest findings, are good listeners and thinkers at the same time. Have an opinion on newest trends and a critical view on old findings of economy.</p> <p>Autonomy and responsibility</p> <p>Independently analyze professional questions and think through scientific findings.</p> <p>In professional questions is characterized by cooperation and responsibility towards the members of professional sphere. Students can tackle problems alone they encounter throughout the research phase.</p>				
Brief description of the subject content		<p>The course familiarizes students with news trends of research methodology. The course presents the available thesis writing regulations, norms and criteria in compliance with University requirements.</p> <p>The course contains a thorough description and explanation of sampling, research question types, open ended questions and research scales. The planning and structuring of qualitative interview research. Data analysis, research evaluation.</p>				
Activity forms of students		Research data analysis				

Engineering Management BSc

2021

	<p>Frontal work Individual or group work Weekly consultations</p>
Compulsory reading and its availability	Babbie, Earl (2013) The Practice of Social Research. Wadsworth 13th edition
Recommended reading and its availability	MURRAY, Rowena (2011): How to Write a Thesis. 3rd ed. Milton Keynes: Open Univ. Press 384 p. ISBN 978 0 335 24428 7.
Hand-in Assignments/ measurement reports	<p>Weekly personal consultation with the supervisor Discussion about each prepared chapter Submission of thesis until the deadline required in the University's exam schedule Preparation of the research questionnaire. Defining the hypothesis.</p>
Description of midterm tests	During week 13 a presentation about a chosen topic.

Environmental Protection and Energy Management

Subject name		Hungarian		Környezetvédelem és energiagazdálkodás			Level	A					
		English		Environmental Protection and Energy Management			Code	DUEN(L)-MUT-110					
Responsible educational unit				Institute of Engineering									
Name of prerequisite subject													
Type		Class hours / week					Requirements	ECTS	Language of instruction				
		Lecture	Seminar	Laboratory									
Full time course	150/39	2	0	1			CA	5	English				
Long distance course	150/15	per Semester	10	per Semester	0	per Semester				5			
Teacher responsible for subject				Name		Dr.Endre Kiss		Position	College Teacher				
Educational goal (competencies to be acquired)				Students will get acquainted with the basic principles and general issues of environmental protection, the technologies of abatement and the elimination of pollutants.									
Typical transfer ways				Lecture		In a classroom with the use of projector or computer in each lecture.							
				Seminar		In a classroom with the use of projector or computer in each seminar with max. 20 students							
				Laboratory		Presentations and exercises in a workshop							
				Other									
Requirements (expressed in educational results)				Knowledge									
				Students will know the basic terms of cutting processes know the type and features of cutting able to do calculation of machining time and cost analysis able to do calculation of dimensional chain									
				Ability									
				They are able to use the obtained skills even few years later, in real situations									
				Attitude									
				Open-minded for the mechanical innovation on their field.									
				Autonomy and Responsibility									
				Responsible for their results.									
				Brief description of the subject content				Basics of ecology. The purpose and fundamental issues of environment protection. The biological and geological environment. Cycles. The atmosphere. The most important pollutants of air. The properties of dust pollution in the air. The general properties of dust collection. Settling chambers and collectors with flow direction transformation. Cyclones. Basics of bag filters. Operating and cleaning of bag filters. Introduction of electrostatic precipitators. Bag filters with electrostatic charging and their possibilities of applications. Electrostatic precipitation with pulse energisation, abatement and decomposition of gases. Absorption and adsorption processes. Scrubbers. Oxidation methods. Burning technologies. Odor abatement. The measurement of air pollution. The properties of natural waters and their pollution, self cleaning. Water treatment technologies and their equipments. The pollution of soil. Waste and waste treatment. Noise and vibration as environmental pollution. Radioactive pollution. Basics of energy management. Renewable energies.					
								Forms of student activity				Assimilation of the theoretical material with assistance: 5 % Assimilation of the theoretical material without assistance: 40 % Problem solving with assistance: 15 %	

Engineering Management BSc

2021

	Problem solving without assistance: 40 %
Compulsory reading and its availability	1. Ecology and Environmental Protection, selected chapters (on O drive) 2. Environmental Science Toward a Sustainable Future Richard T. Write, Bernard J. Nebel, Prentice Hall
Recommended reading and its availability	3. The Biosphere, Ian Bradbury, Belhaven Press 4. Air Pollution, Its Origin and Control, Kenneth Wark and Cecil F. Warner, Harper and Row 5. Hazardous Waste Management Michael D. LaGrega, McGraw Hill 6. Drinking Water Quality, N.F. Gray, Wiley

Human Resource Management

Subject name		In Hungarian	Emberi erőforrás menedzsment				Level	A	
		In English	Human Resource Management					DUEN-TVV-111	
Subject code									
Responsible educational unit		Institute for Social Sciences Department of Management and Enterprise Sciences							
Name of Mandatory Preliminary Study									
Number of Lessons per semester						Requirements	Credits (ECTS)	Language of Education	
		Lecture	Seminar		Laboratory				
Full-time	150/ 39	1			2	0	CA (Continuous assessment)	5	English
Correspondence	150/ 15	5			10	0			
Teacher responsible for the course		Name		Dr. habil Mónika Rajcsányi-Molnár			Position	College Teacher	
Educational goals		<p>The goal of the course is to develop the essential skills required of employees at the workplace and to expand students' HR management skills.</p> <p>The course broadens the students' knowledge and gives abilities to manage the labor market institutions and policies, workplace and labor market characteristics, the system of labor relations, competence and motivation management, personnel management activities, organizational behavior, organizational communication, human resource management case studies, occupational safety and health project management.</p>							
Typical delivery methods		Lecture		In a classroom with the use of projector or computer in each lecture.					
		Seminar		In a classroom with the use of projector or computer in each seminar.					
		Laboratory							
Requirements		<p>Knowledge</p> <p>The students know the basic facts, relationships, boundaries, limitations in human resource management (HRM) system of knowledge and activity.</p> <p>They know and understand the processes and procedures for the modalities of human activities.</p> <p>They familiar with the business of manufacturing and service processes, human and social relationships, their impact on human resources.</p> <p>knows that a key element in the prosperity of the people working successfully</p> <p>Ability</p> <p>The students can apply the analyzing methods and tasks (planning, organizing, and thinking in alternatives, inspection) on theoretical and practical grounds.</p> <p>They are able to achieve the tasks assigned to them without control and inspection. They can plan, schedule and complete the tasks within their scope of responsibility.</p> <p>They can make the suggestions and decisions and take measures required for successfully solving a task within their own scope of competence.</p> <p>They are capable of understanding the cause-result relationship and using analyzing skills in the activity chain of planning-organizing-decision preparing-decision-making</p> <p>They can apply the roles connected to employment and use and utilize managerial competences.</p> <p>They are able to formulate an opinion of their own, deliver and defend it.</p> <p>Attitude</p> <p>Good negotiators are patient, well-educated and have empathy, i.e. they can identify with the representatives of the other side and accept their opinion.</p> <p>Good, future-oriented bargainers respect their counterpart, are trustworthy and not aggressive.</p> <p>It takes into account the employment practices of legal, ethical and professional rules.</p> <p>Susceptible to accommodate new information, new tasks that require collaboration.</p> <p>Considers it important for individual career planning.</p> <p>It strives to lifelong learning and help the staff as well.</p>							

