

COURSE DESCRIPTIONS

Name of subject: Mathematics I.		Neptun code: KMEMA1AMNE	Courses: 3 lc. +3 pr.
Credits: 6 Requirements: <i>mid-term exam</i>		Prerequisites:-	
Responsible lecturer: Dr. Kovács Judit	Status: senior lecturer	Faculty: Kálmán Kandó Faculty of Electrical Engineering	
Subject description:			
<p><i>Aims:</i> Emphasis is on basic topics of mathematics and their applications. Class discussions help students to solve problems in connection with the topics. This course will promote the development of algebraic and analytic skills as well as conceptual understanding.</p> <p><i>Topics to be covered:</i></p> <p><i>Onevariable calculus:</i> Sequences. Limit of a sequence. Functions. Basic concepts of real-valued functions of one variable. Elementary functions. Derivative of a function. Derivative of elementary functions. Characterizing functions using derivatives. Finding local or global extrema of functions. Indefinite integrals. Basic indefinite integrals. Some basic rules of integration. Definite/Riemann integrals. Newton-Leibniz theorem. Improper integrals on infinite intervals.</p> <p><i>Complex numbers:</i> The three forms of a complex number. Operations in the different forms.</p> <p><i>Linear algebra:</i> Determinants. Solving systems of linear equations by Cramer's rule. Matrices. Basic operations on matrices.</p> <p><i>Vector geometry:</i> Vectors. Coordinates of a vector. Basic operations on vectors.</p>			

Name of subject: Mathematics II.		Neptun code: KMEMA2AMNE	Courses: 3 lc. +3 pr.
Credits: 6 Requirements: exam		Prerequisites: Mathematics I.	
Responsible lecturer: Dr. Kovács Judit	Status: senior lecturer	Faculty: Kálmán Kandó Faculty of Electrical Engineering	
Subject description:			
<p><i>Aims:</i> Emphasis is on basic topics of mathematics and their applications. Class discussions help students to solve problems in connection with the topics. This course will promote the development of algebraic and analytic skills as well as conceptual understanding.</p> <p><i>Topics to be covered:</i></p> <p><i>Differential equations:</i> Basic concepts of differential equations. Solving first- and second-order differential equations with constant coefficients by the trial method.</p> <p><i>Multivariable calculus:</i> Multivariable functions. Basic concepts of real-valued functions of two variables. Partial derivatives of real-valued functions of two variables. Finding local extrema using partial derivatives. Double integrals on rectangle domains.</p> <p><i>Linear programming:</i> Mathematical models. Standard form of linear programming problems. Graphical method for solving a linear programming problem in two variables.</p> <p><i>Probability theory:</i> Basic statistics. Combinatorics. Algebra of events. Axiomatization of probability. Discrete random variables. The distribution, the expected value and the variance of a discrete random variable. Discrete uniform, binomial and Poisson distributions. Continuous random variables. The distribution function, the density function, the expected value and the variance of a continuous random variable. Continuous uniform, exponential and normal distributions.</p>			

Name of subject: Physics		Neptun code: KMEFI1AMNE	Courses: 2 lc.+1 pr.
Credits: 3 Requirements: exam		Prerequisites: Mathematics I.	
Responsible lecturer: Dr. Rácz Ervin	Status: associate professor	Faculty: Kálmán Kandó Faculty of Electrical Engineering	
Subject description:			
<p><i>Aims:</i> Physics class gives basic knowledge with concrete thematic for professional courses will be studied later time. The course helps better understanding technical problems using another way to approach the phenomena. Knowledge of Physics practices also helps solving problems for everyday life.</p> <p><i>Topics to be covered:</i> Mechanics (kinematics of particles, dynamics of particles, mechanics of many body systems, mechanics of solids states, oscillations, waves). Thermodynamics (basics, main laws for thermodynamics, basics of the kinetic theory of gases, heat propagation). Moving of high energy particles (for example: electrons). Basics of quantum mechanics. Basics of solid state physics.</p>			

Name of subject: Chemistry		Neptun code: RMTKE1AMNE	Courses: 2 Ic.
Credits: 3 Requirements: exam		Prerequisites:	
Responsible lecturer: Tamásné Dr. Nyitrai Cecília	Status: associate professor	Faculty: Sándor Rejtő Faculty of Light Industry and Environmental Protection Engineering	
Subject description:			
<p>Studying the composition, structure, properties and change of matter. Chemical structure of atoms, periodic table of elements, interaction between atoms, molecules and chemical compounds. Chemical bonds. Amount of substances, molar mass and Avogadro constant. Change in phases of matter (solids, liquids, gases). Mixtures and their concentration. Types of chemical reaction, equations. Oxidation-reduction. Oxidation state and -number. Chemical equilibrium, acidity, pH.</p> <p>Organic Chemistry. Studying the structure, properties and chemical reaction of organic compounds and organic materials, matters that contain carbon atoms. Classification of organic compounds, functional groups. Covalent bonds in organic molecules (double and triple bonds). Nomenclature, structural drawing. Aliphatic-, aromatic and heterocyclic compounds. Most important paraffins, olefins and alkynes. Halids, alcohols, ethers, esters, carboxylic acids and derivatives, amines, proteins. Carbohydrates and their importance in life.</p>			

Name of subject: Mechanics		Neptun code: BGBME1AMNE	Courses: 2 lc.+1 pr
Credits: 4 Requirements: exam		Prerequisites:	
Responsible lecturer: Dr. Czifra Árpád	Status: senior lecturer	Faculty: Donát Bánki Faculty of Mechanical and Safety Engineering	
Subject description:			
<p><i>Educational objective: Summary and Strength of character to know the basic concepts of statics and basic relationships.</i></p> <p>Themes: The subject and the basic law of statics. Mechanical modelling. The definition of the force, the moment and the constraints. Reduction of force systems. Force-couple systems. Classification of force systems. Simply supported beam structures and internal forces and moments. Trusses. Structures with three pins. Separation of structures. Principle of superposition. Combined structures. Definition of the first moment and the centroid. The friction. Definition of the first moment. The subject and the basic law of stress calculations. Uniaxial tensile test and tensile stress and strain calculation. Shear stress calculation. Pure bending of straight beams. Torsion stress calculation. Buckling. Mohr law.</p>			

