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**Degree level**: Undergraduate studies

Course:

Accreditation and certification

Teacher:Pejović B. Gordana

Course status: elective

**ECTS points**: 4

**Prerequisites:** 

# Course objective

The acquisition of specific knowledge about the accreditation and certification of systems, processes, products, services and personnel, for the purpose of quality management. Students will acquire basic knowledge about the types of laboratories and their services (products) as well as about the general requirements for laboratory competence of in terms of management and technical requirements.

# Learning outcomes

Students acquire a sufficient amount of knowledge and information on accreditation and certification, as well as on competence of accredited bodies performing conformity assessment of laboratories, inspection and certification bodies. Students acquire special knowledge about metrology, testing and medical laboratories, requirements for the laboratory competence and specific technical requirements in terms of measurement traceability, measurement uncertainty, validation of measurement and inter-laboratory comparisons.

### Course structure and content

#### Theoretical instruction:

1 Terminology in the field of accreditation and certification. 2. Accreditation and accreditation body, cercation and certification bodies. 3. International recommendations and national regulations on accreditation and certification. 4. Conformity assessment standards and certification and accreditation rules. 5. Documents and accreditation procedure and certification procedures. 6. Policies of accreditation bodies, certification bodies and inspection bodies work. 7. Certification bodies for quality management system, environmental management system, quality systems auditors, processes, products and services certification. 8. Accredited laboratories - testing, metrology and medical laboratories, basic laboratory services (products). 9. General requirements for laboratory competence - Management requirements. 10. General requirements for laboratory competence - Technical requirements. 11. Traceability and measurement uncertainty. 12. Method validation of and inter-laboratory comparisons. 13. Laboratory preparation for accreditation. 14. Association of laboratories-national, regional, international.

### Practical instruction:

1 Organization and operation of accreditation bodies. 2. Organization and operation of certification bodies. 3. Discussion on accreditation and certification regulations. 4. Discussion on international recommendations for accreditation and certification. 5. Discussion on rules for accreditation and certification. 6. Colloquium (1). 7. Visit to the Accreditation Body of Serbia. 8. Preparation of paper on the subject of certification and/or inspection body accreditation. 9. Presentation and interpretation of ISO/IEC 17025 section 4: management requirements. 10. Presentation and interpretation of ISO/IEC 17025 section 5: technical requirements. 11. Rules of quality management and environmental management system certification. 12. Staff training and rules for certification of quality management system and environmental management system auditors. 13. The rules and methods for processes, products and services certification. 14. Colloquium (2) - preparation for the exam.

# Literature/Readings:

- 1. Accreditation and certification, V. Boţanić, electronic script
- Accredited laboratories, Bozanić V., Pejović G. students' textbook, Faculty for Organisational Science, Belgrade 2010
- 3. International standards for conformity assessment;
- 4. Accreditation Body of Serbia (ABS) accreditation rules 2013; other ABS rules, www.ats.rs

The number of class hours per week				Other classes:
Lectures:	Labs:	Workshops:	Research study:	
2	2	0	0	

**Teaching methods:** Lectures, labs and final research paper.

Pre-exam requirements	Points	Final exam	Points
Participation in class	5	Written exam (can be replaced by colloquium)	40
Colloquium (replacing written exam)	2x20	Oral exam (presentation of the final research paper)	40
Final research paper	15		

Degree level: Undergraduate academic studies

Course:

Value Analysis

Teacher: Omerbegović-Bijelović K. Jasmina

Course status: Elective

ECTS points: 4

Prerequisites:

# Course objective:

To introduce the concepts, importance (and the application of Value analysis - VA in the world's largest systems), usefulness, purpose, methodology (methods and conditions) of application and possibilities of the development of scientific and professional aspects of the field of AV. Capacitate students to apply AV to reduce costs (C) and increase the value for firm's stakeholders.

#### **Course outcome:**

Ability to identify opportunities for selecting the way of administration and for the implementation of VA - in order to reduce costs (C) of products and/or services, processes and functions, and entire systems, as well as their component parts

#### Course structure and content

#### Theoretical instruction:

Value (V), work, function; V for stakeholders; Cost (C) of V creation. VA objects. Place, role and applicability of VA in standardization, design, projecting, planning, preparation (resources, processes, functions), in construction, maintenance, abandoning jobs, in organization and implementation of measures to detect and reduce organizational-conditioned C, as well as increase of company's performance. Methodology of reducing C. VA resources. Management through VA - implementation of solutions (Change Management). VA management. Specifics and VA standards. VA of existing objects. Value engineering (VE). Management of solutions (implementation, monitoring and improvement). Management of values (MV): environmental changes and strategies to avoid risks: Creative Development of V program and competence (strategies: value chains, operations, sales, innovation, finance, human resources, information technology and e-business, value networks, negotiation with authorities); Building a global V chain: V development process; Growth based on V; Process of implementation and consolidation of VM. Organization of work in the field of analysis/E/M V in a company; Resources for work on VA; Formal education and practical training for VA; Exits from AV; Implementation and development of VA solutions. Consulting on V (CV): The need for CV; Process of CV; Competence for CV. Future and education/training for VA.

#### Practical instruction:

Examples of VA and its functions. Defining and measuring of C and VA. Use of VA in increasing revenues. Methods and techniques of VA. VA in objects design of VA. Examples and application of VA in design. Use of VA in acquisition, preparation, manufacturing/construction and sales. Application of VA in maintenance. Application of VA in management of organizational systems (enterprises, value chains... and the state). Management of application of AV in organizational systems. Consulting and education for AV.

# Literature/Readings

- Miles, L.D., Economic and technical implementation of VA (in Serbian), Privredna knjiga, G. Milanovac, 1982.
- 2. Braut, R., Krajčević, F., Functional analysis of values (in Serbian), Informator, Zagreb, 1971.
- 3. Hanna M.D., Newman, W.R., Integrated Operations Management Adding Value for Customers, Prentice Hall, Upper Saddle River, New Jersey, 2001.
- 4. Student Research Paper

The number of class hours per week: 75				Other classes:
Lectures:	Labs:	Workshops:	Research study:	

# **Teaching methods**

Tutorial (small groups); Team and/or individual work of students; The practice and work in practice

(project and case study); Professional and scientific processing of literature and writing papers: professional and scientific (by students' choice).

Evaluation/Grading (maximum 100 points)

Evaluation/Grading (maximum 100 points)			
Pre-exam requirements	Points	Final exam	Points
Participation in class	10	Written exam	
Practical instructions (Project	45	Oral exam	45
Analysis/E/M of Value)			

Degree level: BSc

Course:

**Time Series Analysis** 

Teacher: Bulajić V. Milica, Vukmirović V. Dragan

Course status: Elective

**ECTS points**: 4

**Prerequisites:** 

# Course objective

Introduction to concepts and methods of time series analysis. Qualifying for individual application of these methods for solving practical problems with the special emphasis to financial time series.

# Learning outcomes

Students will be capable of understanding the wide applicability of methods of time series analysis. Students will be prepared for time series application in process modeling.

#### **Course structure and content**

#### Theoretical instruction:

L-01: The concept of random process. The classification of random processes. White noise. L-02: The Wiener process. The Markov process. The Markov chains. L-03: The stationary random processes. Spectral representation of random process.. L-04: The linear transformations of stationary processes. Martingale. L-05: The theory of waiting queues in networks. L-06: The time series. L-07: Stationarity. The correlation and autocorrelation function. L-08: Methods for analysis of stationary time series. L-09: The nonstationary time series. L-10: ARIMA models. L-11: The conditional heteroscedastic models, ARCH model. L-12: GARCH model and its modifications. L-13: Nonlinear models and theirs application. L-14: The analysis of multidimensional time series. L-15: The analysis of financial time series.

# Practical instruction:

P-01: The concept of random process. P-02: The classification of random processes. P-03: The stationary random processes P-04: The linear transformations of stationary processes. P-05: The waiting queues. P-06: The time series. P-07: The correlation and autocorrelation function. P-08: Methods for analysis of stationary time series. P-09: The nonstationary time series. P-10: ARIMA models. P-11: The conditional heteroscedastic models, ARCH model. P-12: GARCH model. P-13: Nonlinear models and theirs application. P-14: The analysis of multidimensional time series. P-15: The analysis of financial time series.

# Literature/Readings

- 1. Kovačić, Z., Analiza vremenskih serija, Ekonomski fakultet, 1995.
- 2. Mališić, J., Jevremović, V., Statistička analiza i slučajni procesi, Naučna knjiga, Beograd, 1991.
- 3. Cryer, J. D., Chan, K. S., Time Series Analysis With Applications in R, Springer, 2010.

The number of	The number of class hours per week			
Lectures: 2	Labs: 2	Workshops:	Research study:	

# **Teaching methods**

The traditional way of lecturing, with the use of whiteboard and computer

Pre-exam requirements	Points	Final exam	Points
Participation in class	5	Written exam	25
Participation in labs	5	Oral exam	25
Colloqia	20		
Seminar work	20		

Degree level: undergraduate

Course:

Reliability and Risk Analysis

Teacher: Vujošević B. Mirko, Makajić-Nikolić D. Dragana

Course status: Elective

**ECTS points**: 5

**Prerequisites**: Probability Theory

# Course objective

Course objective is to provide the students with:

- a) basic knowledge about reliability theory and possibilities of its application and achievements in solving practical engineering and managements problems,
- b) methods and approaches for practical reliability and risk assessment in the technical systems.

# Learning outcomes

Students are trained to model real-life problems from the aspect of the system reliability, compute system reliability using modern methods and software packages, asses risks and determine corrective actions for achieving quality, high product reliability and risk management in all of the phases of the product life cycle..

# **Course structure and content**

# Theoretical instruction:

Introduction to preliability theory. Basic reliability terms: fault, failure, reliability function, failure rate, mean time between failure. Block diagrams in reliability analysis; Event trees. Redundant systems and fault-tolerant systems. Maintainability, repair time, down time; system availability and system effectiveness. Modeling of repairable systems: Markov chains, Petri nets. Definition of risk. Approaches in risk management. Risk measurement. Risk assessment methods and techniques. Fault tree analysis. Failure mode and effect analysis. Hazard analysis. HAZOP study. Reliability of the complex systems; network reliability. Reliability and quality assessment of the software. Human reliability.

#### Practical instruction:

Plan is in accordance with theoretical instructions plan. Main topics of the practical instructions are standards and available software packages for solving case studies.

- R. Petrović, M. Vujošević, D. Petrović, Optimizacija redundantnih sistema, Saobraćajni fakultet, Beograd, 1993.
- 2. S. Krčevinac i dr, Operaciona istraživanja 2, FON, Beograd, 2013.
- 3. N. Vujanović, *Teorija pouzdanoasti tehničkih sistema*, Vojnoizdavački i novinski centar, Beograd, 1990.
- 4. D. Kececioglu, Reliability Engineering Handbook, DEStech Publication, 2002.
- 5. P. D. T. O'Connor, Practical reliability engineering, Wiley, 2007
- 6. C. A. Ericson II, Hazard analysis techniques for system safety, Wiley, 2005

The number of class hours per week				Other classes:
Lectures: 2	Labs: 1	Workshops: 1	Research study:	
Teaching meth	nods Theoretical class	sses – traditional. Pra	actical classes manly with the use	available software
packages for re	liability and risk ana	lysis.		

Degree level: Undergraduate studies

**Course:** 

Analysis of financial statements and valuation

Teacher: Vesna Bogojević Arsić Vesna, Full Professor, Benković Sla Ďana, Full Professor, Snetana P. Knetević, Associate Professor, Tijana Obradović, PhD

Course status: elective, professional application

**ECTS points**: 5

Prerequisites: Managerial accounting

#### Course objective

Acquiring knowledgeandskillsfor complete insight into the importance and possibilities of analysis of financial statements for the needs of different users and further exploring the issue of valuation of companies in different markets, different development, and ownership structure and indifferent industries.

# Learning outcomes

Acquisition of knowledgeandpracticaltools necessary for comprehensive analysis of the financial statements and the ability to evaluate individual business segments.