	<p>Autonomy and responsibility</p> <p>In professional questions negotiators can play the role of a decision-maker and are able to solve problems alone. They can tackle problems as responsible persons, i.e. can decide if it is a need in a certain negotiation phase or situation to cooperate with others.</p> <p>Ability to select its own staff, taking into account the specified criteria.</p> <p>Ability to independently supply the areas it controls human processes.</p> <p>Sense of responsibility for subordinates working fellow.</p>
Brief description of the subject content	<p>Evolution of the human resource management. Environmentally determination of HRM. The HRM place in the organizational structure. The HRM's activities and tasks. Job planning, analysis, competency models. Career management, career planning alignment of individual and organizational career opportunities. The workforce training and development opportunities. Performance evaluation and feedback management. Compensation and incentive systems. Industrial relations system. Management of organizational changes. New trends in HRM practice.</p>
Activity forms of students	<p>Pair work presentation</p> <p>Group work (case study analysis)</p>
Compulsory reading and its availability	<p>David Campbell & Tom Craig (2011): Organisation and the Business Environment, Second edition, Routledge Publishing, USA</p> <p>Materials on Moodle</p> <p>Handouts from the lecturer</p>
Recommended reading and its availability	<p>TORRINGTON, Derek – HALL, Laura – TAYLOR, Stephen (2005): Human Resource Management. Pearson Education Limited, Essex, England.810 p. ISBN 978-0-273-68713-9</p> <p>ARMSTRONG, Michael (2009): A handbook of Human Resource Management Practice, 11th ed. London: Kogan Page 1062 p. ISBN 0-7494-4631-5</p> <p>http://www.academia.edu/1418840/ARMSTRONGS_HANDBOOK_OF_HUMAN_RESOURCE_MANAGEMENT_PRACTICE</p>
Hand-in Assignments/ measurement reports	<p>Students have to take a final test</p>
Description of final test	<p>Multi-choice questions</p>

Thesis Writing - MMENBSC

Subject name		In Hungarian	Szakdolgozat			Szintje	A
		In English	Thesis Writing			Level	A
Subject code		DUEN-TVV-091					
Responsible educational unit		Institute for Social Sciences Department of Economics and Management Sciences					
Name of Mandatory Preliminary Study		Thesis research – research methodology					
		Number of Lessons			Requirements	Credits (ECTS)	Language of Education
		Lecture	Seminar	Laboratory			
Full-time	150/13	1	0	0	S (signature)	15	English
Correspondence	150/5	5	0	0			
Teacher responsible for the course		Name		Dr. Anita Varga		Position	College Professor
Educational goals		To enable the students to the practical approach to complex problems, relieve stress, and awareness of written and oral, persuasive presentation, presentation. By the end of the semester, students should be able to: - identify problems, the main problem is the selection - to discover the cause of the problem analysis, - Set the target to be achieved, and the award criteria - alternatives / solutions of preliminary proposals drawn up - to evaluate selected alternatives / recommendations of the "best", decision to initiate, and to demonstrate the expected effects of the proposals - the decision is made in the export plan - manage the changes.					
Typical delivery methods		Lecture		In a classroom with the use of projector or computer in each lecture.			
		Seminar		-			
		Laboratory		-			
Requirements		<p>Knowledge</p> <p>Students as future managers know by the end of course:</p> <ul style="list-style-type: none"> • how to describe a firm from managerial aspect • how to analyse complex situation and problem • the most important manager tools for analyses • how to present their results and ideas so as to convince their future bosses <p>Ability</p> <p>Students will be able:</p> <ul style="list-style-type: none"> • to plan their work, • to take the necessary steps, • to evaluate their results, • to finish their tasks by deadline, • to identify and solve the problems of organizations • to apply the learning materials in practice • to communicate effectively with their supervisors • to work individually • to report their work both verbally and orally with presentations as well <p>Attitude</p> <p>They are open and willing to discuss all points of the cases, as well as express their opinion, but without disclosing any important information about the circumstances of their own company. They have sensibility to find potentials for development.</p>					

	<p>Autonomy and responsibility</p> <p>Students feel responsibility for both their development and environment. They cooperate with each other. They have sensibility to find possible resolving opportunities for problems.</p>
Brief description of the subject content	<p>Preparation for practical work. Bibliography research. Methods of data and information collection (document analysis interview, questionnaires) and their presentation and interpretation. Introduction of work organisation and the organisation having the problem with managerial approach. Presentation of the effect of the selected alternative, implementation as change. Formal requirements, supervisor's report.</p>
Activity forms of students	<p>Individual or group work: 60% Others: 40%</p>
Compulsory reading and its availability	<ul style="list-style-type: none"> • Earl R. Babbie (2013) The Practice Of Social Research. 13th Edition, Cengage, DUE Library • Evans, David, Gruba, Paul, Zobel, Justin (2014) How to Write a Better Thesis. Springer, DUE Library • Materials on MOODLE
Recommended reading and its availability	<ul style="list-style-type: none"> • Don E. Ethridge (2004) Research Methodology in Applied Economics 2nd Edition, Wiley, DUE Library