Name of subject: Electrotechnics		Neptun code: KMEEL1AMNE	Courses: 2 lc.+2 pr
Credits: 5 Requirements: exam		Prerequisites: Physics	
Responsible lecturer: Kovács Balázs Dr.	Status: associate professor	Faculty: Kálmán Kandó Faculty of Electrical Engineering	
Subject description:			
<p>Basic principles: electric charge, voltage, current, resistance, power. Conductors and insulators.</p> <p>Voltage and current generators, resistors, capacitors, inductors, transformers.</p> <p>Ohm's law, Kirchhoff's laws. Net resistance calculations. Voltage and current divider calculations.</p> <p>Network calculation using Kirchhoff's laws and method of superposition. Principle of node potentials.</p> <p>Real generators. Norton and Thevenin equivalent circuits. Power matching, efficiency.</p> <p>Alternating currents. Time domain description of sinusoidal signals. Complex numbers.</p> <p>Power in AC circuits. Power factor.</p> <p>Impedance of passive components. Resonant circuits, filters. Fourier transformation, spectrum.</p> <p>Basics of electronics. Diodes. Half-wave and full-wave rectifiers.</p>			

Name of subject: Informatics I.		Neptun code: RMTIN1AMNE	Courses: 1 Ic.+2 I
Credits: 3 Requirements: exam		Prerequisites:	
Responsible lecturer: Dr. Kormány Eszter	Status: senior lecturer	Faculty: Sándor Rejtő Faculty of Light Industry and Environmental Protection Engineering	
Subject description:			
<p>The components of the computer, its operation, Neumann principles. Data representation, arithmetic. Structure/function of processors. Operation of serial, parallel, USB ports. Operation of printers, scanners. Operation of monitors, storage media, optical storage, mass storage devices. Classification of software. Program development systems. User systems. Windows applications: Office suite (Word, PowerPoint, Excel). Description of Maple mathematical software package. Types of viruses, their operation and identification. Network basics: Network communication, TCP/IP protocol, Internet applications.</p>			

Name of subject: Informatics II.		Neptun code: RMTIN2AMNE	Courses: 2 I
Credits: 3 Requirements: <i>mid-term exam</i>		Prerequisites: Informatics I.	
Responsible lecturer: Dr. Kormány Eszter	Status: senior lecturer	Faculty: Sándor Rejtő Faculty of Light Industry and Environmental Protection Engineering	
Subject description:			
Basics of programming. Tools describing algorithms. Preparing algorithms. Programming languages, the classification of programming languages, object-oriented programming. The basics of Visual Basic programming. Basics of web programming, web page making. Basics of database management. Normalization. Description of Ms Access. Description of SQL language. Introduction to multimedia: basics of image processing, video processing and audio processing. Computer graphics.			

Tárgy neve: Statistics I		NEPTUN-kód: GVMST1AMNE	Óraszám: lectures: 1 practices: 2
Kredit: 3 Követelmény : mid-term exams		Előkövetelmény:	
Tantárgyfelelős: Viktor Nagy, Ph.D.	Beosztás: senior lecturer	Kar és intézet neve: Keleti Faculty of Business and Management Institute of Enterprise Management	
Értékelési és ellenőrzési eljárások: in writing			
Ismeretanyag leírása:			
<p>The field of Statistics. Descriptive and inferential Statistics. Data, information. Sources: primary and secondary. Qualitative and quantitative data. Direct observation, experiments, surveys. Population, subpopulation, sample. Parameter, statistic. Measurement scales. Basic jargon. Discrete and continuous variables. Comparison, ratios, harmonic, geometric, arithmetic, quadratic means. Frequency distributions, classes, Lorenz curve, concentration. Measures of central tendency, percentiles. Measures of dispersion, measures of relative position.</p> <p>Graphing categorical and numerical data, charts. Contingency tables. Measures of association; mixed; correlation. Comparison with the method of standardization. Index numbers: simple indices, weighted aggregate indices: Laspeyres' and Paasche's indices, Fisher indices.</p>			

Tárgy neve: Statistics II		NEPTUN-kód: GVMST2AMNE	Óraszám: lectures: 1 practices: 2
Kredit: 3 Követelmény: mid-term exams		Előkövetelmény: Statistics I	
Tantárgyfelelős: Viktor Nagy, Ph.D.	Beosztás: senior lecturer	Kar és intézet neve: Keleti Faculty of Business and Management Institute of Enterprise Management	
Értékelési és ellenőrzési eljárások: in writing			
Ismeretanyag leírása:			
<p>Sampling: simple random, systematic, cluster, stratified and other sampling. Representativeness. Biased sample, sampling errors. Sampling distributions. Central limit theorem. Standard errors. Point estimate, interval estimate, confidence level, confidence interval, margin of error. Binomial, normal, t- and chi-square, F distributions. Hypothesis testing with one and two samples, chi-square tests: goodness-of-fit and test for independence. ANOVA. Covariance, correlation coefficients, correlation quotient, rank correlation. Bivariate and multivariate correlation. Regression analysis. Time series analysis: moving averages. Time series models: trend, seasonality, cyclic behaviour, randomness. Interpolation and extrapolation.</p>			

Name of subject: Microeconomics		NEPTUN-code GGTMI1AMNE	courses 2 lc.+2 pr
Credits: <i>requirements: exam</i>		Prerequisites:	
Responsible lecturer: András Medve CSc	Status associate professor	Faculty: Keleti Faculty of Business and Management	
Subject description:			
<p>Scarcity and efficiency. The relation of supply and demand. Consumer attitude and demand. Preference system and Neutrality map. Marginal rate of substitution. Income, optimization of prices. The budget line. Consumers' optimal choice. Demand flexibility. Consumer surplus. Company and enterprise. The Production function. The system of isoquants. Returns to scale function. Production costs. Profit. The cost function. Market structures. Corporate supply in the case of perfect competition. The long-run supply. Monopoly. Profit maximization. Natural monopolies. Monopolistic competition. Oligopolies. The market for factors of production. Labour supply and labour market. Capital, interest, investment. Asset markets, factor prices, distribution of income. The stock markets. The supply of real capital and its rental cost. Natural resources. The effects of monopoly on the market of resources. Monopsomy. Bilateral monopoly. External economic effects.</p>			