#### **Course structure and content**

#### Theoretical instruction:

Basicknowledge of financialreporting.Information management and accounting principles and standards. The issue of assessmentsheet positions. Horizontal and vertical analysis of financial statements. Indicators analysis of financial statements. Detecting Financial Statement Fraud. Projected financial statements. The application of mathematical and statistical methods in the analysis of financial statements. The auditand the reality of external financial reporting. Concept, importance and basic valuation techniques. Valuation of businesses operating in a number of activities, which operate in foreign markets and incyclical industries. Valuation of enterprises in market development. Valuation offlexibility. Special topics in valuating company's.

#### Practical instruction:

Elementsof the financial positionand performance, cash flows and changes in equity. Notes to the financial statements. The application of horizontal, vertical and analysis of financial indicators in the case. Business valuation. Basic techniques of evaluation. Creating value through disinvestment. Examples valuation of businesses operating in a number of activities, which operate in international and emerging markets. Examples valuation of enterprises in cyclical industries, as well as high-growthen terprises, young and troubled enterprises. Valuation of private enterprises and financial institutions.

# Literature/Readings

1. YoungD, Cohen J.: *Corporate Financial Reporting and Analysis*, 3<sup>rd</sup> ed., John Whiley& Sons, 2013.

- 2. Drake P, Fabozzi F.: Analysis of Financial Statements, 3<sup>rd</sup> ed., John Whiley& Sons, 2012.
- 3. Fridson M, Alvarez F: *Financial Statement Analysis: Workbook: A Practitioner's Guide*, 4<sup>th</sup> ed., John Whiley& Sons, 2011.
- 4. Damodaran A, Investment Valuation, Wiley, 2012.
- 5. KollerT., Goedhart M. and Wessels D., *Valuation: Measuring and Managing the Value of Companies*, Wiley, 4th Edition, 2005.

The number of class hours per week				Other classes:
Lectures:	Labs:	Workshops:	Research study:	
30	30			

# **Teaching methods**

Teachingis conductedthroughlectures, exercises and consultations. Students are actively involved in the learning process through interactive discussions, exercises, homework and case studies.

Pre-exam requirements	Points	Final exam	Points
Participation in class		Written exam	100
Participation in labs			

**Degree level**: Undergraduate studies

Course:

# **Bank Management**

Teacher: Barjaktarović-Rakočević M. SlaĎana

Course status: elective

**ECTS points**: 4

Prerequisites: /

# Course objective

Introduction to the basic concepts of banking industry. The focus will be on the fundamental role of banks and conceptual framework necessary to understand, analyze and comprehend current situation in commercial bank industry.

#### **Learning outcomes**

The content of this course helps students to understand and solve all practical problems of banking activities necessary for starting banking career and doing business in the banking sector.

#### **Course structure and content**

**Theoretical instruction:** Bank as a financial institution. Types of banks. The functions of banks. Sources of funds. Credit potential of banks. Deposit potential of banks. Liquidity planning. Methods for illiquidity remediation. Credit policy. Credit analysis. Cost of credits. Securitization of loans. Bank's financial statements. Banks' capital. Ratio analysis. Banking risks and risk management. Analysis of creditrisk. Securities transactions.

**Practical instruction:** The specificities of banking intermediation. Management of bank assets and liabilities. Credit beneficiaries. Terms of creditworthiness. Credit scoring. Credit risk. VAR approach. The foreign exchange (currency) risk. Interest rate risk. Gap analysis. Liquidity risk. The profitability of banks. Payment operations. Factoring, forfeiting, leasing. E-banking. Prudential control and supervision of banks.

- Dabic, Vasiljevic, Barjaktarovic Rakocevic, Milosevic: Banking management -script, FON, Belgrade, 2013.
- 2. Rose, Hudgins, Bank management and financial services, New York: McGraw-Hill/Irwin, 2005.

The number of class hours per week				Other classes:
Lectures:	Labs:	Workshops:	Research study:	
2	2			

# Teaching methods

Teaching is conducted through lectures, exercises and consultations. Students are actively involved in the learning process through interactive discussions, exercises, homework, case studies and workshops.

Pre-exam requirements	Points	Final exam	Points
Participation in class	10	Exam	60
Seminar	30		

Degree level: Undergraduate academic studies

Course:

# Business communication skills and techniques

Teacher: Vlastelica Bakić L. Tamara

Course status: Elective

**ECTS** points: 4

Prerequisites: Marketing

# Course objective

The main goal of the course "Skills and techniques of business communication" is to enable students to acquire practical knowledge of basic techniques for achieving an effective and two-way process of communication in the business environment.

#### Learning outcomes

Introduction to the basic elements of communication process and mastering practical skills in the communication process.

#### Course structure and content

#### Theoretical instruction:

The basic characteristics of communication process. Types of communication: business correspondence and business conversations. Business image. Professional behavior. Professional standards and professional responsibility. Ethics of business communication. Skills and techniques of communicating in crisis situations. Verbal communication. Non-verbal communication. Key elements of negotiations; Communication skills in the negotiation process; Stages of the negotiation process; Emotional barriers in the negotiation process; Preparation for negotiation, the negotiation process, skills and techniques of intercultural communication, presentation skills, key elements of presentation. Preparing presentations. Business Bonton.

### Practical instruction:

Labs, Other forms of lecture, research papers:

Practicing techniques of verbal and non-verbal business communication. Writing business letters. Business clothing culture; Ethical and professional dilemmas; Simulation of business communication in different situations. Study visits by experts from the practice; Simulation and analysis of public appearances.

Workshops and case study solving, followed by interactive communication related to negotiation and implementation of negotiation process. Writting and presenting research paper.

Kostić-Stanković M.,,	Integrated business	aammuniaation"	EOG	Dalarada	2011
NOSTIC-Stallković IVI.,	amegraiea vusiness	communication .	ros,	Deigraue,	2011.

Filipović, V., Kostić-Stanković, M., Public relations", FOS, Belgrade, 2011.

Kostić-Stanković, M. "Business communication", Faculty of Civil Engineering, Belgrade, 2009.

The number of class hours per week				Other classes:
Lectures: 2	Labs: 2	Workshops:	Research study:	

# Teaching methods

Presenting materials acording to the sources mentioned in literature part, analysis of practical examples and case studies during lectures. During the labs, students are engaged in creative workshops, preparation of projects and the preparation for the presentation of certain topics.

Evaluation/Grading (maximum 100 points)				
Pre-exam requirements	Points	Final exam	Points	
Participation in class	20			
Participation in labs	20	Written exam (or 2 tests during semester)	30	
Tests	30 (or written exam)	Oral exam	30	

Degree level: Bachelor

**Course:** 

#### **Leadership and Motivation**

Teacher: Mihailović M. Dobrivoje

Course status: elective

**ECTS points**: 4

Prerequisites:

# Course objective

The aim is to introduce students with theoretical explanation and practical implication of relation between leadership and motivation based on the concept of power. The idea is to gain an understanding of the interdependence of psychological aspects of leadership and motivation process.

#### Learning outcomes

Students should be able to recognize motivational base and potential of the motivational process for developing their leadership skills. They should be able to apply concepts of motivation based on rewards, goal setting and recognition of employees needs.

They should be able to adjust their interactional style considering the nature and the level of their own and the motivation of their coworker.

# **Course structure and content**

#### Theoretical instruction:

Definition of leadership. Theories of leadership: personality traits of successful leaders, leadership as a style, situational model of leadership. Sources of power. Problem solving: communication and conflicts. Transformational leadership: innovations, vision, charisma. Leading teams, role of a leader. Skill to motivate: productivity, performances, rewards, career advancement. Factors and principles of motivation. Needs, motives and values, relationship between individual and organizational needs, organizational culture and individual values. Methods and strategies for rewarding employees. Measuring job performances.

#### Practical instruction:

Instructions for writing essay. Situational model of leadership – comparative analysis. Creating personal leadership style – workshop. Leadership tasks: leading and control – case study. Leadership techniques – discussion. Leader as a mediator in conflicts – workshop. Transformational leadership – case study. Leader as a charismatic person – discussion. Employee needs – workshop. Reward system – case study. Presentation of essays.

# Literature/Readings

Mihailović, D., Ristić, S., Management – Human Side, Faculty of Technical Sciences, Novi Sad, 2007.

Mihailović, D. Ristić, S., Teamwork and Job Absenteeism, VŠŢ, AranĎelovac, 2006.

The number of class hours per week				Other classes:
Lectures: 2	Labs:	Workshops: 2	Research study:	

# **Teaching methods**

Lectures, workshops, group discussions, case studies, mentor and teamwork for writing an essay on a chosen topic..

Pre-exam requirements	Points	Final exam	Points
Participation in class	20	Written/Oral exam	30
Participation in labs	50		

Degree level: Bachelor

**Course:** 

### **Group Dynamics and Interpersonal Relations**

Teacher: Mihailović M. Dobrivoje

Course status: elective

**ECTS points**: 4

Prerequisites:

# Course objective

Course objective is to provide the students with: a) basic knowledge about reliability theory and possibilities of its application and achievements in solving practical engineering and managements problems, b) methods and approaches for practical reliability and risk assessment in the technical systems.

#### **Learning outcomes**

Students are trained to model real-life problems from the aspect of the system reliability, compute system reliability using modern methods and software packages, assess risks and determine corrective actions for achieving quality, high product reliability and risk management in all of the phases of the product life cycle.

#### **Course structure and content**

#### Theoretical instruction:

Definition of groups and work in groups. Phases of group development. Relations in groups: communication structure. Relations in groups: power structure and types of power. Relations in groups: status. Group processes. Group norms. Conforming. Cooperation and competition in groups. Group conflicts. Group problem solving. Group discussion and changes in behavior. Group decision making. Factors of group decision making. Group pressure, causes and consequences.

### Practical instruction:

Instructions for writing essay. Analysis of group cohesion. Consequences of power usage – workshop. Communication in groups – case study. Sociometric survey. Consequences of non-concurrence with group norms and ethical dilemmas – discussion. Conforming phenomena – discussion. Pros and cons of cooperation. Forming coalitions. Group problem solving – workshop. Group decision making – simulation. Pros and cons of group decision making – discussion. Presentation of essays.

Mihailović, D.,	Ristić, S., Managen	nent – Human Side, 1	Faculty of Technical Sciences,	Novi Sad, 2007.
Mihailović, D. I	Ristić, S., Teamwork	and Job Absenteeis	m, VŠŢ, AranĎelovac, 2006.	
The number of	class hours per we	ek		Other classes:
Lectures: 2	Labs:	Workshops: 2	Research study:	
Teaching meth	ods		4	
Lectures, works chosen topic.	hops, group discuss	ions, case studies, m	nentor and teamwork for writing	g an essay on a
	Evalı	uation/Grading (ma	eximum 100 points)	
Pre-exam requ	irements	Points	Final exam	Points
Participation in	class	20	Written/Oral exam	30
Participation in	labs	50		

Degree level: Undergraduate

Course:

**Digital Economics** 

Teacher: Milićević K. Vesna, Ilić J. Bojan

Course status: elective

**ECTS points**: 5

Prerequisites: none

# Course objective

Acquisition of knowledge and skills in the field of the digital economy relevant in terms of the linkage of trends in contemporary business and changes in the field of information and communication technologies.

#### Learning outcomes

Competencies related to the complexity of business in terms of digitization.

#### **Course structure and content**

#### Theoretical instruction:

Characteristics of the digital economy. Virtualization of business. Specific features of the electronic market. Value engineering. Adaptive efficiency of the digital economy. Performance measurement in the digital economy. The importance of external benchmarking. The virtual value chain and the benefits of outsourcing. Economics of information. The importance of information and communication technologies for creating competitive advantages. Network externalities and application of pricing methods. Methods of improving profitability in the digital economy. Application of software for the simulation of business operations results. Competitive strategies in the digital economy. Practical aspects of developing business plan for new business venture in the conditions of the digital economy.

# Practical instruction:

Class exercises follow the content and structure of lectures and include: case study analysis, value engineering-method application, creative workshops, implementation of new approaches to measuring business performance in the digital economy, exercises using the Internet, the software application in the digital economy.

# Literature/Readings

Milićević V., Internet ekonomija (selected chapters), Fakultet organizacionih nauka, Beograd, 2002.