Professional Practice - MMENBSc

Subject name		In Hungarian	Szakmai gyakorlat			Szintje	A
		In English	Professional Practise			Level	A
Subject code		DUEN-TVV-093					
Responsible educational unit		Institute for Social Sciences Department of Economics and Management Sciences					
Name of Mandatory Preliminary Study		min 170 credit points from the courses of 1 st -6 th semesters					
		Number of Lessons			Requirements	Credits (ECTS)	Language of Education
		Lecture	Seminar	Laboratory			
Full-time	0	0	0	0	S (signature)	0	English
Correspondence	0	0	0	0			
Teacher responsible for the course		Name		Dr. Anita Varga		Position	College Professor
Educational goals		<p>Introduction of general rules of research work and relevant regulations of the University.</p> <p>By the end of the course the student will be able to:</p> <ul style="list-style-type: none"> - make a work plan, evaluating the discrepancies, and take the necessary measures, timely performance of tasks, - work in organizations to identify problems and resolve, - do the proper application of lessons learned, professionals to communicate effectively, - to edit a questionnaire, a survey conducted, and evaluated the questionnaires; - to determine the proper sample, group to organize a group and apply the methods of identifying problems, exploring the causes, ideas, suggestions for the collection; - get to know the message of professional, managerial style, drawn, the practice / preparation process of the thesis statement made; - do processes and activities to represent - awareness, compliance and convincing presentation. 					
Typical delivery methods		Lecture		In a classroom with the use of projector or computer in each lecture.			
		Seminar		-			
		Laboratory		-			
Requirements		<p>Knowledge</p> <p>Students as future managers know by the end of course:</p> <ul style="list-style-type: none"> • how to describe a firm from managerial aspect • how to analyse complex situation and problem • the most important manager tools for analyses • how to present their results and ideas so as to convince their future bosses <p>Ability</p> <p>Students will be able:</p> <ul style="list-style-type: none"> • to plan their work, • to take the necessary steps, • to evaluate their results, • to finish their tasks by deadline, • to identify and solve the problems of organizations • to apply the learning materials in practice • to communicate effectively with their supervisors • to work individually and in team • to report their thesis writing process in professional way and style about the detected mistakes and problems so as to suggest developing opportunities 					

	<p>Attitude</p> <p>They are open and willing to discuss all points of the cases, as well as express their opinion, but without disclosing any important information about the circumstances of their own company. They have sensibility to find potentials for development.</p>
	<p>Autonomy and responsibility</p> <p>Students feel responsibility for both their development and environment. They cooperate with each other. They have sensibility to find possible resolving opportunities for problems.</p>
<p>Brief description of the subject content</p>	<p>The student fulfils his/her internship according to his/her study program and specialisation. The internship place has to guarantee the necessary human and technological conditions, which fits the position of student's specialisation.</p>
<p>Activity forms of students</p>	<p>Individual work</p>
<p>Compulsory reading and its availability</p>	<p>-</p>
<p>Recommended reading and its availability</p>	<p>-</p>

Packaging Technology

Subject name	In Hungarian	Csomagolóstechnika					Szintje	A
	In English	Packaging technology					Level	A
Subject code		DUEN-TVV-110						
Responsible educational unit		Institute for Social Sciences Department of Management- and Entrepreneurial Sciences						
Name of Mandatory Preliminary Study								
		Number of Lessons			Requirements	Credits (ECTS)	Language of Education	
	Lecture	Seminar	Laboratory					
Full-time	150/ 39	2	1	0	CA (Continuous assessment)	5	English	
Correspondence	150/ 15	10	5	0				
Teacher responsible for the course		Name	Dr. Levente Rádai			Position	College Professor	
Educational goals		Practical knowledge of the most important packaging technologies and techniques at application level. The aim is for the manager's assistants to be able to consider the technical and economic effects of packaging and the ways of solutions during the above tasks. They should find the location of the activities in the corporate logistics system taking professional and legal requirements into account. They should be able to recognize industrial application tasks and stand alone to match corporate, logistical and environmental requirements.						
Typical delivery methods		Lecture	In a classroom with the use of projector or computer in each lecture.					
		Seminar	In a classroom project work, small team and cooperative work with the use of projector or computer in each seminar.					
		Laboratory						
Requirements		Knowledge:						
		<ul style="list-style-type: none"> • The students know the definition of packaging technology • They are familiar with the mechanisms of operation of packaging technology. • They know the packaging technology of the companies and their operations. 						
		Ability:						
		Students are able to use the terminology of the field properly. They are able to identify and specify companies' packaging resources. They are able to realize the company's packaging technology base. They are able to understand and use the relevant literature of packaging technology.						
		Attitude:						
		<ul style="list-style-type: none"> • opened for the innovations of the specialization, • pursue continuous self-improvement, • able to solve problems alone, • can tackle problems as responsible persons, • self-training ability, • open for cooperation with professionals on other related fields. 						
		Autonomy and responsibility:						
		<ul style="list-style-type: none"> • responsible for self-training, • co-operates with colleagues, • search the solutions for problems, • responsible for the development of work environment, • take responsible part in forming professional opinions and its explanations. 						

Brief description of the subject content	The logistics role, appearance, functions and regulation of packaging. The means and methods of unit load training. Reverse logistics. Categorization of the loads of goods, goods protection solutions in general and in particular for groups of goods. Goods handling signs. The advantages and disadvantages of using different packaging materials. Product Systems, Global Identification and Communication Standards for Product Identification and Product Tracking. Requirements for labeling of dangerous goods packaging, marking systems, packing groups, type-examination requirements for packaging constructions, IBCs, refurbished, remedial and large packagings. Packaging and packing conditions for dangerous goods. Marking and Labeling of shipment units. Obligations of loading and handling, filling, packing, and tank operations.
Activity forms of students	Assimilation of the theoretical material with assistance: 17 % Assimilation of the theoretical material without assistance: 17 % Problem solving with assistance: 17 % Problem solving without assistance: 49 %
Compulsory reading and its availability	Anne Emblem (szerk): Packaging Technology: Fundamentals, Materials and Processes, Woodhead Publishing Limited, 2012, https://books.google.hu/books?id=H9pkAgAAQBAJ&printsec=frontcover&dq=packaging+technology&hl=hu&sa=X&ved=0ahUKEwiR1rmp9fjaAhXRZVAKHWTYBWoQuwUIHzAE#v=onepage&q=packaging%20technology&f=false Kit L. Yam (szerk): The Wiley Encyclopedia of Packaging Technology, Third edition, Wiley, https://books.google.hu/books?id=LW1lxnnMi94C&printsec=frontcover&dq=packaging+technology&hl=hu&sa=X&ved=0ahUKEwiR1rmp9fjaAhXRZVAKHWTYBWoQ6AEIDjAB#v=onepage&q=packaging%20technology&f=false
Recommended reading and its availability	S. NATARAJAN, M. GOVINDARAJAN, B. KUMAR: FUNDAMENTALS OF PACKAGING TECHNOLOGY, Second Edition, PHI Learning Private, Delhi-110092, 2015, https://books.google.hu/books?id=4j1IBQAAQBAJ&printsec=frontcover&dq=packaging+technology&hl=hu&sa=X&ved=0ahUKEwiR1rmp9fjaAhXRZVAKHWTYBWoQ6AEIKTAG#v=onepage&q=packaging%20technology&f=false