Name of subject: Macroeconomics		NEPTUN-code GGTMA1AMNE	courses 2 lc.+2 pr
Credits: 5 requirements: exam		Prerequisites:	
Responsible lecturer: András Medve CSc	Status associate professor	Faculty: Keleti Faculty of Business and Management	
Subject description:			
<p>Basic categories of macroeconomics. Basic correlations of macroeconomy. Players of macroeconomy. Output and income. Measuring macroeconomic performance. Macroeconomic rotation. Demand for commodity markets. Consumption demand. Consumption and saving functions. Investment demand. The Investment function. Equilibrium income. The Labour market. The Production function. Macro demand and macro supply. Labour market and employment. Money and money market. Modern-day money and banking system. Money demand, money supply. Money market equilibrium. Joint equilibrium in the commodity and money markets. IS-LM model. Economic growth. The factors and nature of economic growth. Types, causes, characteristics of business cycles. Inflation. Degrees and causes of inflation. Inflation and unemployment. Short-run and long-run Phillips-curve. The role of the State in the economy. Fiscal and monetary policy. Supply-side economics, monetarism. The fiscal-monetary mix.</p>			

Name of subject: Enterprise Economics		NEPTUN-code GSVVG1AMNE	courses 2 lc.+2 pr
Credits: 5 requirements: exam		Prerequisites:	
Responsible lecturer: Szikora Péter	Status assistant lecturer	Faculty: Keleti Faculty of Business and Management	
Subject description:			
<p>The aim and environment of economic enterprises. Overview of business forms. Structure of private enterprises and joint ventures, operation attributes. Process of value creation in business enterprises. Features of product manufacturing and service enterprises. Profile, operational performance, lead-time, production systems. Organisational forms and applications. Main characteristics of linear and multilinear organisation and management. Market activities of the enterprise, marketing. Market strategy. Resources used in the value creation process. Utilization and cost-effectiveness of equipment. Planning of human resource requirements, economy and management issues. Costing fundamentals. Cost planning and calculation. Economic efficiency and its measurement. Investments in enterprises. Economic analysis of investments. Issues of production management and cost-effectiveness. Assets, financial position, and economy of the company. Coherences of logistic activities and controlling.</p>			

Name of subject: Human Resource Management		NEPTUN-code GVMEM1AMNE	courses 1 lc.+2 pr
Credits: 3 requirements: <i>mid-term exam</i>		Prerequisites: Basics of Management	
Responsible lecturer: Dr. habil. Szeghegyi Ágnes	Status associate professor	Faculty: Keleti Faculty of Business and Management	
Subject description:			
<p>The role of the human factor in economic growth. The foundation of modern human resource management. The content and functions of "human resource management" (HRM). The labour-market environment of the company. Company strategy – human resource strategy. Marketing of the labour-power market. Job analysis, job planning. Human resource planning and workforce planning. Resource provision: recruitment, selection, cut-down. Job evaluation. Performance assessment. Developing human resources, career planning. Compensation system – motivation management. System of labour relations. Participation. Collective negotiations. Handling conflicts at work. Personnel information system. International personnel management.</p>			

Name of subject: Basics of Accountancy		NEPTUN-code GVMSA1AMNE	courses 2 lc.+2 pr
Credits: 4 requirements: <i>mid-term exam</i>		Prerequisites:	
Responsible lecturer: Dr. Parragh Bianka PhD.	Status senior lecturer	Faculty: Keleti Faculty of Business and Management	
Subject description:			
<p>The aim and environment of economic enterprises. Overview of business forms. Structure of private enterprises and joint ventures, operation attributes. Process of value creation in business enterprises. Features of product manufacturing and service enterprises. Profile, operational performance, lead-time, production systems. Organisational forms and applications. Main characteristics of linear and multilinear organisation and management. Market activities of the enterprise, marketing. Market strategy. Resources used in the value creation process. Utilization and cost-effectiveness of equipment. Planning of human resource requirements, economy and management issues. Costing fundamentals. Cost planning and calculation. Economic efficiency and its measurement. Investments in enterprises. Economic analysis of investments. Issues of production management and cost-effectiveness. Assets, financial position, and economy of the company. Coherences of logistic activities and controlling.</p>			

Tárgy neve: Business IT Applications		NEPTUN-kód: GVMUI1AMNE	Óraszám: lab: 2lab
Kredit: 3 Követelmény: mid-term exams		Előkövetelmény:	
Tantárgyfelelős: Jolán Velencei, Ph.D.	Beosztás: associate professor	Kar és intézet neve: Keleti Faculty of Business and Management Institute of Enterprise Management	
Értékelési és ellenőrzési eljárások: in written (de úgy láttam, ez a rész amúgy hiányzik, akkor én sem fejtem ki)			
Ismeretanyag leírása:			
<p>The role of information technology in business process. IoT. Big Data. Cloud computing. Security issues. Privacy and data protection. Effective use of ICT in practice in conjunction with theory, methods, and techniques from business and organisational science. Global trends and opportunities. Innovative solutions. Opportunities for start-ups. Mobile applications development issues.</p>			