Chaffey D., E-Business and e-Commerce Management, Strategy, Implementation and Practice (selected

chapters), Prentice Hall, Financial Times, Harlow, 2011

McKenzie R., Digital Economy: How Information Technology has Transformed Business Thinking (selected chapters), Praeger, Westport, Connecticut, London, 2003

The number of class hours per week				Other classes:
Lectures:	Exercises:	Workshops:	Research study:	
2	2			

# **Teaching methods**

Lectures with the participation of students in interactive teaching, presentation of practical examples, case studies, exercises using the Internet, creative workshops, software application, exercises to solve specific business problems related to the digital economy, consultations in the preparation of seminar papers.

Pre-exam requirements	Points	Final exam	Points
Participation in class	10	Written exam	
Participation in labs		Oral exam	55
Seminar paper	35		

Degree level: Undergraduate studies

**Course:** 

### **Design for the Environment**

Teacher:Petrović B. Nataša

Course status: elective

**ECTS points**: 4

Prerequisites: /

# Course objective

Providing knowledge in the field of industrial ecology and environmental design for sustainable production and consumption.

# Learning outcomes

Enables students to apply knowledge of the sustainability benchmarking and environmental product planning, design, packaging, and labeling.

Provides students with skills for applying LCA method, DFX method, and ISO 14020.

### **Course structure and content**

#### Theoretical instruction:

Products and the environment. The negative impact of products on the environment. Environmental aspects of products. Environmental compatibility of products. Design for the Environment. Cleaner production. Zero Waste. Measurement and evaluation of the environmental suitability of the product. Manage environmental suitability of the product. Sustainable production and consumption.

# Practical instruction:

Design and analysis: "inventory of product related environmental issues". Design and analysis: "inventory of environmental problems caused by the Republic of Serbia solid waste disposal". Review and analysis of the factors that led to the development of the design for the environment. Case study: environmental design. Case study: an environmentally friendly product. Case study: possibilities of

design for the environment of the existing products. Design and analysis of checklist. Making presentations and presentation of seminar papers and case studies

# Literature/Readings

- 1. Petrović N.: *Upravljanje ekološkom podobnošću proizvoda*, monografija. Beograd: Zaduţbina Andrejević, 2013.
- 2. Petrović N.: *Handout-i sa predavanja*. Beograd: FON, 2013.

Petrović N.: Dizajn za životnu sredinu, skripta. Beograd: FON, 2007.

The number of class hours per week				Other classes:
Lectures: 2	Lectures: 2 Labs:2 Workshops: Research study:			

# **Teaching methods**

Presenting content (ppt and multimedia presentations, educational films ...). Interactive work on solving the case study. Discussions on pre-defined and presented problem. Teamwork in creative workshops. Critical analysis, evaluation and synthesis of information, problems and issues in developing a specific and independent research when making term papers and study of research papers.

Pre-exam requirements	Points	Final exam	Points
Seminars	40	Oral exam	60

Degree level: Undergraduate academic studies

Course:

#### Socially responsible marketing

Teacher: Vlastelica Bakić L. Tamara

Course status: Elective

**ECTS points**: 4

Prerequisites:

# Course objective

Acquisition of knowledge in the field of planning and organizing marketing activities, in accordance with the principles, policies and procedures of corporate social responsibility in the organization. Introduction to the theoretical and practical approaches to product design, distribution, pricing and promotion in a socially responsible manner. Mastering the techniques of strategic planning of CSR communication through the integration of corporate social responsibility, marketing and corporate communications.

#### Learning outcomes

Built ability and knowledge of the methodology of planning and managing socially responsible marketing. Successful application of gathered knowledge in further academic work or in practice, primarily: the integration of principles of social responsibility in marketing plans and activities, as well as planning marketing campaigns with the aim of communicating corporate social responsibility of an organization

#### **Course structure and content**

#### Theoretical instruction:

The concept and dimensions of corporate social responsibility (CSR). Economic, legal, ethical and philanthropic dimension of social responsibility. Workplace: Treatment of employees. Marketplace: Responsibility on the market. Environment. Community investment. The impact of CSR on business performance and consumer behavior. Managing social responsibility. Evaluation and measurement of CSR. Institutions and indexes of social responsibility. Eco-labeling.

Socially responsible aspects of product. Socially responsible aspects of price. Socially responsible aspects of distribution. Socially responsible aspects of promotion.

Communicating socially responsible business. Integrating corporate social responsibility, marketing and corporate communications. Ethical aspects of communication. Cause related marketing. "Green marketing". Social marketing. Integrated media campaigns with the aim of promoting social responsibility.

# Practical instruction:

Analysis of practical examples. Creating a marketing plan with respect to the principles of social responsibility. Exploring socially responsible practices in the country and globally. Simulation of solving specific business problems. Analysis of the ethics of promotional and media campaigns. Development of a plan for communication of corporate social responsibility.

# Literature/Readings

- 1. Vlastelica Bakić T., Managing reputation by applying corporate social responsibility in marketing and public relations, Script, 2013.
- 2. Vlastelica Bakić. T., Lalić, D. (2013). "Examples of good practice in public relations 2013", FOS, Belgrade
- 3. Kotler P., Lee N., Corporate social responsibility Doing the Most Good for Your Company and Your Cause", John Wiley & Sons, Inc., 2004

The number of class hours per week				Other classes:	
	Lectures:	Labs:	Workshops:	Research study:	
	2	2			

# **Teaching methods:**

Lectures, Case studies, Simulation of business situations, Individual research and project assignment.

Evaluation/Grading (maximum 100 points)					
Pre-exam requirements Points Final exam Points					
Participation in class	20	Written exam			
Participation in labs	30	Oral exam	50		

Degree level: Undergraduate studies

**Course:** 

**Eco-marketing** 

Teacher: Petrović B. Nataša, Filipović S. Vinka

Course status: elective

**ECTS points**: 4

Prerequisites: /

# Course objective

Providing knowledge in the field of ecology, environment and marketing in order to improve and strengthen the application of the results of an eco-marketing in practical research and application.

# Learning outcomes

Enables students to apply knowledge of eco-marketing and eco-marketing mix in design, promotion, and distribution of green products.

Provides students with skills for application of: Design for Environment, Green Market Research, LCA method, Principals behind 4R (Reduction, Reuse, Recycling and Recovery).

#### **Course structure and content**

#### Theoretical instruction:

Products/services and the environment: problems and solutions. Environmentally friendly products and services. Environmental design. Design for the Environment. The role of marketing in the introduction of new environmental products and services. Basics of eco-marketing. Concept of eco-marketing. Eco-marketing in response to the environmental marketing management. The role of eco-marketing in the creation of environmental markets.

# Practical instruction:

Creative workshops, debates on current environmental topics, case studies and interactive educational discussions. Design and analysis: "inventory of environmental issues related to products". Design and analysis: "inventory of environmental issues service related". Review and analysis of the factors that led to the development of eco-marketing. Case study: eco-marketing. Design and analysis: "inventory of organic products". Case study: an environmentally friendly product. Case study: Eco-marketing and the creation of environmental markets. Making presentations and presentation of seminar papers and case studies.

- 3. Petrović N.: Ekološki menadžment, udtbenik, drugo izd. Beograd: FON, 2012.
- 4. Petrović N.: Handout-i sa predavanja. Beograd: FON, 2013.
- 5. Petrović N.: *Eko-marketing*, skripta. Beograd: FON, 2007.
- 6. Barrow C.J.: Environmental Management-Principles and Practice. London: Routledge, 1999.
- 7. Botkin D., E. Keller: Environmental Science-Earth as a living planet. USA: John Wiley&Sons, Inc,

2003.						
The number of	Other classes:					
			T=			
Lectures: 2	Labs:2	Workshops:	Research study:			

# Teaching methods

Presenting content (ppt and multimedia presentations, educational films ...). Interactive work on solving the case study. Discussions on pre-defined and presented problem. Teamwork in creative workshops. Critical analysis, evaluation and synthesis of information, problems and issues in developing specific and independent research when making term papers and study of research papers.

Evaluation/Grading (maximum 100 points)					
Pre-exam requirements Points Final exam Points					
Seminars	40	Oral exam	60		

Degree level: Undergraduate studies

**Course:** 

#### **Environmental management**

Teacher:Petrović B. Nataša

Course status: Obligatory

**ECTS points**: 6

Prerequisites: /

# Course objective

Providing knowledge in environmental management, environmental policies and analysis, environmental operations, design and planning, training and consulting and advocacy of environmental law with a focus on the complex relationship between environmental science, environmental management and business..

# Learning outcomes

Enables students to apply knowledge of the ecological and social system for their applications in the context of resolving environmental management problems.

Provides students with skills for applying methods for solving and calculating environmental problems of organization: Ecological Footprint, Carbon Footprint, Water Footprint, Optimization of Energy material flow.

#### **Course structure and content**

#### Theoretical instruction:

Fundamentals of Environmental Management. Ecological problems. Regional environmental problems. Global environmental problems/environmental crisis. The development of environmental awareness. Sustainable Development. Sustainable Development Strategy. Environmental management. Dilemmas and opportunities of environmental management. Establishment of environmental management. Breakthrough of formalized eco-management system. Implementation aspects of environmental management. Environmental compatibility of products.

### Practical instruction:

Creative workshops, debates on current environmental topics, case studies and interactive educational discussion about the biggest environmental problems. Review and analysis of the factors that have led to environmental problems/environmental problems. Development possibilities of environmental management in practical business situations. Case study: environmental management. Review and analysis of the factors that led to the development of formalized system of environmental management. Design and analysis of environmental policy/environmental policy of the organization. Making presentations and presentation of seminar papers and case studies.

- 8. Petrović N.: Ekološki menadžment, udţbenik, drugo izd. Beograd: FON, 2012.
- 9. Petrović N.: Handout-i sa predavanja. Beograd: FON, 2013.

10. Barrow C. J.: *Environmental Management-Principles and Practice*. London: Routledge, 1999. Botkin D., E. Keller: *Environmental Science-Earth as a living planet*. USA: John Wiley&Sons, Inc, 2003.

The number of class hours per week				Other classes:
Lectures: 2 Labs:2 Workshops: Research study:				

# **Teaching methods**

Presenting content (ppt and multimedia presentations, educational films ...). Interactive work on solving the case study. Discussions on pre-defined and presented problem. Teamwork in creative workshops. Critical analysis, evaluation and synthesis of information, problems and issues in developing specific and independent research when making term papers and study of research papers.

#### 

Degree level: BSc

**Course:** 

#### **Econometrics**

Teacher: Bulajić V. Milica, Radojičić A. Zoran, Vukmirović V. Dragan, Jeremić M. Veljko

Course status: Elective

**ECTS points**: 4

Prerequisites:

# **Course objective:**

Introduction to econometric models- regression analysis, time series analysis, simultaneous equation models, and other econometric problems. Special attention is devoted to methods that are being used in financial management.

#### Learning outcomes

Students will be introduced to a broad range of applications of econometric models in different fields. They will be able to adequately employ econometric models to solve different econometric problems. Students will apply the statistical software package in solving these problems.

#### **Course structure and content**

# Theoretical instruction:

T01: Methodology of econometric research. T02: Linear regression models (LRM) and ordinary least square method (OLS). T03: LRM with two variables. Parameter estimation with OLS. T04: Statistical tests. Confidence intervals for parameters of LRM. T05: Predictions. Reduction of some non-linear models to linear models. T06: LRM with multiple variables. Dummy variables. T07: Multicolinearity, heteroscedasticity. T08: Autocorrelation. Generalized OLS. T09: Methods of simultaneous equations. T10: Parameter estimation with indirect method of least squares. T11: Parameter estimation with two-step method of least squares. T12: Time series. Components of time series. Analytical methods of trend detection. T13: Moving average methods. Methods of exponential smoothing. Holt-Winters method. T14: ARIMA models. T15: SPSS software package.

#### Practical instruction:

P01: Methodology of econometric research. P02: Linear regression model with two variables. Ordinary least square method (OLS). P03: Variance of estimates. Coefficient of determination P04: t-test and F-test. P05: Predictions. Reduction of some non-linear models to linear models. P06: LRM with multiple variables. P07: Dummy variables, multicolinearity. P08: Heteroscedasticity, autocorrelation. P09: Methods of simultaneous equations. P10: Parameter estimation with indirect method of least squares. P11: Parameter estimation with two-step method of least squares. P12: Time series. P13: Methods of time series analysis. P14: ARIMA models. P15: SPSS software package.