Analysis of Business Cases

Subject name		In Hungarian	Üzleti esettanulmányok elemzése			Szintje	A		
		In English	Analysis of Business Cases			Level	A		
Subject code		DUEN-TVV-119							
Responsible educational unit		Institute for Social Sciences Department of Economics and Management Sciences							
Name of Mandatory Preliminary Study		-							
Number of Lessons							Requirements	Credits (ECTS)	Language of Education
		Lecture	Seminar	Laboratory					
Full-time	150/39	1		2	0	CA	5	English	
Correspondence	150/15	5		10	0	(Continuous assessment)			
Teacher responsible for the course		Name		Dr. Anita Varga		Position	College Professor		
Educational goals		By the end of the course the students have more knowledge in social sciences. They will collect methodological skills and will have the necessary professional and general education. With their economic, business, management and sociological skills they will be able to analyse different markets and maintain a company's competitive advantage.							
Typical delivery methods		Lecture		In a classroom with the use of projector or computer in each lecture.					
		Seminar		Flipchart, blackboard and other multimedia equipment in smaller seminar rooms suitable for group work					
		Laboratory		-					
Requirements		Knowledge Students will have the necessary knowledge both in professional and general fields, know how to combine their economic, business, management and sociological skills, know the domestic business models and some special types of innovation.							
		Ability Students will be able to investigate business problems with a board view, to identify the synergy structure of business activity, to apply both theoretical and practical analysing systems and tasks (planning, managing, using alternatives, control), to use in practice the process of planning – managing –preparation of decision – decision-making – control and handle its cause-effect relation in competitive situation.							
		Attitude They are open and willing to discuss all points of the cases, as well as express their opinion, but without disclosing any important information about the circumstances of their own company. They have sensibility to find potentials for development.							
		Autonomy and responsibility Students feel responsibility for both their development and environment. They cooperate with each other. They have sensibility to find possible resolving opportunities for problems.							
Brief description of the subject content		The value chain and creation of double value both for buyers and suppliers. The technical and economic connections of value chain. The customer value and logistic buyer satisfaction. The customer value and the internet. The supply chain: system (network) of business relationships. The role of suppliers. Potential suppliers and the internet. Evaluation of suppliers, the criteria of supplier evaluation in internet. Strategic procurement. The methods and							

Engineering Management BSc

2021

	importance of demand anticipation in production logistics. Resource planning systems with buyer's cooperation. Management of customer relationship (CRM). The criteria of CRM systems (soft wares). The importance of services and its logistic problems. International transport. Competitiveness and supply chain management. Integration of supply chain. Measurement of supply chains. Tendencies in supply chain management.
Activity forms of students	Case study analysis, Presentations, Individual work, Frontal class work, Essay writing
Compulsory reading and its availability	Foley, James F. (2013) The global entrepreneur: taking your business international. 3 rd ed. Jamric Press Internat, DUE Library Thierry Burger-Helmchen (ed) (2012) Entrepreneurship - Creativity and Innovative Business Models. InTech. ISBN 978-953-51-0069-0 Materials on MOODLE
Recommended reading and its availability	W. Chan Kim – Renee A. Mauborgne (2015) Blue Ocean Strategy, Expanded Edition: How to Create Uncontested Market Space and Make the Competition Irrelevant. Harvard Business Review Press Marc A. Annacchino, P.E. (2003) New Product Development From Initial Idea to Product Management. Elsevier Inc. ISBN: 978-0-7506-7732-5 Peter Thiel - Blake (2014) Master Zero to One: Notes on Startups, or How to Build the Future. Crown Business, DUE Library
Hand-in Assignments/ measurement reports	Processing and analysis of 2 case studies with suggestions as well. The teams choose the cases. (On week 8 th and 10 th)
Description of midterm tests	Midterm test on week 12 th . Supplementary test on week 13 th .

Enterprise Information Systems

Subject name		In Hungarian	Vállalati információs rendszerek			Szintje	A	
		In English	Enterprise Information Systems			Level	A	
Subject code		DUEN-TVV-120						
Responsible educational unit		Institute for Social Sciences Department of Management and Enterprise Sciences						
Name of Mandatory Preliminary Study		DUEN-TVV-220 Business Economics DUEN-ISF-010 Informatics						
		Number of Lessons				Requirements	Credits (ECTS)	Language of Education
		Lecture	Seminar	Laboratory				
Full-time	150/39	1	0	2	CA (Continuous assessment)	5	English	
Correspondence	150/15	5	0	10				
Teacher responsible for the course		Name				Position		
Educational goals		<p>The target of this course is to introduce the students to the enterprise information systems in basic business process approach. The course contains the types, role, and tasks of enterprise information systems and basic knowledge of selecting, implementing, operating and extending these systems.</p> <p>The course enforces the students in the knowledge of system approach, highlights the importance of information management in the business processes.</p> <p>Performing the course, students will be able to navigate in the operative information flow and information management of enterprises and work in teams for implementation, development and connection to other internal and external enterprise information systems.</p>						
Typical delivery methods		Lecture	In a classroom with the use of projector or computer in each lecture.					
		Seminar	In a classroom project work, small team and cooperative work with the use of projector or computer in each seminar.					
		Laboratory						
Requirements		<p>Knowledge</p> <ul style="list-style-type: none"> • overviews the functionalities, architecture, data and process model of standard ERP systems, • has a strategic and system-oriented thinking, • knows the principles, policies and processes in extended enterprise information systems and related business and logistic processes. <p>Ability:</p> <ul style="list-style-type: none"> • applies the theoretical knowledge systematically in practice, • manages the system components individually and in system, • can work and support team in implementation projects of enterprise information systems, • regulates basic-level business processes by enterprise information systems, • overviews the documentation of enterprise information systems and the related software, • understands the professional literature, • applies the definitions of the specialization professionally. <p>Attitude</p> <ul style="list-style-type: none"> • opened for the innovations of the specialization, • pursue continuous self-improvement, • able to solve problems alone, • can tackle problems as responsible persons, • self-training ability, • opened for cooperation with professionals on other related fields. <p>Autonomy and responsibility</p>						