Name: Total Quality Management		NEPTUN-code: GVMTQ1AMNE	courses 2 lc.+2 pr
Credits: 4 requirements: exam		Prerequisites:	
Responsible: Gábor László Ph.D.	Position: senior lecturer	Faculty and Institute name: Keleti Faculty of Business and Management	
Subject description:			
<p>Basics of interests in field of application and development of TQM Theory. History and the properties of quality management. Stages of quality control development in practice. Documentation system and procedures of quality auditation. Basic theories of quality management. Main properties and elements of standards ISO 9000 and ISO 9001:2000. The role of the company leaders in introduction of TQM methodology. Issues of procedure theory. Mathematical, statistical, documentation tools of application the TQM theory. Concepts of the TQM at the a company. The role of excellence issue in practice of TQM. The modells of European Foundation for Quality Management (EFQM) and their connection with Total Quality Management. Connection between ISO 9000 and TQM, and the role in development of quality management systems. Problems of development and application of the integrated planning systems.</p>			

Name of subject: State Administration and Law		NEPTUN-code GGTAJ1AMNE	courses 2 lc.+0 pr
Credits: 4 requirements: exam		Prerequisites:	
Responsible lecturer: Dr. Kohlhoffer-Mizser Csilla Ph.D.	Status senior lecturer	Faculty: Keleti Faculty of Business and Management	
Subject description:			
<p>The formation, development and the social role of law, State and law. Definition of law, the legal system and branches of law. Hierarchy of sources of law. The definition, validity and force of law. Legal capacity and groups of legal entities. The place and role of the Constitution in the Hungarian Legal System. Basic citizens' rights and liabilities. The groups of government bodies, their major responsibilities and authorities. The national and local bodies of Legislation and Enforcement. The responsibilities and competencies of the Parliament, the Government and Municipalities. The bodies of judiciary: the Courts and Prosecutors. Rules of administrative proceedings. Civil law: the right to property and private law.</p>			

Name of subject: Basics of management		NEPTUN-code GVMME1AMNE	courses 2 lc.+ 2pr
Credits: 5 requirements: <i>mid-term exam</i>		Prerequisites:	
Responsible lecturer: Dr. Parragh Bianka PhD.	Status senior lecturer	Faculty: Keleti Faculty of Business and Management	
Subject description:			
<p>The organisation as an objective oriented system. Organizational roles. Leadership competency, management skills. Management functions. Requirements specified for managers. Planning of future trends. Organisational objectives. Strategy success factor. Management styles, management characteristics. Managerial incentives. Effective management communication. Organising managerial information, leading discussions, meetings. Methods of management. Team methods in management. Manager's time management, the importance of time in managerial work. Efficiency of managerial work and its measurement. Continuous development of the organisation and the management, change management. Supporting transformational leadership. Leaders' training. Definition, interpretation, fields of action and methods of organisation. Organisation science. Basics of organisation activities. Organisation objectives, processes and organisations. Minor techniques of organisation.</p>			

Name of subject: Production Management		NEPTUN-code GVMTM1AMNE	courses 1 lc.+ 2pr
Credits: 4 requirements: mid-term exam		Prerequisites: <i>Basics of Management</i>	
Responsible lecturer: Dr. Reicher Regina PhD	Status senior lecturer	Faculty: Keleti Faculty of Business and Management	
Subject description:			
<p>Definition of production management. Production strategies. Manufacturing processes and manufacturing systems. Related practical examples. Survey methods of market (customer) demands. Criteria for competitiveness. Process of product design and product development. Production technology planning process. Regular and flexible manufacturing systems. Production planning in case of “made to order” and “made to stock”. Aggregate resource planning using operation research methods. Material Requirements Planning systems (MRP I., MRP II.). Inventory management and its methods. Determination of cost-effective inventory level. Time-, capacity and cost planning of manufacturing processes. Spatial arrangement methods of manufacturing processes. Supply tasks of manufacturing processes (materials handling, storage, equipment supply). Planning and operation of service and operational maintenance. Factories of the future from the point of view of informatics and automation.</p>			

Name of subject: Organisational behaviour		NEPTUN-code GSVSM1AMNE	courses 2 lc.+ 1pr
Credits: 3 requirements: <i>mid-term exam</i>		Prerequisites:	
Responsible lecturer: Dr. Lazányi Kornélia PhD	Status associate professor	Faculty: Keleti Faculty of Business and Management	
Subject description:			
<p>Characteristics, components and the aim of organisational behaviour science. Individuals within the organisation – aims, expectations, personality types, behavioural models. Motivation – how does it affect individual performance, what does a leader have to do to motivate his/her employees. Groups – group dynamics – effective groups, teams – functioning within a group. Organisational culture – specifics of various cultures, the effect of a leader on organisational culture. Communication within the organisations – deficiencies of communication, characteristics of person to person, person to group, leader to subordinate communication. Communication and motivational situative exercises. Conflict resolution – problem solving – identifying conflicts, the adequate behaviour of the leader in conflict situations. Leadership – the effect of personal leadership, evaluation of various leadership styles, multivariate applications. Organisational change – deliberate organisationla changes. Organisational development and the traditional consultancy approach of organisational cahnge.</p>			

Name of subject: Basics of Finance		NEPTUN-code GGTPA1AMNE	courses 2 lc.+ 1pr
Credits: 4 requirements: <i>exam</i>		Prerequisites:	
Responsible lecturer: Pappné Dr. Nagy Valéria PhD.	Status associate professor	Faculty: Keleti Faculty of Business and Management	
Subject description:			
<p>The evolution of modern currency. Banking system, central banking. Financial institutional sector, commercial banks, passive businesses. Active businesses - crediting. Active businesses – special forms of financing (leasing, factoring, forfeiting, venture capital). Indifferent lines of businesses – money transfer, electronic banking services. Calculating the time value of money (TVM), basic calculations in banking. Securities, calculating the bill of exchange (B/E), Bonds and calculating bonds (currency rates, yields). Shares and calculating shares. Stock markets – The stock exchange, stock exchange operations, trading systems. Stock exchange orders and indices. Public finances- financial policies. Central state budget incomes. Taxation system. Central state budget outgoings. State budget deficit and its management.</p>			