### Literature/Readings

- 1. Mladenović Z., Nojković A., Zbirka rešenih zadataka iz ekonometrije, Ekonomski fakultet,
- Vuković N., *PC statistika i verovatnoća*, FON, 2005.
   Kovačić Z., *Analiza vremenskih serija*, Ekonomski fakultet, 1995.
   Gujarati D., *Basic Econometrics*, McGraw-Hill, 2004.

The number	Other classes:			
Lectures: 2	Labs: 2	Workshops:	Research study:	
Teaching met			iteboard and computer maximum 100 points)	
Pre-exam req	uirements	Points	Final exam	Points
Participation i	n class	5	Written exam	25
Participation i	n labs	5	Oral exam	25
Colloquium		20		
Conoquium				

Degree level: undergraduate studies

**Course:** 

**Economics** 

Teacher: Kragulj P. Dragana, Jednak J. Sandra

Course status: compulsory

**ECTS points**: 6

Prerequisites: none

### Course objective.

Gaining fundamental knowledge of economics (an introduction to the economic analysis, microeconomics and macroeconomics) through the theory, techniques and practical examples.

### Learning outcomes

Introduction to economic science; elucidation and mastering basic economic categories and economic laws; linking economic concepts as abstract categories with practical economic life; proper orientation in identifying important economic events in one country, but also on a global level; development of economic logic and thinking about contemporary economic trends.

### **Course structure and content**

### Theoretical instruction:

Introduction to economic science; The scope and the method of economics; Economic categories and economic laws; A review of the major schools of economic thought; Production, consumption, distribution and exchange; Factors of production and their interrelationship; Production possibilities frontier; Trade-off; The production function; The law of diminishing returns; Total, average and marginal product and their interdependence; Production and costs; Analysis of the markets of the factors of production; Capital and labor; Salary and profit; Firms in the market economy; The main macroeconomic aggregates; Gross domestic product, gross national product and national income; Market, prices and competition; Demand and supply of goods and services; Elasticity of demand and supply; Market equilibrium; Definition of the market and it's functions; Spheres of market inefficiency; Market structure; Maximizing target functions of the producers in the conditions of perfect and imperfect competition; Monopoly; Monopolistic competition; Monopoly price and profit; Aggregate demand and aggregate supply; Curve and the determinants of aggregate demand; Curve and the determinants of aggregate supply; The equilibrium of aggregate demand and aggregate supply; Accumulation, investment, consumption and national income; Determinants of national income; The use of accumulation; Accumulation curve and consumption curve; Accumulation and investments; Capital coefficient, average capital coefficient and marginal capital coefficient; Investment performance and capital coefficient; Consumption plus investment; Recessionary and inflationary gap; Inflation and economic development; Inflation and unemployment; Anti-inflation policy; Deflation; Macroeconomic stabilization policy; The labor market; Economic growth and development; Concept, importance, objectives and factors of economic growth and development; Indicators of development; The most important theories of economic growth and development; Characteristics of contemporary economic growth and development; Economic

cycles; Anti-cyclical policies; *Macroeconomic objectives and macroeconomic instruments;* Correlation between macroeconomic objectives and instruments; Economic functions of contemporary economy; Monetary and credit policy; Money market; Budget and tax policy; Investment policy; Incomes policy; Price system and price policy; *Economics of open economy*; International flows of goods and services; Nominal and real exchange rate; Devaluation and revaluation; Balance of payments; The European integration processes; The European Union; European transition processes; Macroeconomic problems of countries in transition; International capital movements; Foreign direct investments.

### Practical instruction:

Seminar classes follow the methodical units lectures.

### Literature/Readings

Kragulj D., *Ekonomija - Osnovi mikroekonomske i makroekonomske analiza*, izdanje autora, Beograd 2013.

The number	Other classes:			
Lectures:	Labs:	Workshops:	Research study:	
2	2			

### Teaching methods

Lectures, exercises, presentations of seminar papers and essays, case studies, tests, consultation. All form of teaching requires preparation, cooperation and participation of students. Students are encouraged and activated through interactive classes.

# Evaluation/Grading (maximum 100 points) Pre-exam requirements Points Final exam Points Participation in class 5 Oral exam 50 Seminar paper/Essay and their presentation 5 Colloquium 40

Degree level: Undergraduate

Course:

**Business Economics and Planning** 

Teacher: Milićević K. Vesna, Ilić J. Bojan

Course status: compulsory

**ECTS points**: 6

Prerequisites: none

### Course objective

Acquiring knowledge and skills in the fields of business economics and business planning relevant in terms of contemporary management.

### Learning outcomes

Mastering theoretical approaches, methods and models in the fields of business economics and business planning and ability of their application in practice.

### **Course structure and content**

### Theoretical instruction:

The concept and essence of business economics; identification and understanding of the enterprise economic aspects; changes related to contemporary business; the size and growth business; company "without borders". Concept, types and analysis of costs; cost functions; cost dynamics; elasticity of costs; opportunity costs; newer categories of costs in business economics. Revenue and profit; revenue cathegories and revenue behaviour; current approaches to the realization of profits; incremental profit. Prices and business success; price and non-price competitiveness factors; pricing strategies. Evaluation of efficiency of business operations; efficiency indicators; economies of scale and economies of scope. Measuring profitability; new approaches to measuring business performance; the balanced scorecard; application of the benchmarking method. Economic aspects of business networking; information resources of enterprise and information costs; economics of networks. The process of business planning; planning approaches; strategic and operational planning; stakeholder analysis. Determining strategic and operational objectives, design and implementation of appropriate plans. Models of the business planning process; alternative strategies; creation of competitive advantages. Information systems for business planning. Application of contemporary methods and techniques of business planning relating to environmental analysis. Application of contemporary methods and techniques of business planning relating to the development and implementation of business plan. Planning changes; culture and business planning. Practical aspects of business plan for a new business venture.

### Practical instruction:

Class exercises follow the content and structure of lectures and include case study analysis, the application of the methods of calculating business economics categories, the application of efficiency indicators, the use of new approaches to measuring business performance, business strategy planning, business plan development, creative workshops.

### Literature/Readings

Milićević V., Ilić B., Ekonomika poslovanja, Fakultet organizacionih nauka, Beograd, 2009.

Milićević V., *Strategijsko poslovno planiranje – menadžment pristup*, Fakultet organizacionih nauka, Beograd, 2011.

The number o	Other classes:			
Lectures:	Exercises:	Workshops:	Research study:	
2	2			

### **Teaching methods**

Lectures with the participation of students in interactive teaching, presentation of practical examples, case studies, creative workshops, exercises to solve specific managerial problems, consultations in the preparation of seminar papers.

Evaluation/Grading (maximum 100 points)					
Pre-exam requirements	Points	Final exam	Points		
Participation in class	15	Written exam			
Participation in labs		Oral exam	70		
Seminar paper	15				

Degree level: Undergraduate studies

Course:

### E-business

Teacher: Radenković L.J. Boţidar, Despotović-Zrakić S. Marijana, Bogdanović M. Zorica, Barać M. Dušan, Labus B. Aleksandra, Krčo M. SrĎan, Vukmirović V. Dragan, Vasković R. Vojkan

Course status: Compulsory / Alternative

ECTS points: 6/5

**Prerequisites:** 

### Course objective

The aim of this course is to introduce models, forms and e-business infrastructure to students in order to enable the use of such systems in practice

### Learning outcomes

Students are enabled for projecting and implementation of e-business systems.

### Course structure and content

### Theoretical instruction:

E-business - state and perspectives. Virtual organizations. Business models on the Internet. Revenue models. Electronic retail. B2B electronic commerce. Interoperability in e-business. E-government. E-Health. E-education. E-recruitment. Application of mobile services and mobile technologies in e-business. Mobile commerce. Supply chain management. Customer relationship management. Business Intelligence. Project management in e-business. Risk management in development and implementation of e-business systems. Managing e-business infrastructure. Semantic Web. Information integration. Standards and quality management. Key performance indicators. Legal and ethical aspects of e-business. Trends in electronic business.

### Practical instruction:

Introduction. Distance learning system Moodle. Web sites development. HTML5. CSS3. The interactive elements of Web sites. JavaScript. JQuery. Web portal development. Content management system WordPress. Electronic stores development. Integration of electronic stores in a web portal. Customer relationship management. Integration of CRM in a web portal. SugarCRM.

### Literature/Readings

- 1. E-resources from web site www.elab.rs
- 2. Editors M. Ivković, B. Radenković, Internet and modern business, monography, Faculty of Engineering "Mihajlo Pupin", Zrenjanin 1998.
- 3. D. Chaffey, E-Business and E-Commerce Management (4th Edition), Prentice Hall, 2009.

4. A.Afuah, C.I	Tucci, Internet bu	siness models and	strategies: text and cases, McGraw	7-Hill, 2003.
The number of	Other classes:			
Lectures: 2	Labs: 1	Workshops: 1	Research study:	
Teaching meth	ods			
Lectures, exercidistance education		ab exercises in class	srooms with computers, project / s	eminar papers,
	Eval	uation/Grading (r	maximum 100 points)	
Pre-exam requ	irements	Points	Final exam	Points
Assignments		40	Written exam	20
			Project	40

Degree level: Undergraduate academic studies

Course:

### E-manufacturing

### Teacher: Lečić-Cvetković M. Danica

Course status: elective

**ECTS points**: 4

### Course objective:

The course objective is to capacitate students to understand new approaches to production management (e-manufacturing) by using e-business standards and by using modern information systems and Internet technologies.

### **Learning outcomes:**

The course outcome is students' capability to understand certain level of knowledge about e-manufacturing, as well as to apply different methods and techniques which are based on information systems and Internet technologies, to solve operational management problems in different companies.

### **Course structure and content:**

### Theoretical instruction:

Introduction: E-business. E-business and manufacturing companies. Customers and Internet. E-manufacturing – definitions, characteristics. Production planning in e-business environment. Prerequisites for e-manufacturing. Strategic principles for e-manufacturing. Necessary company competence for e-manufacturing. E-design. E-maintenance in manufacturing. E-control. E-distribution of products. Collaboration between business partners. Integration of information flows in production company by production process models and documentation models. Advances of e-manufacturing.

### Practical instruction/Labs:

Introduction: actual methods and techniques in production processes modeling, standardization and documentation modeling in production. Models and standards for system integration (ebXML, ITIL). Models and standards for system integration (ISO 20000, ISO 27000). Application of models and standards for system integration. Modeling of production processes (class diagrams, activity diagrams, scenario of integration, XML). Standardization and modeling of production documents. Integration of information flows in production systems by production processes and documentation model. Application of models and standards for integration of information flows of production systems in real life examples.

### Literature/Readings:

- 1. Todorovic J., Lecic-Cvetkovic D., Production management (in Serbian), FON, Belgrade, 2005.
- 2. Timings R., Wilkinson S., E-manufacture, Prentice Hall, Edinburg 2004.
- 3. Walsh, E. A., ebXML Technical Specifications, Prentice-Hall, Inc, New York 2002.

The number of class hours per week: 2+2

Other classes:

Lectures: 2	Labs: 2	Workshops:	Research study:				
Teaching methods:							
Lectures and pr	ractical work on cas	se studies from real	business environment.				
Evaluation/Gr	Evaluation/Grading (maximum 100 points)						
Pre-exam requ	iirements	Points	Final exam	Points			
Participation in	class	10	Oral exam	40			
Practical instructions/pro	ject/essay	50					

Degree level: Undergraduate studies

Course:

English language for specific purposes 1

Teacher: Jakić D. Gordana

Course status: Required

ECTS points: 2

Prerequisites: /

### Course objective

Introduction to the basics of English for specific purposes in organizational sciences, systematic expansion of subject-related vocabulary, terminology, revision of grammar and development of students' formal business correspondence skills in the English language. The course enables systematic improvement of language competences and productive language skills and provides a foundation for further academic and professional upgrade.

### Learning outcomes

Students will be able to understand subject-related written and spoken language production, take part in discussions and oral presentations (e.g. job interviews, meetings, negotiations) and produce grammatically correct and coherent writing, particularly related to the job application process (CVs, cover letters, job application letters, motivation letters, etc.).