	<ul style="list-style-type: none"> • responsible for self-training, • co-operates with colleagues, • search the solutions for problems, • responsible for the development of work environment, • takes responsible part in forming professional opinions and its explanations.
Brief description of the subject content	<p>The role, place, history, types, integration and general requirements of enterprise information systems in the enterprise. Introduction to a certain enterprise information system and the basic use of it. General system architectures, technologies, functions, data structures and data manipulation.</p> <p>ERP systems, standard systems. SRM, CRM, SCM systems. Functional structure of ERP systems. Organizational structure, Master data, Transactional data and Document flow concept. Type, hierarchy, state and life cycle of the documents.</p> <p>The sales and distribution, procurement, production planning and execution, financial and human capital management functional modules. Order-to-Cash case, Procure-to-Pay, Plan-to-Produce. Controlling and operative decision support. Office automation systems. Management information systems. Selecting and customizing standard ERP systems. Business modelling techniques.</p>
Activity forms of students	<p>Theoretical knowledge acquiring with tutor 30%</p> <p>Individual knowledge acquiring 25%</p> <p>Practical tasks and complex work with tutors 15%</p> <p>Individual practical tasks and complex work 30%</p>
Compulsory reading and its availability	<p>[1] Simha R. Magal (Author), Jeffrey Word (Author): Integrated Business Processes with ERP Systems 1st Edition, ISBN-13: 978-0470478448, Wiley&Sons, 2012</p> <p>[2] SAP University Alliances: Introduction to the ERP system by GBI, version 3.0, 2016</p>
Recommended reading and its availability	-

Business Logistics

Subject name		In Hungarian	Vállalati logisztika			Szintje	A
		In English	Business Logistics			Level	A
Subject code		DUEN-TVV-121					
Responsible educational unit		Institute for Social Sciences Department of Management and Enterprise Sciences					
Name of Mandatory Preliminary Study		Basics of Logistics DUEN-TVV-212					
		Number of Lessons			Requirements	Credits (ECTS)	Language of Education
		Lecture	Seminar	Laboratory			
Full-time	150/39	1	2	0	CA	5	English
Correspondence	150/15	5	10	0			
Teacher responsible for the course		Name		Dr. Levente Rádai		Position	College Professor
Educational goals		The goal of the course is to highlight the importance of business logistics within an organization, and to provide a broad overview of the main processes, methodologies and strategies applied in business logistics. By the end of the course, students will be able to plan, operate and analyse information and material management processes, and they will be able to recognize and apply strategic and operational tools during planning and execution of logistics activities					
Typical delivery methods		Lecture		Flipchart, blackboard and other multimedia equipment in auditorium			
		Seminar		Flipchart, blackboard and other multimedia equipment in smaller seminar rooms suitable for group work.			
		Laboratory					
Requirements		Knowledge					
		By the end of the course, students will <ul style="list-style-type: none"> • understand the basic concepts of business logistics • know the necessary operation mechanisms to successfully manage business logistics activities • be familiar with the internal and external factors influencing logistics activities • know the main strategies and techniques applied in business logistics 					
		Ability					
		Students will be able to: <ul style="list-style-type: none"> • Use and apply the basic terms and vocabulary of the profession with confidence • Synthesize and organize their knowledge and apply it in the appropriate situations • Identify the main resources in business logistics • Apply the strategic planning tools used in business logistics • Use and apply the literature of the profession with confidence 					
Requirements		Attitude					
		Students should be: <ul style="list-style-type: none"> • Open to classroom case studies, and to the active interpretation of discussed situations. • Sensitive and critical towards theoretical and practical innovation • Susceptible to development opportunities for exploitation. 					
Requirements		Autonomy and responsibility					
		Responsible for his/her own development.					

Engineering Management BSc

2021

	<p>Cooperate with the instructor and fellow students, seeks to solve the discussed problems.</p> <p>Feel responsible for the development of his/her working environment</p>
Brief description of the subject content	<p>Concepts and strategic value of business logistics. Information flow within the company. Logistics and production planning. Warehousing, purchasing, inventory management. Inbound and outbound logistics. Information and ICT in logistics</p>
Activity forms of students	<p>Case study analysis, Presentations, Individual work, Frontal class work, Group work, role play</p>
Compulsory reading and its availability	<ul style="list-style-type: none"> • Gourdin, K: Global Logistics management: A competitive advantage for the 21st century, 2nd edition, Wiley-Blackwell, 2006, DUE Library, ISBN-13: 978-1405127134, ISBN-10: 1405127139 • Ghiani, G. – Laporte, G. – Musmano, R.: Introduction to logistics systems management, Wiley, 2013, DUE Library, ISBN-13: 978-1119943389, ISBN-10: 1119943388 • Materials on MOODLE
Recommended reading and its availability	<ul style="list-style-type: none"> • Blanchard, D.: Supply chain management best practices, Wiley, 2008, DUE Library, ISBN-10: 0470531886, ISBN-13: 978-0470531884 • Szegedi, Z.: Case studies to logistics management, Kossuth, 2008, DUE Library, ISBN: 9789630957922