Name of subject: Corporate Finance		NEPTUN-code GGTVP1AMNE	courses 2 lc.+ 2pr
Credits: 4 requirements: exam		Prerequisites: Basics of Finance	
Responsible lecturer: Dr. Csiszárík-Kocsir Ágnes PhD.	Status associate professor	Faculty: Keleti Faculty of Business and Management	
Subject description:			
<p>Financial conditions of enterprises. The main types of financial decisions and their features. The objectives of financial decisions. The interests of Management and Shareholders. Corporate asset. Equity and its elements. Foreign capital and its elements. Financing corporate asset. Financing strategy, principles of financing. Financing from traffic revenue, reserve and by withholding profit for the year, and through a property settlement. External financing. Share financing. Credit financing from money-market. Interpretation and calculation of corporate cost of capital. Enterprise investment decisions. Evaluation of investments. Problems with decision-making, decision criteria. Calculations related to investment. Dynamic capital investment calculations and their methods. Cost comparison, cost equivalent, net present value, net present value equivalent. Yield—expenses rate indicator, profitability index. Internal rate of return calculation. Risks relating to investment. Corporate financial performance evaluation.</p>			

Name of subject: Business Communication		NEPTUN-code GGTUK1AMNE	courses 1 lc.+ 2pr
Credits: 3 requirements: exam		Prerequisites:	
Responsible lecturer: Dr. Szekeres Valéria Ph.D	Status associate professor	Faculty: Keleti Faculty of Business and Management	
Subject description:			
<p>The individual and communication. The need for and the necessity of communication. Communication tools. Verbal communication, metalanguage, paralanguage. The origin and specialities of non-verbal communication. Non-verbal communication tools. The relationship between verbal and non-verbal communication. The significance and role of personal space and distance. Credibility. The role of self-knowledge and understanding of human nature in the communication process. „Johari” window, personality types. Communicational self-knowledge. Impression making, sympathy, empathy. Trust. Fondle equivalences. Communication in the economic environment. Organisational culture and communication. Formal and informal communication networks. The link between communication and economical efficiency. The role of motivation, manipulation, critique and compliments at workplaces. Conflicts, conflict management techniques. Giving lectures and presentations. The role, types of meetings and communication techniques for leading a meeting. Career, ambition. Curriculum vitae, motivation letter, self-management techniques.</p>			

Name of subject: Principles of Marketing		NEPTUN-code GGTMR1AMNE	courses 2 lc.+ 2pr
Credits: 5 requirements: exam		Prerequisites:	
Responsible lecturer: Dr. Kiss Mariann CSc	Status associate professor	Faculty: Keleti Faculty of Business and Management	
Subject description:			
<p>Integration of marketing functions in corporate practice, elements of marketing mix. Marketing plan and management. Consumer purchase decision process. Consumer market and consumer behaviour. Institutional market and purchase behaviour. The process and methods of market segmentation. Marketing strategy and portfolio models: BCG-matrix, multifunctional matrix. Corporate product policy. Developing a product assortment, product life-curve. The marketing tasks of a new product launched on the market. Brand management and Markov-model. Service marketing, HIPI and SOR models. Corporate pricing policy. Types of list price: ideal price, cost-based pricing, demand-driven price, adaptation pricing. Factors of list price: flexibilities, empirical function, discounts, product line pricing. Functions of sales system, its structure and its operation. Logistics. Wholesale and retail trade. Advertising policy. Communication process and effect models. Features of media, their indexes and media planning.</p>			

Name of subject: Customer Relationship Management		NEPTUN-code GVMUK1AMNE	courses 0lc.+ 2pr
Credits: 4 requirements: <i>mid-term exam</i>		Prerequisites:	
Responsible lecturer: Dr. Reicher Regina PhD	Status senior lecturer	Faculty: Keleti Faculty of Business and Management	
Subject description:			
<p>On the course of this subject students may learn about the methodology and strategy that promote the efficient use of business relationships. Using these, the company can become more successful in the sales of its products and services and it can gain a higher level of market knowledge. Nowadays CRM is supported by complex informatics systems.</p> <p>Students have the opportunity to learn about how the studied marketing and sales strategies are put in practice. They get an insight into the advantages of structured information storage, the way they support daily routine and the possibility of information recovery. They can also look into the role of the customer value, client satisfaction and the importance of customer service functions. They can learn about strategy design and IT support methodology.</p>			

Name of subject: Technical drawing		NEPTUN-code RMKMA1AMNE	courses 1lc.+ 1pr
Credits: 4 requirements: <i>mid-term exam</i>		Prerequisites:	
Responsible lecturer: Bodáné Dr. Kendrovics Rita	Status associate professor	Faculty: Sándor Rejtő Faculty of Light Industry and Environmental Protection Engineering	
Subject description:			
<p>The course aims to establish the students' technical approach and develop their spatial vision. Using the constructions from descriptive geometry. Shaping the technical mindset.</p> <p>The content of the subject comprises the following topics: Basics of stereometry, projection. Axonometric and projective representation, view order. The concept of section. Simple and complex sections. Special descriptive methods. Giving measurements, structure of measurement network. Giving measurements of parts. Drawing knittings, knitting machines. Drawing of structures. Concepts related to parts machining, ways of representation. ISO tolerance and matching system. Basic concepts in tolerance and matching. Surface roughness, shape and position tolerances. Size chains.</p>			

Name of subject: Engineering Basics		NEPTUN-code BGBAM1AMNE	courses 2lc.+ 1pr
Credits: 4 requirements: exam		Prerequisites: Technical drawing	
Responsible lecturer: Dr. Szunyogh Gábor CSc	Status associate professor	Faculty: Donát Bánki Faculty of Mechanical and Safety Engineering	
Subject description:			
<p>The objective of the course:</p> <p>The students study the common aims and tools of the engineering work. They summarize the natural science grounds of the basic subjects, especially for energetics. Beside of engineering technologies and main engine groups they will deal with the basics of standardisation and system theory. The topics will include the thoughts of engineering design and optimalisation.</p>			