### **Course structure and content**

### Theoretical instruction:

Globalization; basic terms; History and the Present of Business; basic business terms; Starting up and Growing a Business; basic financial terms; describing trends; Organization; basic terms related to organization; Management and Its Functions; Managerial terms, collocations; A Brief History of PCs; basic ICT-related terms; The Internet; Internet and www-related expressions and affixes; On the Way to Work; basic terms and expressions to describe education and employment; Advertising a Job & Applying for a Job; phrases related to job seeking; On the Job; phrases related to employment and workplace; Business Letters, Emails and Presentations: structure, layout and content; Meetings and Negotiations; types of meetings, useful expressions;

### Practical instruction:

Numbers and figures; raise vs rise; Overview of present tenses; Expressing the past; job vs work, stakeholder vs shareholder; Expressing the future; affect vs effect, stuff vs staff, personal vs personnel; Reported Speech; Extension of managerial and financial vocabulary, Conditionals; Basic ICT-related collocations and phrasal verbs; Infinitive vs Gerund, Use of Articles; Pronouncing symbols and characters; Passive Voice; Cover Letter, Curriculum Vitae (CV), Application Form; Personality adjectives; Employment, enquiry, request and complaint letter; Useful phrases for business email writing, running and attending meetings and telephone calls; Improving presentation skills; General Revision.

### Literature/Readings

Jakić, G., AnĎelković, J., Novaković, M.: Organize Your English, Faculty of Organizational Sciences, University of Belgrade, 2013.

Oxford Dictionary of Business, Oxford University Press, Oxford, 2004.

McCarthy, C.: Cambridge Grammar of English, Cambridge University Press, Cambridge, 2002.

The number of	Other classes:			
Lectures: 1	Labs: 1	Workshops:	Research study:	
Lectures: 1	Labs: 1	Workshops:	Research study:	

### **Teaching methods**

Lectures, analysis of texts in English, exercises, pair work, team work, discussion, presentations, case studies, business essay writing, role-play.

Pre-exam requirements	Points	Final exam	Points
Participation in class	10	Written exam	50
Participation in labs	40		

Degree level: Undergraduate studies

Course:

English language for specific purposes 2

Teacher: Jakić D. Gordana

Course status: Required

ECTS points: 2

Prerequisites: /

### Course objective

Further upgrade of language competences and productive language skills acquired during the course in English language for specific purposes I. Systematic expansion of terminology, vocabulary and language structures related to the subject field of organizational sciences, i.e. management and information systems and technologies.

### Learning outcomes

Students will be able to understand more complex subject-specific written and spoken language production, take part in discussions and oral presentations and produce grammatically correct and coherent subject-related writing (e.g. press releases, reports, summaries, etc.) and confidently use subject-related terminology in English.

### Course structure and content

### Theoretical instruction:

Computers – reading comprehension and discussion; Information Systems – reading comprehension and discussion; Computer Software – reading comprehension and discussion; Computer Programming – reading comprehension and discussion; The Internet – reading comprehension and discussion; Internet Addiction – reading comprehension and discussion; Computer Crime and Malicious Computer Programs – reading comprehension and discussion. Management – reading comprehension and discussion; Marketing – reading comprehension and discussion; Sales and Marketing – reading comprehension and discussion; Advertising – reading comprehension and discussion; Public Relations – reading comprehension and discussion; Assets and Liabilities – reading comprehension and discussion; Accounting and Bookkeeping – reading comprehension and discussion.

### Practical instruction:

Computers – vocabulary extension; Information Systems – vocabulary extension; Computer Software – vocabulary extension; Computer Programming – vocabulary extension; The Internet – vocabulary extension; Internet Addiction – vocabulary extension; Computer Crime and Malicious Computer Programs – vocabulary extension. Management – vocabulary extension; Marketing – vocabulary extension; Sales and Marketing – vocabulary extension; Advertising – vocabulary extension; Public Relations – vocabulary extension; Finance – vocabulary extension; Assets and Liabilities – vocabulary extension; Accounting and Bookkeeping – vocabulary extension.

### Literature/Readings

Jakić, G., AnĎelković, J., Novaković, M.: Organize Your English, Faculty of Organizational Sciences, University of Belgrade, 2013.

Oxford Dictionary of Business, Oxford University Press, Oxford, 2004.

McCarthy, C.: Cambridge Grammar of English, Cambridge University Press, Cambridge, 2002.

The number of	Other classes:			
Lectures: 1	Labs: 1	Workshops:	Research study:	
Lectures: 1	Labs: 1	Workshops:	Research study:	

### **Teaching methods**

Lectures, analysis of texts in English, exercises, pair work, team work, discussion, presentations, case studies, business essay writing, role-play.

Pre-exam requirements	Points	Final exam	Points
Participation in class	10	Written exam	50
Participation in labs	40		

Degree level: Undergraduate studies

Course:

English language for specific purposes 3

Teacher: Jakić D. Gordana

Course status: Elective

**ECTS points**: 4

Prerequisites: Exams in English language 1 and English language 2 successfully passed

### Course objective

The course introduces the basics of academic language, provides an overview of techniques, strategies, genres, content and context necessary for producing well-written and well-structured academic discourse.

### Learning outcomes

Students will be able to employ a wide variety of pre-reading and pre-writing techniques (skimming, scanning, brainstorming, note-taking), demonstrate clear and structured composition skills (sentence level to text level) be able to edit, proofread and critically evaluate different academic genres. Students will develop academic presentation skills that will enable them to give clear, concise and effective presentations.

### **Course structure and content**

### Theoretical instruction:

Discussion, reading comprehension and the study of vocabulary, terminology, phrases, collocations and compounds that belong to the following topics: *Management*; *Information Systems and Technology*; *Operations Management*; *Quality Management*; *Corporate Strategy and Structure*; *Entrepreneurship*; *Ecommerce*; *Logistics and Supply Chain Management*; *Production Systems*; *Why Standards Matter*; *Computer integrated Manufacturing*; *Networks*; *Kaizen, JIT and Six Sigma*; General revision.

### Practical instruction:

Extension of vocabulary and terminology by using a case study and discussion methods; Topics include: Management; Information Systems and Technology; Operations Management; Quality Management; Corporate Strategy and Structure; Entrepreneurship; E- commerce; Logistics and Supply Chain Management; Production Systems; Why Standards Matter; Computer integrated Manufacturing; Networks; Kaizen, JIT and Six Sigma; Trends in organizational sciences: students' presentrations.

### Literature/Readings

Jakić, G.: Reading Texts, Faculty of Organizational Sciences, University of Belgrade, 2013.

J. McCarthy, J. McCarten, D. Clark, R. Clark, Grammar for Business, Cambridge University Press,

Cambridge, 2009.

- M. Landa, Privredno poslovni rečnik. Grafička knjiga, Beograd, 2004.
- P. Emmerson, Business Vocabulary Builder, Macmillan Education, Oxford, 2009.
- S. R. Esteras, E. M. Fabre, Professional English in Use: ICT, Cambridge University Press, Cambridge, 2009

The number of class hours per week					
Labs: 2	Workshops:	Research study:			
		·			

### Teaching methods

Lectures, analysis of texts in English, exercises, pair work, team work, discussion, presentations, case studies, business essay writing, role-play.

Pre-exam requirements	Points	Final exam	Points
Participation in class	10	Written exam	50
Participation in labs	40		

Degree level: Undergraduate studies

Course:

### **Investment Banking**

Teacher:Barjaktarović-Rakočević M. SlaĎana

Course status: elective

**ECTS points**: 4

Prerequisites: Banking management

### Course objective

Introduction to the basic concepts of investment banking industry. The focus will be on the structure and development of investment banking industry; activities and operations of investment banks; and role of investment banks in primary and secondary capital market.

### Learning outcomes

The content of this course helps students to understand and solve practical problems of investment banking activities in domestic and foreign markets.

### **Course structure and content**

Theoretical instruction: Investment banks as specialized intermediaries in the financial market. Definition and activities of investment banking. Relationships between investment and commercial banking. The structure of investment banks' financial statements. The organizational structure of investment banks. Operations of investment banks. Investment banks in the primary capital market. Investment banks' operations when issuing corporate and government bonds. Investment banks in the Euro market. Investment banks in the secondary capital market. Asset Management – Funds. Restructuring of companies. Mergers and acquisitions. Financial engineering. Securitization. Other investment banking activities.

**Practical instruction:** The concept and development of investment banking. Glass-Steagall legislation. The structure of investment banking industry. Public placement of issues. Initial public offering. Private placement of issues. Privileged placement of issues. Broker and dealer activities of investment banks. Arbitrage and speculation. LBO. Commercial Banking. Venture Capital. Securities covered by the mortgage. Securities covered by assets. Zero-coupon bonds. Swap. Interest rate agreements.

### Literature/Readings

- Barjaktarovic Rakocevic S, Investiciono bankarstvo i trțište hartija od vrednosti, Zaduzbina Andrejevic, 2012.
- 2. Barjaktarovic Rakocevic S, Uloga banaka na trţištu hartija od vrednosti u Srbiji, Zaduzbina Andrejevic, Belgrade, 2008.
- 3. Stowell D, An Introduction to Investment banks, hedge funds and private equity, Elesevier, Amsterdam, 2010.

The number of	Other classes:			
Lectures:	Labs:	Workshops:	Research study:	
2	2			

### **Teaching methods**

Teaching is conducted through lectures, exercises and consultations. Students are actively involved in the learning process through interactive discussions, exercises, homework, case studies and workshops.

Pre-exam requirements	Points	Final exam	Points
Participation in class	10	Exam	60
Seminar	30		

Degree level: Bachelor studies

**Course:** 

**Quality Engineering** 

Teacher: Mijatović S. Ivana

Course status: mandatory

**ECTS points**: 6

Prerequisites: none

### Course objective

Acquiring of knowledge about quality engineering on the levels of understanding, application.

### Learning outcomes

Active participant will be able to understand importance, purposes, benefits and limitation of different concepts of quality engineering as well as be able to adequately apply those concepts in organizations.

### **Course structure and content**

### Theoretical instruction:

P1. Introduction to Quality Engineering. P2. Quality Losses. Costs of Quality and Quality Losses. P3. Classification of quality characteristics. Nominal the Best (NTB), Smaller the Better (STB), Larger the Better (LTB). Quasi NTB, STB and LTB quality characteristics. P4. Quality Loss Functions for one NTB, STB or LTB quality characteristics. P5. Quality loss function and Process capability. Specification of tolerances. Low-Rank quality characteristics. P6. Quality Loss Functions for more than one NTB, STB or LTB quality characteristics (case of non-correlated quality characteristics). P7 and P8. Quality Loss Functions for two more NTB, STB or LTB quality characteristics (case of correlated quality characteristics). P9. Signal-to-Noise (SN) ratios. Robustness. Classification of SN ratios. P10 and P11. Introduction to Design and analysis of experiments. Strategies for design of experiments in Quality Engineering. Introduction to Factorial experiments. P12. Introduction to Six Sigma. DMAIC model. Design for Six Sigma (DFSS). P13 and P14 Problem solving using DMAIC model. Basic DMAIC tools.

### Practical instruction:

V1. Case study: Economic sustainability of Quality. V2. Case study: Quality Losses V3. Workshop: Classification of quality characteristics. V4. Quality Loss Functions for one NTB, STB or LTB quality characteristics. V5.: Quality loss function and Process capability. V6. Low-Rank quality characteristics. V7 and V8. Quality Loss Functions for two more NTB, STB or LTB quality characteristics (case of correlated

quality characteristics). P9. Signal-to-Noise (SN) ratio. V10 and V11. Introduction to Design and analysis of experiments. V12, V13 and V14 Workshops: Introduction to *Six Sigma* and DMAIC model.

### Literature/Readings

- 1. Mijatović I., Ințenjering kvaliteta autorizovana skripta, 2013/2014.
- 2. Mijatović I., Teaching materials in e-form (e-tests, e-forums, texts, presentations, case studies), 2013., <a href="http://e-learn.fon.bg.ac.rs/course/">http://e-learn.fon.bg.ac.rs/course/</a>
- 3. Taguchi G., Chowdhuty S., Wu Y., Taguchi s Quality Engineering Handbook, John Wiley and Sons, 2005.
- 4. Montgomery D.C., Design and Analysis of Experiments, John Wiley and Sons, 2009.
- 5. Allen T.T., Introduction to Engineering Statistics and Six Sigma, Springer-Verlag, London, 2006.