Logistic Information Systems

Subject name		In Hungarian	Logisztikai információs rendszerek			Szintje	A
		In English	Logistic Information Systems			Level	A
Subject code		DUEN-TVV-213					
Responsible educational unit		Institute for Social Sciences Department of Management and Enterprise Sciences					
Name of Mandatory Preliminary Study		DUEN-TVV-120 Enterprise Information Systems					
		Number of Lessons			Requirements	Credits (ECTS)	Language of Education
		Lecture	Seminar	Laboratory			
Full-time	150/39	1	0	2	CA (Continuous assessment)	5	English
Correspondence	150/15	5	0	10			
Teacher responsible for the course		Name				Position	
Educational goals		The course aims the introduction of the detailed information flow and implementing informations systems of logistic processes within the enterprise and between the enterprises in supply chains and networks, types, roles, general tasks, applied system architectures and technologies. Moreover the course focuses on the practical use of these systems, so by performing it, the students will be able to identify and use the general functions, data structures and data manipulation in logistic information systems independently from the software product and manufacturer, and to work efficiently in team designing and implementing logistic information systems.					
Typical delivery methods		Lecture		In a classroom with the use of projector or computer in each lecture.			
		Seminar		In a classroom project work, small team and cooperative work with the use of projector or computer in each seminar.			
		Laboratory					
Requirements		Knowledge					
		<ul style="list-style-type: none"> • overviews the system of logistic information systems and related modules of standard ERP systems, • has a strategic and system-oriented thinking, • knows the principles, policies and processes in logistic information systems and related business and logistic processes. 					
		Ability:					
		<ul style="list-style-type: none"> • applies the theoretical knowledge systematically in practice, • manages the system components individually and in system, • sketches the stages of control, • can work and support team in implementation projects of logistic and enterprise information systems, • regulates basic-level logistic processes by logistic information systems, • overviews the documentation of logistic information systems and the related software, • understands the professional literature, • applies the definitions of the specialization professionally. 					
		Attitude					
		<ul style="list-style-type: none"> • opened for the innovations of the specialization, • pursue continuous self-improvement, • able to solve problems alone, • can tackle problems as responsible persons, 					

	<ul style="list-style-type: none"> • self-training ability, • open for cooperation with professionals on other related fields.
	<p>Autonomy and responsibility</p> <ul style="list-style-type: none"> • responsible for self-training, • co-operates with colleagues, • search the solutions for problems, • responsible for the development of work environment, • take responsible part in forming professional opinions and its explanations.
Brief description of the subject content	Definition, requirements, history, integration and implementation of logistic information systems within standard ERP systems and in wide supply chain management environment regarding to the supplier and customer relationship management systems. Integration of automated data acquiring, IoT, Industry 4.0, fleet tracking, warehouse management systems.
Activity forms of students	Theoretical knowledge acquiring with tutor 30% Individual knowledge acquiring 25% Practical tasks and complex work with tutors 15% Individual practical tasks and complex work 30%
Compulsory reading and its availability	[1] SAP University Alliances Introduction to the ERP system by GBI, version 3.0, 2016
Recommended reading and its availability	[2] Simha R. Magal (Author), Jeffrey Word (Author): Integrated Business Processes with ERP Systems 1st Edition, ISBN-13: 978-0470478448, Wiley&Sons, 2012

Logistic Management

Subject name		In Hungarian	Logisztikai menedzsment			Szintje	A
		In English	Logistic Management			Level	A
Subject code		DUEN-TVV-214					
Responsible educational unit		Institute for Social Sciences Department of Economics and Management Sciences					
Name of Mandatory Preliminary Study		Business logistics DUEN-TVV-121					
		Number of Lessons			Requirements	Credits (ECTS)	Language of Education
		Lecture	Seminar	Laboratory			
Full-time	150/39	2	1	0	CA (Continuous assessment)	5	English
Correspondence	150/15	10	5	0			
Teacher responsible for the course		Name		Dr. Levente Rádai		Position	College Professor
Educational goals		<p>Today one of the strategic important aspects of organizational competitiveness is the management of actors in supply chain. That's why the basic aim of this course is to develop a certain attitude. After the course the students will be able to approach and understand supply chains as a whole. They will understand that the base of logistic service is awareness of the buyer's value and to apply for this value. This correspondence is the key of business success and in most cases it can be realised only with cooperation with other firms. The supply chain can ensure a frame for this cooperation, if the members of supply chain realize this and have the competences to use this possibility. The learning material enable the students to analyse and identify the connections in supply chains; to define the criteria of supply chains and networks in different sectors; to avoid or decrease the negatives of bullwhip effect.</p> <p>The course is the last course of the Logistic Specialisation, which gives a board view because it focuses on logistic activities among organisations.</p>					
Typical delivery methods		Lecture	In a classroom with the use of projector or computer in each lecture.				
		Seminar	-				
		Laboratory	-				
Requirements		<p>Knowledge</p> <p>Students will</p> <ul style="list-style-type: none"> understand and learn the basic terms of logistic management, know the difference between supply chain and value chain, know the basic methods and interrelationships of logistic management, get to know the most important characteristics of supply chains in different sectors. <p>Ability</p> <p>Students will be able</p> <ul style="list-style-type: none"> to investigate business challenges from a logistic management aspect, to determine the features of network, to avoid or decrease the losses due to bullwhip effect, recognize and evaluate the synergy effects of tools of logistic management. <p>Attitude</p> <p>They are open and willing to discuss all points of the cases, as well as express their opinion, but without disclosing any important information about the circumstances of their own company. They have sensibility to find potentials for development.</p>					

	<p>Autonomy and responsibility</p> <p>Students feel responsibility for both their development and environment. They cooperate with each other. They have sensibility to find possible resolving opportunities for problems.</p>
Brief description of the subject content	<p>The value chain and creation of double value both for buyers and suppliers. The technical and economic connections of value chain. The customer value and logistic buyer satisfaction. The customer value and the internet. The supply chain: system (network) of business relationships. The role of suppliers. Potential suppliers and the internet. Evaluation of suppliers, the criteria of supplier evaluation in internet. Strategic procurement. The methods and importance of demand anticipation in production logistics. Resource planning systems with buyer's cooperation. Management of customer relationship (CRM). The criteria of CRM systems (soft wares). The importance of services and its logistic problems. International transport. Competitiveness and supply chain management. Integration of supply chain. Measurement of supply chains. Tendencies in supply chain management.</p>
Activity forms of students	Individual work
Compulsory reading and its availability	<ul style="list-style-type: none"> • Mangan, John [et al.] (2012) Global logistics and supply chain management. 2nd ed Hoboken: John Wiley & Sons, DUE Library
Recommended reading and its availability	<ul style="list-style-type: none"> • Blanchard, David (2007) Supply chain management: best practices. Hoboken, N.J.: Wiley & Sons, DUE Library