Name of subject: Basics of manufacturing engineering		NEPTUN-code BGBAM1AMNE	courses 1lc.+ 2pr
Credits: 4 requirements: <i>mid-term exam</i>		Prerequisites:	
Responsible lecturer: Dr. Czifra György	Status	Faculty: Donát Bánki Faculty of Mechanical and Safety Engineering	
Subject description:			
<p>Basics and classification of machine tools. Parts of machine tools: houses, bears, driving gears etc. Machining centres, cells, integrated manufacturing systems. CNC control of machine tools. Cutting process and parameters. Cutting ability of engineering material, Wear of cutting tools, tool life, cutting forces and power. Cutting methods: turning, drilling, milling, and planning. Metrology, Errors and methods. Measuring instruments. Planning and reporting of measuring. Calibration process. Coordinate measuring method.</p>			

Name of subject: Measurements		NEPTUN-code KMAMT1AMNE	courses 1lc.+ 0pr+ 2l
Credits: 4 requirements: <i>mid-term exam</i>		Prerequisites: Electrotechnics	
Responsible lecturer: Dr. Bretz Károly	Status assistant lecturer	Faculty: Kálmán Kandó Faculty of Electrical Engineering	
Subject description:			
<p>To attain the measuring principles, necessary for measuring basic electrical quantities. Basic concepts of measurements. Definition and aims of measurements. Classification of signals. Units of quantities. The SI system of technical units. Etalons of electrical quantities. Classification of measuring methods. For of the result measurement. Sources of errors in measurements. Description of errors. Knowledge of construction and handling of most important electrical measuring instruments, interpretation of their technical specification. Knowledge, necessary to select optimal measuring methods and instruments.</p> <p>In the laboratory the students measuring voltages, current and calculating errors and learn to use the function generator and oscilloscope.</p>			

Name of subject: Analogue and Digital Technics		NEPTUN-code KMEDT1AMNE	courses 2lc.+ 2pr
Credits: 5 requirements: exam		Prerequisites: Electrotechnics	
Responsible lecturer: Lovassy Rita Dr.	Status associate professor	Faculty: Kálmán Kandó Faculty of Electrical Engineering	
Subject description:			
<p>The subject's aim is to obtain understanding and knowledge the design and working of different analog and digital circuits. This course will give an overview of the properties and applications of basic semiconductor devices and circuits: p-n junction, diodes, bipolar transistors, field-effect transistors, operational amplifiers, comparators.</p> <p>The aim is to acquaint the future technical managers with the fundamentals of digital technics, with the digital circuits, and with their characteristics and applications.</p> <p>The topics are: fundamentals of digital technics, logic (Boolean) algebra, logic operations and functions, combinational logic, analysis, synthesis and implementation of logic circuits, binary arithmetic, algorithms and circuits. Furthermore combinational and sequential circuits functional building blocks, properties and applications.</p>			

Name of subject: Databases		NEPTUN-code KMEDT1AMNE	courses 2lc.+ Opr+2I
Credits: 5 requirements: exam		Prerequisites: Informatics II	
Responsible lecturer: Dr. Fleiner Rita	Status senior lecturer	Faculty: Kálmán Kandó Faculty of Electrical Engineering	
Subject description:			
<p><i>Lectures</i></p> <p>Data, information and information processing. Goal-oriented information processing. Consecutive and non- consecutive file structures. Database oriented information processing. Data modeling. Entities, attributes, relationships. Data independency, DDL, DML. Database administration. Database management models. The hierarchical, the nested, and the relational approach. Using the relational model. Anomalies, normalization. Relational algebra, calculus. SQL, extended tools. The EER model. Object-oriented databases. Deductive systems, knowledge bases. Database architectures. Client-server architectures. Distributed systems. Data security and safety. Data authentication. Physical, procedural, algorithmic protection. User and partner identification. Encoding, decoding. Message authentication.</p> <p>Accessing protection. Digital signature. Newest demands. OLTP, OLAP, ROLAP, MOLAP. Data warehouses, data marts. Data mining.</p> <p><i>Lab sessions</i></p> <p>The students learn how to plan, construct and query databases, and how to program in an interactive and embedded way on the ORACLE platform.</p> <p>Other topics include: database planning, normalization (0NF, 1NF, 2NF, 3NF, BCNF), anomalies. Using the SQL*Plus interactive environment in the ORACLE system. Queries using the SQL SELECT statement. Joining the tables, subqueries. DML commands, database transactions. DDL commands, creating tables, data types, constraints, views.</p> <p>DCL statements, handling the authorities. PL/SQL blocks, control constructions, complex data constructions, cursors, ROWID. Handling exceptions, sub-programs, triggers, applications.</p>			

Name of subject: Theory of design		NEPTUN-code RTSTE1AMNE	courses 2lc
Credits: 3 requirements: exam		Prerequisites:	
Responsible lecturer: Hottó Éva dr.	Status assistant lecturer	Faculty: Sándor Rejtő Faculty of Light Industry and Environmental Protection Engineering	
Subject description:			
<p>The object to be attained is intended that students become familiar with the product planning and design of the overall regulatory process. The lectures and exercises in the basic functional, aesthetic, ergonomic, safety knowledge beyond expectations, the importance of product features design, optimization opportunities, as well as through the production process of planting matra can learn conceptual emphasis. Looking To acquaint the students with the various product design approach, methods.</p> <p>Product life cycle (the basics of product marketing for light industrial type products.) Design objectives (input data, the basic documents, expectations, needs, models). Meeting the expectations for needs, reliability and service life. Optimization of product characteristics.</p> <p>The methodology of the designing of designing, phases of designing verification, design changes. The prototype design and design development during manufacturing, custom manufacturing. The technical design documentation and its handling. Product safety and legal frameworks.</p> <p>The cost factors of designing, the aspects of product features with unique series and mass products, and its effects on the management of production. Designing for manufacturability.</p> <p>The support of design with applied computing.</p>			