The number of	Other classes:			
Lectures:	Labs:	Workshops:	Research study:	0
2	2	0	0	

Teaching methods: Interactive lectures, workshops, case studies, on-line discussions, on-line tests

Pre-exam requirements	Points	Final exam	Points
Participation in class	5	Written exam	20
Home works	20	Oral exam	35
Midterm exams	20		

Degree level: Undergraduate studies

**Course:** 

**Process Engineering** 

Teacher: Radović M. Milić, Slović D. Dragoslav

Course status: Elective

**ECTS points**: 6

Prerequisites: none

### Course objective

The objective of this course is to introduce students to basic concepts of process engineering and process approach in production and service business system. Student will learn how to identify, specify, measure and improve processes, by using specific engineering and management methods.

### **Learning outcomes**

Conceptual knowledge to classify and categorize principles, theories, and models to understand basic concepts regarding business processes and process approach in production and service systems, and procedural knowledge to apply specific engineering and management methods and techniques for process identification, specification, measurement and improvement..

### Course structure and content

### Theoretical instruction:

Keynote lecture; Processes and process approach; The types of processes; Processes and organizational structures; Universal technology of process approach; Identification and classification of products/services for the implementation of the process approach; Examples of product/service identification and classification; Process identification and classification, Examples of process identification and classification. Identifying priority, critical and key processes; Process specification (documenting, modeling, hierarchical decomposition, making ID card process); The quality and effectiveness of the process; Instruments for determining the success of the process; Establish a system for measuring, monitoring and reporting; Process reviewing, improvement and re-engineering; Methods, techniques and software for processes engineering; Examples of process engineering; Examples of process management; Finally lecture;

### Practical instruction:

Preparation of the project assignment. Organization of the work of creative workshops; Creative Workshop 1: "The product/service identification and classification"; Creative Workshop 2: "The process identification and classification"; Creative Workshop 3: "The selection of priority, critical and key processes"; Creative Workshop 4: "The process reviewing, improvement and/or re-engineering"; Creative

Workshop 5: "Establishing a system for measuring, monitoring and reporting"; Laboratory exercises; Control and verification of project assignments; Presentation of project assignments;

### Literature/Readings

- 1. Radović, M., Tomašević, I., Stojanović, D., Simeunović, B., "Ințenjering procesa", I edition, FON, Belgrade, 2012.
- 2. Madison D. (2005). Process Mapping, Process improvement and Process Management A Practical Guide to Enchancing Work and Information Flow, Paton Press LCC, Chico, California.
- 3. Scheer, A. W. (1994). Business Process Engineering Reference Models for Industrial Enterprises, 2nd Edition, Springer- Verlag, Berlin.

The number of	Other classes:			
Lectures:	Labs:	Workshops:	Research study:	
2	2			

### Teaching methods

Prepared Power Point presentation, supported by examples relating to the matter; Preparing students for the practical application of knowledge in real business system; Enabling students to solve practical problems by demonstration of specific examples and problem solving with the active participation of students; The training, control and verification of progress on project assignments.

### Evaluation/Grading (maximum 100 points) Pre-exam requirements Points Final exam Points Participation in class 50 Written exam 50 Participation in labs 50

Degree level: Undergraduate studies

Course:

**Innovation Projects** 

Teacher: Stošić A. Biljana

Course status: Elective

**ECTS points**: 4

Prerequisites:

### Course objective

Acquisition of knowledge in the field of innovation project management from idea to realization, modeling of innovation projects, modeling and evaluation of innovation portfolio, determining innovation project performance.

### **Learning outcomes**

Identification of innovation projects as a specific project category and ability for managing the innovation projects and portfolio of innovation projects. Ability to apply contemporary innovation project management methods, techniques and tools supported by software solutions.

### **Course structure and content**

Theoretical instruction: The concept of project and innovation project. Innovation project as a specific project category – key dimensions. The objectives of innovation projects. Managing the innovation projects from idea to implementation. Innovation model as a project – stages, elements, activities. Innovation matrix. Features of radical and incremental innovation projects. Innovation project value created. Managing the portfolio innovation projects – objectives, categories, methods and techniques. Evaluation of innovation project activities compared to strategic dimensions. Resource planning. Organization for managing innovation project. Innovation project teams. Risk management in innovation project (planning, identification, analysis). Monitoring and control of the innovation project realization. Reporting system on the implementation of the innovation project. Software solutions in managing innovation projects and portfolios.

**Practical instruction:** Examples of radical and incremental innovation models - similarities and differences. Examples of innovation product projects. Examples of project evaluation in portfolio (time, risk, value, type of innovation project, implementation). Examples of the application of indicators for indicating the value created by the innovation project (ROI, ROI2 – Return on Innovation Investment, etc.). Project management methods and tehniques in case of innovation projects. Case studies from the field.

### Literature/Readings

Required:

Stošić, B. Innovation Management - Innovation Projects, Models and Methods, Faculty of Organizational

Sciences, Belgrade, 2013.

### Optional:

Webb, A., Project Management for Successful Product Innovation, Gower Publishing, 2000.

Cooper, R., Winning at New Products: Accelerating the Process from Idea to Launch, Harper Collins Publishers, New York, 2001.

Kerzner, H., Project Management - A Systems Approach to Planning, Scheduling and Controlling, Wiley, 2006.

The number of	Other classes:			
Lectures:	Labs:	Workshops:	Research study:	
2	2			
2	2			

### **Teaching methods**

Power Point presentation, research activities through overview and analysis selected case studies, students' presentation and discussions of the seminar papers (individual or team), information support through overview and application selected software packages from the field

Pre-exam requirements	Points	Final exam	Points
Participation in class	20	Written exam	50
Participation in labs	30		

Degree level: Undergraduate studies

**Course:** 

**Intellectual property** 

Teacher: Stošić A. Biljana

Course status: Elective

**ECTS points**: 4

Prerequisites:

### Course objective

Acquisition of knowledge in the field of intellectual property: identification, analysis and use of intellectual property rights and strategy definition for achieving competitiveness and business success.

### Learning outcomes

Ability to identify elements of intellectual capital as a strategic resource, to define strategies of intellectual property and intellectual property management in order to increase competitiveness and overall business success. Gaining skills of reporting and valuation of intellectual capital and tracking the value of intangibles.

### **Course structure and content**

Theoretical instruction: Intellectual capital: intangible value and enterprise's strategic resource. The concept and forms of intellectual property. The development of Intellectual Property Rights. Intellectual property in the new product/service and process development: imitation protection factor and increasing benefit factor. Intellectual property strategy. Inventor's law - patents, technical innovation, know-how, industrial designs - models and samples, product and service trademarks, appellations of origin, protection against unfair competition. Patents as a "5thP" in innovation and business strategy. Number of patents application and registered patents as an innovativeness, technology progress and development indicator. Observing patents data as a method to support innovation management and development; impact of patent protection on the invention value, innovation and competitiveness - advantages and disadvantages. Trademarks - brands and its influence on competitiveness, innovation and development. Copyright. Problems and possibilities of law protection in field of ICT (internet, e-business). The role of intellectual property in EU and harmonization (World Trade Organization and World Intellectual Property Office).

**Practical instruction:** Intellectual property rights in EU – examples. Patents and innovation appropriability. Patents - examples. Technical innovations and know-how - examples. Product and service trademarks and competitiveness. Relation between trademark and brand (law and management aspects). Examples of product and service trademarks, appellations of origin, industrial design. Examples from the field of e-business. Case studies – influence of intellectual property rights application on business successs.

### Literature/Readings

### Required:

Stošić, B., Innovation Management - Innovation Projects, Models and Methods, Faculty of Organizational Sciences, Belgrade, 2013.

### Optional:

Drakulić, M., Basics of Business Law, Faculty of Organizational Sciences, Belgrade, 2001.

Besarović, V., Intellectual Property - Industrial property and Copyright, Faculty of Law Publishing Center, Belgrade, 2005.

The number of	Other classes:			
Lectures:	Labs:	Workshops:	Research study:	
2	2			

### **Teaching methods**

Power Point presentation, research activities through overview and analysis of selected case studies, interactive work through students, students' presentation and discussions of the seminar papers (individual or team).

Pre-exam requirements	Points	Final exam	Points
Participation in class	20	Written exam	50
Participation in labs	30		

Degree level: Undergraduate studies

Course:

### **Enterprise Information Systems**

Teacher: Lečić-Cvetković M. Danica

Course status: Obligatory

**ECTS points**: 6

Prerequisites: Control systems, VI semester OM study group

### Course objective

Content of this course includes basics of spreadsheets and spreadsheet applications. In order to automate activities in data analyses in Excel spreadsheets, as well as to create data bases, students learning how to use Visual Basic for Applications (VBA) programming language. Also, course implies basic concepts of flow of goods, materials and financial bookkeeping.

### Learning outcomes

Students are trained to follow and control material and nonmaterial flows in the enterprise, i.e. information about fixed assets, financial and material bookkeeping, customers, suppliers, employees, earnings and taxes. Knowledge about MS Excel tools allows usage of small data bases, creation of calculations and reports, as well as automation of activities and data analyzes using VBA macros.

### **Course structure and content**

### Theoretical instruction:

Enterprise information systems and data bases; design of data bases and applications; data base layout; spreadsheet functions for data analysis; bookkeeping system; information about fixed assets; material and goods; spare parts; tools; packaging and inventory; production; customers and suppliers; employees, earnings and taxes; enterprise information systems quality elements; spreadsheet engineering;

### Practical instruction:

Data sorting and filtering; pivot tables and subtotals; data linking formulas; VBA programming; construction of general ledger; daybook; journal entry; amortization and revalorization tables; subsidiary ledgers; purchase and sale price calculations; cash flows tables; earnings and taxes tables; balance sheets; data base functions; menus, toolbars; macro hot keys; modules linking.

### Literature/Readings

- 1. Kostić K., Enterprise Information System in Excel (in Serbian), Privredni savetnik, Beograd, 2010;
- 2. Kosić K., Antić S., ĐorĎević L., *Enterprise Information System in Excel A collection of examples* (in Serbian), FON, 2011.

The number of class hours per week	Other classes:

Lectures: 2	Labs: 4	Workshops:	Research study:	1

### **Teaching methods**

Lectures and labs are conducted on computers as step-by-step with projector and Power-Point presentation, while students create their own projects on computers. Study work of students is performed through design of spreadsheet bookkeeping application in a form of a seminar project.

Pre-exam requirements	Points	Final exam	Points
Participation in class and labs	10	Written exam	25
Seminar project	15	Oral exam-application accuracy	25
		Oral exam- problem understanding level	15
		Oral exam-application completeness	10

Degree level: Undergraduate studies

Course:

**Technology commercialization** 

Teacher: Marinković P. Sanja

Course status: Elective

**ECTS points**: 4

Prerequisites: /

### Course objective:

Providing knowledge about technology commercialization process (identifying opportunities, implementation and control) and to train them to apply the models, methods and techniques, as well as to define the performance indicators in this process.

### **Learning outcomes:**

Students acquire knowledge and skills related to technology commercialization process. They are able to carry out an analysis of the external and internal environment of the organization with a focus on technology. They are able to apply the methods and techniques of technology management in decision-making relating to technology transfer, introduction and diffusion of technological innovations. They are able to assess the success of commercialization process with support of relevant indicators.

### Course structure and content

Theoretical instruction: Technology commercialization of as survival and competitiveness factor; Analysis of external and internal environmental factors; Analysis of the industry and identification of stakeholders; Stable, flexible and turbulent technology; Vertical and horizontal technology transfer; Technology and entrepreneurship; Commercialization strategies; Positioning and differentiation; Diffusion of technological innovation; Cooperation in technology commercialization process; Institutional support to commercialization process; Technology commercialization in the global environment; Performance indicators; Technology commercialization and sustainable development.

**Practical instruction:** Exercises classes follow the content and structure of lectures and include: case studies successful and unsuccessful technology commercialization models; Strategic management methods, forecasting methods, technology evaluation and selection methods in commercialization process; Defining and monitoring performance indicators

### Literature/Readings:

Allen, K., Entrepreneurship for Scientists and Engineers, Prentice-Hall, 2009.