Management methods

The name of subject		in Hungarian	Menedzsment módszerek				Level	A
		in English	Management methods					
DUEN-TVV-216								
Responsible educational unit		Institute of Social Studies Department of Management and Enterprise Sciences						
Name of compulsory prerequisites		Management- DUEN-TVV-114						
		Number of lessons per semester				Requirements	Credit	Language of education
		Lecture	Seminar	Lab				
Full-time	150/39	1	2	0		CA (Continuous assessment)	5	English
Corresponding	150/15	5	10	0				
Tutor responsible for the subject		name	Dr. habil Mónika Rajcsányi-Molnár			position	College Teacher	
The educational aim of the course		<p>The aim of the subject is to foster organisational efficiency by developing managerial effectiveness and by learning the factors and processes at individual and group level that influence organisational behaviour.</p> <p>The introduction of the connection between the performance of the individual, group and organisation.</p> <p>The familiarization with the means and methods necessary for changing behaviour, and practising their application.</p> <p>Forming and developing the competences fostering the efficiency of personal management.</p>						
Typical ways of delivery		Lecture	Joint lecture for all students in a lecture hall equipped with a board, computer and a projector.					
		Seminar	In rooms with maximum 30 seats, using interactive methods, individual work and group work of 5-6 people, using a projector, an overhead projector and presentation techniques.					
		Lab						
Requirements		<p>Knowledge</p> <p>Students are aware of the principles and methods for shaping and changing the organisational behaviour of organisations and institutions.</p> <p>They know the similarities and differences between individual and group decision making and problem solving.</p> <p>They know the methodological basics and techniques of decision preparation and decision support.</p> <p>They know the possibilities and means of practising personal management efficiently.</p> <p>They recognise the importance of managerial efficacy and they know which factors, in which degree foster this.</p> <p>Capabilities</p> <p>Students are able to use the principles, rules, connections, procedures of management science obtained to solve routine tasks occurring at their work.</p> <p>They are able to identify problems and to integrate their knowledge in order to solve the problems.</p> <p>They are able to cooperate with the representatives of other areas of expertise.</p> <p>They are able to use the techniques and methods of problem solving in regard to their application possibilities.</p> <p>They are able to manage time, select among the tasks and are able to focus.</p> <p>They are able to communicate and give a presentation in the right professional manner.</p> <p>They are able to accept themselves and others.</p> <p>They are able to use the rules of positive motivation and the means of efficient</p>						

	<p>communication, and are able to manage conflicts. They are able to manage changes in a professional and humane manner.</p> <p>Attitude They show interest and have the right learning abilities, which make professional development possible with the help of continuous self-learning and further training. They seek life-long learning in the world of work as well as out of work. They show problem sensitive, proactive behaviour in the interest of quality work performance and in case of projects and group work they are constructive, cooperative and initiating. They are sensitive to the reception of new pieces of information, new professional knowledge and methods. They are open to tasks which require independence and cooperation. They are willing to cooperate and to share their knowledge. They are open to changes and seek to follow and understand those changes. They accept and recognise the importance of career planning.</p> <p>Autonomy and responsibility They are able to solve problems and make a decision independently. They are able to manage, organise and supervise an organisational unit by taking responsibility for the organisation and their colleagues. They take responsibility for keeping professional, legal and ethical norms and rules in connection with their work and behaviour. They recognise and identify themselves with their ethical responsibility in connection with motivating and influencing others. If needed, they face conflicts but seek a mutually acceptable solution. They undertake changes and are active participating individuals of the organisational changes.</p>
Short description of the subject content	<p>Efficient management for organisational efficiency. The elements of managerial efficacy. Managing time, personal resources and the resources of colleagues. The importance of organisational behaviour in the managerial work. The individual as the key element of the organisational output. Individual behaviour and personality. The basics and theories of motivation. The connection between satisfaction, motivation and output. The process and means for changing behaviour. The manager's influencing ability. The importance of groups in the operation of an organisation. Factors influencing group performance. Decision-making and problem-solving at individual and group level. Means and methods supporting decisions. Efficient communication. Emotions and cultural characteristics during communication. Theoretical and practical questions of negotiation techniques. Conflicts in the life of an organisation. Advantages and disadvantages originating from conflicts. The strategies to manage conflicts. The possibilities and means of practising power. The capability of a manager to influence organisational culture. Organisational culture and changes. Career planning for individual success, career management in order to manage human resources efficiently.</p>
Main student's activity forms	<p>Listening comprehension while taking notes, joint interpretation, confronting different views, systemising information by guided exercises. Team work, group decision-making and problem solving. Case study and its analysis.</p>
Compulsory literature and their accessibility	<p>French-Rayner-Rees-Rumbles (2011) Organizational Behavior. 2nd edition, John Wiley & Sons, Ltd, England</p>
Optional literature and their accessibility	<p>Williams-DuBrin-Sisk (1985) Management & Organization South-Western Publishing Co. USA, DUE Library</p>
Description of assignments/test reports	<p>1. Individual task 2. Group assignment The detailed description of the tasks can be seen in Moodle. These tasks cannot be made up for in the examination period.</p>
Description and schedule of term papers	<p>In the 12th week. Make-up term paper in the 13th week.</p>