Name of subject: Environment Protection		NEPTUN-code RMKKV1AMNE	courses 2lc
Credits: 3 requirements: <i>mid-term exam</i>		Prerequisites:	
Responsible lecturer: Juvancz Zoltán dr.	Status professor	Faculty: Sándor Rejtő Faculty of Light Industry and Environmental Protection Engineering	
Subject description:			
<p>The history of environmental protection, its role these days, principles of environmental law, conditions of sustainability, the concept of the ecological footprint. The objective of the course is to provide comprehensive knowledge of water quality protection and water management. Within this it covers in detail the natural and social cycle of water and water occurrences which can be used as public water. The production of drinking water and the technological processes of wastewater treatment.</p> <p>The structure of the atmosphere, effects damaging the atmosphere, the effect of sunlight, greenhouse effect, spread of pollutants, self-cleaning, air quality protection limit values, emission and immission standards. Basic concepts of dust control, measurement methods, dust collection chambers, filters, cyclones, electro filters.</p> <p>Physical properties of soil, nutrient supply of the soil, soil classification. Within the area of soil protection it provides detailed knowledge of the analysis of soil degradation processes as well as the effects of human activity on soil quality. It gives comprehensive knowledge of the organic and inorganic pollutants which get into the soil, their effects and the factors determining the spread of pollutions.</p> <p>The curriculum of the term also includes the introduction of the technology of preparing for the recycling of municipal solid waste, used cars (wrecks), electronic waste, batteries, rubber, plastic, glass, construction waste, packaging waste and other waste generated during industrial activities.</p> <p>Sound propagation outdoors and indoors. Environmental noise measurement, standards and limits. Noise reduction. Basics of vibration theory, sources of vibration. The environmental effects of vibration on the built environment. The basics of vibration. Vibration dampening and vibration isolation. Basic concepts of radiation. The effect of ionizing and non-ionizing radiation on living organisms. Radiation detection, radiation protection. Safety of the Nuclear Power Plant in Paks. Nuclear accidents.</p>			

Name of subject: Materials		NEPTUN-code BAGAI1AMNE	courses 2lc+2pr
Credits: 4 requirements: exam		Prerequisites:	
Responsible lecturer: Dr. Bagyinszky Gyula PhD	Status associate professor	Faculty: Donát Bánki Faculty of Mechanical and Safety Engineering	
Subject description:			
<p><i>Educational objective:</i> A systematic review of materials (natural and synthetic polymers, metals and alloys, ceramics, composites) which used in various industrial fields and their structure, physical, technological and operating characteristics. Presentation of the main methods and tools for structure, properties, workability and damage resistance testing, and for quality control (quality management) of important materials processing production processes. Development the some degree of awareness in structural materials distribution, and development of technical intelligence and communication skills. Overview of the material selection criteria of substance and methodology. Summary of the most important ecological factors.</p> <p><i>Topics:</i> Introduction. Structure and structure-testing of solid materials. Biomaterials and synthetic materials (polimers). Metals. Ceramics. Composites. Properties and qualifying testings of structural materials. Workability and technological testings of structural materials. Damage resistance and damage testings of structural materials. Criterias of material selection. Ecological factors</p>			

Name of subject: Strategic Business Planning		NEPTUN-code GSVSR11GNE	courses 2lc+2pr
Credits: 4 requirements: exam		Prerequisites:	
Responsible lecturer: Dr. habil. Lazányi Kornélia	Status associate professor	Faculty: Keleti Faculty of Business and Management	
Subject description:			
<p>Overview on the history of strategic planning – military strategy. The system of strategic planning. The exploration of the macro level environment of companies. The micro level environment of organisations – determining the relevant industry. elements of the organisational structure. The core competence of organisations. Stakeholder concept – organisational responsibility. Evaluation of the joint effect of internal and external factors on the selection of the adequate business strategy – learning curve – life curve of a product – market penetration. Steps to an efficient strategy – problem and goal tree – organisational mission, vision and the credo. Creating a business strategy, breaking it down into tactic and operative plans – FLS – WBS – CPM – Pert – Logframe. Monitoring of the organisational performance – evaluation of performance – BSC. Business profile – organisational portfolio. International trends in organisational planning. Strategic actions and change strategies. Business plan - notion, structure and finctional strategies.</p>			

Name of subject: Decision Theory and Methodology		NEPTUN-code GSVDE1AMNE	courses 2lc+2pr
Credits: 4 requirements: exam		Prerequisites: Enterprise Economics	
Responsible lecturer: Dr. Szikora Péter	Status assistant lecturer	Faculty: Keleti Faculty of Business and Management	
Subject description:			
<p>The subject, methodology and function of the Theory of Decision Making in leadership. The definition and classification of decision making. The relationship between problems and decisions. Systematic approach to problems. The decision making process and its phases. The function of information in decision making. Decision making situations and their characteristics. Development and evaluation of action plans and strategies. Practicality in decisionmaking. Practicality function. Trends in decision making theory. Economic and administrative school. Satisfactory and optimal decisions. Areas in operations research. Normative and descriptive decision making theories. The Von Neumann-Morgernstern axioma theorem. The location and function of group decisions. Group anatomy. The function of conflicts. Group decision making techniques. Decision making diagrams. Network models in decision making processes and leadership systems. Deterministic and stohastic models of genetic regulatory networks and their practical applications.</p>			

Name of subject: Organisational Theories		NEPTUN-code GSVSM11GNE	courses 0lc+2pr
Credits: 4 requirements: exam		Prerequisites:	
Responsible lecturer: Dr. habil. Lazányi Kornélia	Status associate professor	Faculty: Keleti Faculty of Business and Management	
Subject description:			
<p>Within the frame of the course students will be acquainted with the basic concepts of organising and their relative relation to each other. They will be enabled to design organisational structures and mechanisms along certain organisational theories. Scientific foundation of organising - Taylor – Gantt – Fayol. Bureocratic organisational solutions – Weber. Human resource and organisational behaviour based systemic approaches – HR – OB – behavioural decision theory – OD. Closed and open system approach. Holistic systemic approach. Contingencialist organisational approach. Organisational change – change strategies. Make or buy decisions and their evaluation from an organisational perspective. Comparison of the options of downsizing, lean, and integration. Questions of growth, internationalisation, globalisation - Global/local/glocal. Network structures - hub&spoke – peer- to-peer – emptiness of networks.</p>			