Byers, T.H., Dorf, R.C., Nelson., A.J., Technology Ventures: From Idea to Enterprise, 3<sup>rd</sup> Ed., International Ed., McGraww Hill, 2011.

Cetindamar, D., Phaal, R., Probert, D., Technology Management – Activities and Tools, Palgrave Macmillan, 2010.

Levi Jakšić, M., Marinković, S., Petković, J., Menadţment inovacija i tehnološkog razvoja, FON, Belgarde, 2011.

The number	Other classes:						
Lectures:2	Exercises:2	Workshops:	Research study:				
		C1					
C		Č	, discussions, case studies, ho	omework assignments,			
individual and	individual and group student presentations.						
		Evaluation/Gradi	ng (maximum 100 points)				
Pre-exam req	uirements	Poir	its Final	exam Points			
Continuous assessment during		70	Exam	30			
semester - seminars, attendance,		e,					
student partici	pation, activities	and					
tests							

Degree level: Undergraduate studies

**Course:** 

### Lean manufacturing

Teacher: Slović D. Dragoslav, Radović M. Milić

Course status: Alternative course on programme Operations Management;

**ECTS points**: 5

Prerequisites: Fundamentals of industrial engineering

### Course objective

To teach students and train them for team work on solving problems of continuous production improvement through application of engineering methods (analysis, design, setting and improvement) and management (planning, organizing, leading and control) based industrial engineering, continuous improvement, Kaizen and lean approach and Training within industry.

### Learning outcomes

Procedural knowledge to apply specific engineering and management methods and techniques for solving work methods problems, and conceptual knowledge to classify and categorize principles, theories, and models regarding work measurement and job evaluation systems.

### **Course structure and content**

Theoretical instruction: Mass and lean manufacturing. Development and application of lean manufacturing and continuous production improvement. Lean principles and techniques. Kaizen approach. Analytical approach to profitability improvement. Improvement of capital using in manufacturing. Improvement of exchange of dies activities. Design and improvement of production flow. Work cells design and improvement. Kaizen approach. Waste elimination in manufacturing. Workspace organization. Standardization of operations. Presentations of working results. Training within industry programs – Training for Job Instruction Training, Job Method Training and relations on work.

Practical instruction: Mass and lean manufacturing – case studies Ford, Toyota and NUMMI. Application of techniques of Analytical method for profitability improvement. SMED Application. Production flow mapping by using Value Stream mapping. Work cell design. Organization and sustaining of good workplace arrangement by using 5S approach. Development of standard operation. Practical exercises of application of – Training for Job Instruction Training, Job Method Training and relations on work. Project assignment preparation and assessment.

### Literature/Readings

Basic: Levi-Jaksic, M., B. Petrovic, J. Todorovic: "Profitabilnost proizvodnje", FON, Beograd, 1994; Petrovic B., D. Slovic: "Kontinualno poboljsanje proizvodnje - prilozi", FON, Beograd, 2003; Additional: Shigeo S, *Nova japanska proizvodna filozofija*, Prometej, Novi Sad, 1995; **Womack J. P, D. T. Jones, Lean Thinking: Banish Waste and Create Wealth in Your Corporation,** Simon & Schuster, New York, 1996.

The number of class hours per week				Other classes:
Lectures:	Labs:	Workshops:	Research study:	
2	2	2		

### **Teaching methods**

Ex catedra, interview method, demonstrative method, case study, PowerPoint presentations; Practical examples; Individual student research and problem solving based on exercises; Consultation in preparation of project assignment and individual student work through projects;

Pre-exam requirements	Points	Final exam	Points
Participation in class		Written exam	48
Participation in labs	52		

Degree level: Undergraduate studies

Course:

**Quality control** 

Teacher: Tivković D. Nedeljko

Course status: Compulsory

**ECTS** points: 5

Prerequisites: Quality management

### Course objective

Enabling students to: use quality control methods and techniques; to project plans and procedures for quality controling; to master the methods of detection and analysis of poor quality causes in organizational systems (both manufacturing and service).

### Learning outcomes

Students' ability to solve problems related to design and implementation of quality control activities in organizational systems.

### **Course structure and content**

### Theoretical instruction:

1. About the subject (syllabus, student responsibilities, methods of studying, methods work, methods of knowledge application, methods of knowledge assessment). 2. Introduction to the quality control. 3. Quality control system. 4. Design of quality control system. 5. Methods, procedures and techniques of quality control. 6. Sampling-reception plans - the basic elements. 7. Sampling-reception plans for attributive quality characteristics. 8. Developed sampling-reception plans for attributive quality characteristics . 9. Statistical methods of quality control - assessment of the process capability and accuracy. 10. Statistical methods of quality control-control charts. 11. Control charts for numerical quality characteristics. 12. Control charts for attributive quality characteristics. 13. Sampling-reception plans for numerical quality characteristics. 14. Case studies. 15. Concluding remarks.

### Practical instruction:

1. Explanation of work methods, creation of project work and relationship with results from project work within other subjects. 2. Creating a basis for design of quality control plans. 3. Case studies - basis for design of quality control plans. 4. Definition and design of quality control plans. Definition and design of quality control documentation. 5. Case studies - design of quality control plans and documentation. 6. Design and analysis of operating curves. 7. Analysis of quality control costs. 8. Case studies - quality control costs. 9. Statistical methods of quality control - application of sampling-reception plans. 10.-11. Case studies - capability and accuracy of the process. 12.-13. Statistical methods of quality control - design and analysis of numerical control charts for past processes. 14. Statistical methods of quality

control - design and analysis of numerical control charts for current processes. 15. Statistical methods of quality control - design and analysis of attributive control charts.

Students' project work includes thematic sections described within practical instructions.

Laboratory exercises cover students training in working with different types of measuring equipment such as micrometers, measuring clocks, subito, protractors and in measuring different characteristics of measurement units. After measurement of the units' characteristics, methods and techniques of quality control are applied, through solving tasks where input data are the results of measurements carried out within laboratory exercises.

### Literature/Readings

### Basic literature:

 "Quality control" – Slides of authorized lectures and practical tutorials, Nedeljko Zivkovic, Maja Krsmanovic.

### Additional literature:

- 2. "System of integral product quality control", Zivko Mitrovic.
- 3. "Additional material, tables and diagrams", Zivko Mitrovic.
- 4. "Introduction to Statistical Quality Control", Douglas C. Montgomery.
- 5. "Product quality management Methods I & II", Joko Stanic.

The number of class hours per week				Other classes:
Lectures:	Labs:	Workshops:	Research study:	
2	2			

### **Teaching methods**

Theoretical instructions, practical instructions, laboratory exercises, consultation, project work.

## Evaluation/Grading (maximum 100 points) Pre-exam requirements Points Final exam Points Participation in class 5 Written exam 40 Participation in labs 15 Oral exam 25 Project work 15 Oral exam 25

Degree level: BSc

**Course:** 

### **Linear Statistical Models**

Teacher: Bulajić V. Milica, Radojičić A. Zoran, Jeremić M. Veljko

Course status: Alternative

**ECTS** points: 5

**Prerequisites:** 

### Course objective

Introduction to multivariate statistical analysis and the implementation of adequate methods in practical problems solving, with an emphasis on the preparation and interpretation of results of model's transformation, model evaluation, algorithms, and software packages for multivariate statistical analysis.

### Learning outcomes

Students will be capable of conducting statistical research and using modern statistical methods in different areas. Students will apply the statistical software package in solving these problems.

### **Course structure and content**

### Theoretical instruction:

L01: Generalized matrix and systems of linear equations. L02: Multidimensional normal distribution. P03: Principal component analysis. L04: Testing and selection of principal components. L05: Interpretation and analysis of principal components in SPSS. L06: Factor analysis. L07: Rotation of factors. Methods of orthogonal and non-orthogonal rotation. L08: Factor scores and methods for their calculation and application in SPSS package. L09: Cluster analysis. L10: Hierarchical clustering. L11: Nonhierarchical clustering methods and cluster analysis in SPSS. L12: Discriminant analysis. L13: Problems in applying of multivariate analysis. L14: Implementation of SPSS in multivariate data analysis. L15: Practical examples and case studies in the field of multivariate statistical analysis.

### Practical instruction:

P01: Elements of matrix algebra. P02: Data types and measuring scales. P03: Parameters and scores of multidimensional distributions. P04: Multidimensional normal distribution. P05: Mean values tests. P06: Linear combinations of variables. P07: Using of SPSS software package. P08: Practical application of principal component analysis in SPSS. P09: Practical application of factor analysis in SPSS. P10: Practical application of hierarchical cluster in SPSS. P11: Practical application of nonhierarchical clustering in SPSS. P12: Practical application of discriminant analysis in SPSS. P13: Solving tasks in the

field of multivariate analysis. P14: Review of different case study. P15: Workshop - practical work.

# Literature/Readings

- 1. Kovacic Z., Multivariate analysis, Faculty of Economics, 1994.
- 2. Bulajic M, Jeremic V., Radojicic Z., *advance fee manner given Multivariate hazards Contributions given to this Multivariate hazards*, Faculty of Organizational Sciences, 2012.
- 3. Pallant J., SPSS Survival Manual 4th edition, Allen & Unwin, 2011.
- 4. Radojicic Z., Linear statistical models, Faculty of Organizational Sciences, 2003.

The number	Other classes:			
Lectures: 2	Labs: 2	Workshops:	Research study:	
Tooching mot	hada		II.	

# Teaching methods

The traditional way of lecturing, with the use of whiteboard and computer.

Pre-exam requirements	Points	Final exam	Points
Participation in class	5	Written exam	25
Participation in labs	5	Oral exam	25
Colloqia	20		
Seminar work	20		

Degree level: Undergraduate studies

Course:

#### Logistics

# Teacher: Vasiljević V. Dragan

Course status: Compulsory

ECTS points: 6

Prerequisites: Basis of organization; Basis of information and communication technologies.

**Course objective:** To introduce students with basic concepts used in logistics and the role of logistics in the business enivironment, as well as the basics mechanisms used in managing material and information flows within the logistics processes.

**Learning outcomes:** Basic theoretical and practical knowledge and skills of managing logistics processes in manufacturing and service companies.

#### **Course structure and content**

Theoretical instruction:

T-01: Course introduction.

T-02: The concept, historical development and the forms of logistics.

T-03: Logistics as an engineering and management discipline.

T-04: Definition and structure of logistics system.

T-05: Definition, role and providing of logistics support.

T-06: Material requirements planning (MRP).

T-07: Definiton, politics and concept of maintenance.

T-08: Storage and inventory management.

T-09: Distribution and distribution channels.

T-10: Concept and type of transport.

T-11: Definition and role of reverse logistics.

T-12: The concept of lean logistics.

T-13: The information system of logistics.