Warehousing and Material Handling

Subject name		In Hungarian	Raktározás és anyagmozgatás			Szintje	A		
		In English	Warehousing and Materials Handling			Level	A		
Subject code		DUEN-TVV-218							
Responsible educational unit		Institute for Social Sciences Department of Management- and Entrepreneurial Sciences							
Name of Mandatory Preliminary Study		DUEN-TVV-212 Basics of Logistics							
Number of Lessons							Requirements	Credits (ECTS)	Language of Education
		Lecture		Seminar		Laboratory			
Full-time	150/39		1		2		0	CA (Continuous assessment)	English
Correspondence	150/15		5		10		0		
Teacher responsible for the course		Name		Dr. Levente Rádai			Position	College Professor	
Educational goals		The students will become familiar with the planning and operational tasks of storage, with a special emphasis on the technological modules, as well as the organizational and technical tools, IT background, management and efficiency analysis and repair methods. Students will be able to think about storage and material handling in a reliable and environmentally conscious way and to participate effectively in the planning and organization of warehousing processes.							
Typical delivery methods		Lecture		In a classroom with the use of projector or computer in each lecture.					
		Seminar		In a classroom project work, small team and cooperative work with the use of projector or computer in each seminar.					
		Laboratory							
Requirements		Knowledge:							
		<ul style="list-style-type: none"> • overviews the system of warehousing and materials handling and related planning, operating and management activities, • has a strategic and system-oriented thinking, • knows the principles, policies and processes of warehousing and materials handling and related planning, operating and management teams. 							
		Ability:							
<ul style="list-style-type: none"> • applies the theoretical knowledge systematically in practice, • manages the system components individually and in system, • sketches the stages of control in warehousing and materials handling, • regulates basic-level warehousing and materials handling processes, • overviews the technical documentation of the warehousing and materials handling systems, • determine performances, • understands the professional literature, • applies the definitions of the specialization professionally. 									
Attitude:									
<ul style="list-style-type: none"> • opened for the innovations of the specialization, • pursue continuous self-improvement, • able to solve problems alone, • can tackle problems as responsible persons, • self-training ability, • open for cooperation with professionals on other related fields. 									

	<p>Autonomy and responsibility:</p> <ul style="list-style-type: none"> • responsible for self-training, • co-operates with colleagues, • search the solutions for problems, • responsible for the development of work environment, • take responsible part in forming professional opinions and its explanations.
Brief description of the subject content	Position and role of storage in the supply chain. Planning and operating tasks of piece-goods storage. Classification of materials and goods from the point of view of handling, storage and order picking processes. Storage bulk and dangerous goods. Storage systems and optimization methods of installation. Loading and empty storage cell allocation processes. Application of Kanban systems. Features and tasks of retrieving and order picking processes. Warehouse machinery and automation levels, choosing the optimal machinery. Warehouse information and management systems, control of warehouse machinery. Questions of safety, environment and maintenance. Efficiency analysis and efficiency increasing methods of storage processes.
Activity forms of students	Frontal work: 40 % Individual or group work: 40% Test: 20%
Compulsory reading and its availability	[1] Gwynne Richards: Warehouse Management – A Complete Guide to Improving Efficiency and Minimizing Costs in the Modern Warehouse, Jun 28, ISBN-13: 978-0749469344, Kogan Page Limited, London, 2014 [2] Supply Chain Digest™ - Supply Chain Management and Logistics Case Studies, Springboro, OH 45066, USA, 2006-2014, http://www.scdigest.com/
Recommended reading and its availability	World-Class Warehousing and Material Handling (Logistics Management Library) Edward Frazelle, ISBN-13: 978-0071376006, McGraw Hill, 2001

Product Management and Value Analysis

Subject name		In Hungarian	Termékmenedzsment és értékelemzés			Szintje	A
		In English	Product Management and Value Analysis			Level	A
Subject code		DUEN-TVV-118					
Responsible educational unit		Institute for Social Sciences Department of Management and Enterprise Sciences					
Name of Mandatory Preliminary Study		-					
		Number of Lessons			Requirements	Credits (ECTS)	Language of Education
		Lecture	Seminar	Laboratory			
Full-time	150/39	2	1	0	CA (Continuous assessment)	5	English
Correspondence	150/15	10	5	0			
Teacher responsible for the course		Name		Dr. habil Ferenc Nádasdi		Position	
Educational goals		The student: - acquires the basics, tools, and main characteristics of Value Analysis, - acquires the forms of Value Analysis (Value Analysis, Value Engineering, Value Control, Value Investing, Value Management) - is capable of applying the methods of product selection, - is aware of the basics of member selection for teamwork, - is capable of forming a team in accordance with a given task, - is aware of the most significant steps of the procedure of Value Analysis, - is capable of defining product functions, - is able to define the steps of function costs, - is able to define weak points, - is aware of the methods of working out and testing variants.					
		Lecture		In a classroom for max. 30 students, with the use of projector or computer in each lecture.			
		Seminar		In a classroom for max. 30 students, with the use of projector or computer in each seminar.			
		Laboratory					
Requirements		Knowledge The student should: <ul style="list-style-type: none"> learn the basic notions, features and tools of Value Analysis, learn about the types of Value Analysis (Value Analysis, Value Engineering, Value Control, Value Investing, Value Management) know the basic principles of team member selection, know the more important steps of the Value Analysis process, know the key steps of function cost definition, know how to define “weak points,” know the methods of option creation and assessment. 					
		Ability Students will be able to: <ul style="list-style-type: none"> apply product selection methods, assemble a team for a specific task, define the functions of the product. 					
		Attitude <ul style="list-style-type: none"> Openness to cooperation, Reception, sharing, utilization of options and ideas of others. 					

	<ul style="list-style-type: none"> • Don't criticize, "tell something better".
	<p>Autonomy and responsibility</p> <p>Cooperation with specialists of other fields to realize a living project.</p>
Brief description of the subject content	<p>The basics and types of products and technologies. Life cycles of products and technologies. Product development conceptions. Product development with Value Planning (construction and technology) Product innovation. Introduction of new production technologies. Analysis of technology portfolio. Managing key competence. Technical and economic documentations. Product database. The emergence and validity of Value Analysis. Preparation work for Value Analysis. Revision and characterization of Value Analysis. Information steps. Steps of Analysis.</p>
Activity forms of students	<p>Analysing case studies, games, teamwork, presentation. Sharing, reception, utilization of knowledge, option and conception.</p>
Compulsory reading and its availability	<p>[1] Robert B. Stewart (2005): Fundamentals of Value Methodology. Xlibris Corporation, USA. ISBN: 1-4134-9193-6; Library of College of Dunaujváros. [2] SAVE International: Value Methodology Standard and Body of Knowledge. June 2007. www.value-eng.org/pdf_docs/monographs/vmstd.pdf.</p>
	<p>[3] SAVE International: www.value-eng.org/pdf_docs/monographs/funcmono.pdf</p>
Recommended reading and its availability	<p>[4] VALUE Methodology. A Pocket Guide to Reduce Cost and Improve Value Through Function Analysis. GOAL/QPC, MemoryJogger.com [5] SAVE International: www.value-eng.org/pdf_docs/monographs/FAbasics.pdf [6] Handouts from the Lecturer [7] Moodle: HUNLINE: Product Management and value analysis 100%</p>