Name of subject: EU Enterprise and Entrepreneurship	NEPTUN-code GSVEU1AMNE	courses 0lc+0pr+2l
Kredit: 4 kredit Követelmény: mid-term exam		
Responsible lecturer: Berecz József dr.	Status associate professor	Faculty: Keleti Faculty of Business and Management

Name of subject: Strategic training		NEPTUN-code GSVSI1AMNE	courses 0lc+2pr+2l
Credits: 4 requirements: mid-term exam		Prerequisites:	
Responsible lecturer: Dr. Karlovitz János Tibor	Status associate professor	Faculty: Keleti Faculty of Business and Management	
Subject description:			
The purpose of the course is to teach the basic rules of functioning in an organisation, especially in a team and to give insight into the pool of fundamental leadership competencies through simulations in teams. Topics are as follows: Creativity and brainstorming techniques, Self-confidence, development, Working in teams, Leadership skills, Power in organisations, Motivation, Organisational and national culture, Communication skills, Emotional labour, Conflict resolution, Stress management, Time management, Personal life strategy.			

Name of subject: Energetics		NEPTUN-code KVEEN1AMNE	courses 1lc+1pr
Credits: 4 requirements: <i>mid-term exam</i>		Prerequisites:	
Responsible lecturer: Kovács Károly Dr	Status senior lecturer	Faculty: Kálmán Kandó Faculty of Electrical Engineering	
<p>Subject description:</p> <p>In the frame of "Energetics" the students may get overview about the power system operation. The following topics are discussed: The process of electricity production, transmission, distribution. The Hungarian power system. Power system control. System disturbances. Electric machines: generators, transformers, DC/AC motors. Switching gears, basics of insulation. Consumer devices as electric heating, drives, switched controllers, lightings. Traditional power plants: coal, gas, oil, nuclear. Renewable sources: hydro, wind, PV, biomass. Power lines: overhead lines and cables. Substations. Principles of protection devices: overcurrent – differential – impedance protection. Smart approach. Electrical shock-, fire- and lighting protection. Power market.</p>			

Name of subject: Telecommunication (broadcast, multicast and unicast communication)		NEPTUN-code KHTHT1AMNE	courses 2lc+0pr+2l
Credits: 4 requirements: exam		Prerequisites:	
Responsible lecturer: Dr. Wühl Tibor	Status associate professor	Faculty: Kálmán Kandó Faculty of Electrical Engineering	
Subject description:			
<p>Basic concepts of signal transmissions, baseband signals, coding, modulation procedures. Handling signals in time- and frequency domain, spectrum of signals. Converting analogue signals to digital, sampling and quantizing. Audio and video converters. Telecommunication basics: physical layers and its properties. Theory of transmission lines. Radio channel, parts of the electromagnetic spectrum. Spreading properties of electromagnetic waves. Analogue and digital ways of recording and storing media. Compression procedures, the redundancy. Broadcasting: analogue and digital audio and video transmission. Home devices. Telecommunication systems: leased line, and switched circuit connections. Traffic theory. Packet switched and circuit switched networks and terminal equipment.</p>			

Name of subject: Instrument technics		NEPTUN-code KMAMU1AMNE	courses 2lc+0pr+2l
Credits: 4 requirements: mid-term exam		Prerequisites:	
Responsible lecturer: Schuster György Dr.	Status associate professor	Faculty: Kálmán Kandó Faculty of Electrical Engineering	
Subject description:			
<p>Medical engineering basics. Technical Managers in the health care. Measurement techniques of physiological parameters. Electrocardiography, pacemakers. Medical imaging techniques: ultrasound, X-ray, CT scan, SPECT, PET, MRI. Auditing of the manufacturers of medical equipments.</p> <p>Calibration and legalization of electrical instruments. Devices and methods used during the manufacturing of an electrical product: component feeders, test probes, in-circuit measurement, functional tests, optical and X-ray testing, boundary scan, electromagnetic compatibility.</p> <p>Laboratory: In-circuit tester, Image processing, LabVIEW, Calibration, ECG, Pacemaker</p>			

Name of subject: Ecological Constructions		NEPTUN-code KMEOK1AMNE	courses 2lc+1pr
Credits: 4 requirements: exam		Prerequisites:	
Responsible lecturer: Nemcsics Ákos Dr.	Status professor	Faculty: Kálmán Kandó Faculty of Electrical Engineering	
Subject description:			
<p>The subject is dealing with such technical constructions, which are environmental friendly or material saving or energy efficient. The subject is connecting with the following technological areas: renewable energy sources (such as solar energy, wind energy, water energy, bio mass usage, geothermal energy etc.), ecological architecture (passive and active solar systems, energy ballance, earth houses, smart building, smart settlements, PV house, green roof, green facade etc.), solar cell applications and combined solar systems with collector (e.g. induced ventillation). During the discussion of the abovementioned topics, we will use the results of following topics: engineering, bionics, thermodinamics, exergy analysis, self-assembling, non-linear dynamics etc. For the illustration we show some case studies from various areas.</p>			

Name of subject: Automatics		NEPTUN-code KMAAU1AMNE	courses 2lc+0pr+1l
Credits: 4 requirements: <i>mid-term exam</i>		Prerequisites:	
Responsible lecturer: Kucsera Péter Dr.	Status assistant lecturer	Faculty: Kálmán Kandó Faculty of Electrical Engineering	
Subject description:			
<p>The subject's aim is to obtain understanding and knowledge basic concepts of automation. Based on the steady state characteristics and time response or frequency response of basic transfer functions reviewing the theoretical background of closed loop control, structure of a control system. Stability and quality examination of the feedback system. Short overview of the equipments (most important transmitters, actuators and PLC systems) used in controls system. Highlight some process automation problems and solutions. Short overview of the Industrial Buses and Process Automation Equipments</p>			