T-14: Control test.

	ion of term pa	apers.				
			P	ractical instruction:		
				-01: Regulation of the mater PT method.	rial flow utiliz	ing th
			Р	-02: Reliability of elements o	of the system	
			Р	-03: Reliability of technical s	ystem: part 1	1/2.
			Р	-04: Reliability of technical s	ystem: part 2	2/2.
P-05: JIT tools.						
P-06: Test 1.						
			Р	-07: MPS and bill of material	ls.	
			Р	-08: Supply planning with th	e <i>MRP</i> metho	od.
Literature/Rea	dings:					
Belgrade, 2	008. (in Serb	ian)		in Management, ISBN 978-86-		
Belgrade, 2 2. Vasiljevic I 3. Essentials of Taylor and	2008. (in Serb D., <i>Electronic</i> of Logistics as Francis Grou	ian)  c version of  nd Manage  p, Italy, 200	lectures from the ment, (edited by P	course of Logistics, FON, Belgierret F., Jaffeux C., Fender M.,	rade, 2013./14. Wieser P.), Cl	RC Pre
Belgrade, 2 2. Vasiljevic I 3. Essentials of	2008. (in Serb D., <i>Electronic</i> of Logistics as Francis Grou	ian)  c version of  nd Manage  p, Italy, 200	lectures from the ment, (edited by P	course of Logistics, FON, Belgi	rade, 2013./14. Wieser P.), Cl	
Belgrade, 2 2. Vasiljevic I 3. Essentials of Taylor and	2008. (in Serb D., <i>Electronic</i> of Logistics as Francis Grou	ian)  c version of  nd Manage  p, Italy, 200	lectures from the oment, (edited by Po)7.	course of Logistics, FON, Belgi	rade, 2013./14. Wieser P.), Cl	RC Pre
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Belgrade, 2 2. Vasiljevic I 3. Essentials of Taylor and The number of Lectures: 2  Teaching meth and lab exercise  Pre-exam reque Participation in Participation in	2008. (in Serb D., Electronic of Logistics at Francis Grou F class hours  Labs: 2  ods: Ex cathe es.  irements  class  labs (lab exer	ian) version of nd Manager pp, Italy, 200 per week  Workshop edra teachin  Evaluation	position/Grading (m	Research study:    Research study:	Other of Opps and case st	RC Preclasses
Belgrade, 2 2. Vasiljevic I 3. Essentials of Taylor and The number of Lectures: 2  Teaching meth and lab exercise	2008. (in Serb D., Electronic of Logistics at Francis Grou F class hours  Labs: 2  ods: Ex cathe es.  irements  class  labs (lab exer	ian) version of nd Manager pp, Italy, 200 per week  Workshop edra teachin  Evaluation	plectures from the ement, (edited by Poorts  ation/Grading (material)  Points  10  15	Research study:    Research study:	Other of Opps and case st	RC Preclasses

Grades

Points	[0-55]	[56-65]	[66-75]	[76-85]	[86-95]	[96-100]	

Degree level: Undergraduate

Course:

#### **Facility Location and Layout**

Teacher: Mladenović M. Nenad, Slović D. Dragoslav

Course status: Elective

**ECTS points**: 6

Prerequisites: none

## Course objective

The objective of this course is to introduce students to facility location and layout problems. Student will learn how to create and evaluate solutions for problems of location and layout, by using specific engineering and management methods.

## Learning outcomes

Procedural knowledge to apply specific engineering and management methods, techniques, and algorithms for solving location, and facility and workplace layout problems, and criteria for determining when to use appropriate procedures.

#### **Course structure and content**

#### Theoretical instruction:

The theory of the choice of the location; Factors for choosing of the location; Methods and techniques of choice of location; Models of the choice of location: discrete and continuous. Choice of the location of one or more objects, minisum and minimax models, location-allocation, site selection unwanted objects, the problems of sets covering; Types of scheduling in manufacturing and administration. Designing cell layout: inter and intra cell layout. The defending of students' project works.

# Practical instruction:

Introduction of the subject content; Practical examples from the theory of the choice of location; Factors choice of location - a case study; The method of assessment and scoring of weight coefficients; Method networks; Exercises - repetition 1; metrics; Discrete location models; Exercises - repetition 2; Continuous location models; Exercise - repetitions 3; Designing cell layout - a case study; Lin schedule of administration - a case study; Exercise - repetitions 4;

- Radojević Z., Radojević M., Stojanović D., Lokacija i projektovanje objekata, FON, Beograd, 2007.
- 2. Mladenović N., Kontinualni lokacijski modeli, Matematički institut, Beograd, 2004

The number of		Other classes:		
Lectures: 2	Labs:2	Workshops:	Research study:	

# Teaching methods

Power Point presentations supported by examples related to the subject; Training students to solve specific problems by demonstrating examples and solving specific tasks with the active participation of students; Involving students in research and presentation of certain content according to their interests.

Pre-exam requirements	Points	Final exam	Points
Participation in class		Written exam	50
Participation in labs		Project	50

Degree level: Undergraduate studies

**Course:** 

Marketing

Teacher: Kostić-Stanković M. Milica, Janičić R. Radmila, Štavljanin B. Velimir, Damnjanović Ț. Vesna, Cicvarić Kostić M. Slavica, Vlastelica Bakić L. Tamara, Vukmirović A. Jovanka

Course status: Compulsory

**ECTS points**: 5

Prerequisites: None

**Course objective:** To introduce students to the basics of market orientation of business and marketing instruments on which marketing is based, as well as the activities of marketing management.

**Learning outcomes:** Acquired basic knowledge, skills and abilities to perform market analysis, as well as to develop, implement and monitor the implementation of marketing strategies in domestic and international environment.

Course structure and content:

Theoretical study

market as a starting point for the implementation of marketing concepts. Target marketing. The system of interaction between the company and the environment. Macroenvironment and microenvironment of companies. The concept and importance of marketing. The development of the concept of marketing. The modern concept of marketing. Marketing information system. Marketing Research. Marketing mix. Product mix. Mix of prices. Mix of distribution and sales. Promotions mix. Marketing planning. Organization of marketing. Marketing control. International marketing.

Practical teaching: Practices, Other forms of lectures, Research work

Practices, Other forms of teaching, Research: Methodology of case studies. Market analysis, application of methods of internal and external analysis. Market segmentation, development of profiles of target segments and product positioning. Development of a plan for marketing research. Determination of product characteristics. The life cycle of the product. Methods of price determination. Development of distribution and sales strategy. Design of promotional activities. Analysis of various promotional campaigns. Marketing activities for services. Marketing plan. Development of marketing activities in the electronic environment. Development of marketing instruments for selected international environment.

# Literature/Readings:

Primary

Filipovic V, Kostic-M Stankovic, Marketing Management, Organizational Sciences, Belgrade, 2012.

Course materials and exercises

Additional lit	ereature as requi	red, in accordance with	an agreement with subject	teachers and associates
The number	of class hours p	oer week		Other classes:
Lectures:	Labs:	Workshops:	Research study:	
2	2			

# **Teaching methods**

Lectures illustrated with additional audio-visual equipment, interactive discussions, small group work, problem and presentation of case studies, role-play, independent research by students and work through learning.

Evaluation/Grading (maximum 100 points)							
Pre-exam requirements Points Final exam Point							
Participation in class	20	Colloquium	30				
Participation in labs	20	Oral exam	20				

Degree level: Graduate academic study

Course:

**Marketing Research** 

Teacher: Janičić R. Radmila, Vukmirović A. Jovanka

Course status: Chosen

**ECTS points**: 4

Prerequisites: Marketing

## Course objective

Course objective is improving knowledge about use of marketing reasearch in process of marketing planning. Special objective is development of marketing planning by on the base of marketing reaserach, as support. Specific objective is to cover all approach of building information systems, including defining information systems, collect data, analysis of data, control of collecting process and implementation process on the base of research.

#### Learning outcomes

Understanding of marketing research methodology as process of continuing process of data collecting and building, as well as, process of conclusion on the base of informations. Developing of marketing planning on the base of marketing research.

#### **Course structure and content**

Theoretical instruction: Marketing research -definition, methodology and process. Marketing information systems. Data base according to sources and contents, statistical data, informations as part of information systems, marketing information systems, marketing decision making based on marketing information systems. Analysis of data sources and methodology of collecting data and processing into the informations. Decision process and chosing the informations from the data base. Model of CRM, as base for informations about clients, customers, consumers, partners, distributors, agencies, concurents and other private and public institutions. On the base of informations about customers/consumers companies can predict future behaviour and use different strategies to improve there position on the market place and to improve connection with consumers/customers. Also, analysis of concurrency on the market place is important by information systems, as well as, analysis of relationship marketing activities with partners in business process. Marketing research is holistic process that include research of market place, concurention, environment, relationship with others instituions, partners, customers/consumers, as well as, internal process in companies. This holistic approach gives opportunities for developing process of marketing decision making. Marketing research on the base of marketing information systems in base for sucessful implementation of marketing strategies on market place. Marketing information systems gives us opportunities for controling marketing decision process and implementation of strategies and it is the best feedback as control process, which will impact other marketing decision in the future. Marketing information systems is support for prediction of future customer behavior and implementation of new trend according to customers needs. Appropriate use of marketing information systems can improve companies decision making and improve connections with all subjects on market place, as well, as improve companies position on market and rase awareness about companies products and services.

Practical instructi studies.	on: Research wo	ork on the real case	studies from practice. Con	iparative analysis of case				
Literature/Readi	ngs							
Vukmirović J., Vu	kmirović D., M	arketing istrațivanj	e, BPŠ, 2011.					
Filipović V., Kost	ić – Stanković N	Л., Marketing mena	udžment, FON, 2008;					
Kotler Ph., Keller	R., Marketing N	Management, DataS	tatus, 2008.					
Hanić H., Istraživo	anje tržišta i MI.	S, Ekonomski faku	tet, 2004.					
The number of cl	ass hours per v	veek		Other classes:				
Lectures: 2	Labs: 2	Workshops:	Research study:					
Too ahina mathad								
Teaching methods								
	E 1 4' /C 1' / 100 ' 4 )							

Degree level: Undergraduate studies

Course:

### **Marketing Logistics**

# Teacher: Vasiljević V. Dragan

Course status: Elective

ECTS points: 4

Prerequisites: Basis of the organization; Marketing.

**Course objective:** To enable students to consider logistics operations as a marketing-oriented and cost-determined, and to understand the competitive advantages that coordinated activity of marketing and logistics brings into business system.

**Learning outcomes:** Basics theoretical and practical knowledge of managing processes which lead to analyzing, programming and satisfying demand, and achieving competitive level of customer service.

#### **Course structure and content**

Theoretical instruction:

T-01: Course introduction.

T-02: Marketing, logistics and marketing logistics.

T-03: Role of marketing logistics in programming production and business.

T-04: Managing demand and customer service.

T-05: The 5P concept.

T-06: Distribution and marketing channels.

T-07: Basics of inventory management.

T-08: Communication in distribution.

T-09: CRM and Customer Service Management.

T-10: Traditional and integrated approach to marketing-logistics management.

T-11: Transport and international logistics.

T-12: Cost aspects of marketing logistics.

T-13: Performance monitoring in marketing logistics.

T-14: Control test.

# T-15: Presentation of term papers.

Practical instruction:

P-01: The Porter's value chain.

P-02: The Quick Response (QR) concept.

P-03: The Efficient Consumer Response (ECR)

concept.

P-04: Methods of demand forecasting.

P-05: Methods of promotion planning.

P-06: Distribution planning with the DRP

method.

# Literature/Readings:

- 1. Vasiljevic D., Jovanovic B., *Logistics and Supply Chain Management*, ISBN 978-86-7680-150-3, FOS, Belgrade, 2008. (in Serbian)
- 2. Bozic V.., Acimovic S., Marketing logistics, Faculty of Economics, Belgrade, 2008.
- 3. Christopher, M., Peck, H., Marketing Logistics, Butterworth-Heinemann, UK, 2003.

The number of class hours per week				Other classes
Lectures: 2	Labs: 2	Workshops:	Research study:	

**Teaching methods:** Ex cathedra teaching, interactive teaching methods (creative workshops and case studies) and lab exercises.

# **Evaluation/Grading (maximum 100 points)**

Pre-exam requirements	Points	Final exam	Points
Participation in class	10	Control test	15
Participation in labs (lab exercises)	5	Oral exam	40
Test	15		
Term paper	15		

Method of knowledge evaluation:

Grades	5	6	7	8	9	10
Points	[0-55]	[56-65]	[66-75]	[76-85]	[86-95]	[96-100]

Degree level: Undergraduate academic studies

Course:

Marketing strategies in the online environment

Teacher:Štavljanin B. Velimir, Vukmirović A. Jovanka

Course status: Elective

**ECTS points**: 4

Prerequisites: none

## Course objective

Acquiring knowledge and skills necessary to define marketing strategies in order to ensure better market position in the online environment and competitiveness in the long term, as well as mastering the methods and techniques used in strategic marketing on the Internet.

## Learning outcomes

Improving knowledge and skills of students in the creation and improvement of marketing strategies in the online environment, the use of new media to communicate with target groups, content creation, and achieving interaction in the online environment.

#### **Course structure and content**

#### Theoretical instruction:

The concept and the specifics of online environments, the strategic planning process, strategic analysis of online environments, online competition analysis, analysis of online companies, the analysis of online shoppers, the Internet and the marketing mix, strategy formulation, strategy development, analysis of resources for the implementation of online marketing strategies, implementation strategies, implementation strategies evaluation.

#### Practical instruction:

Case studies, workshops, study research work.

## Literature/Readings

# Basic:

- 1. Vinka Filipović, Radmila Janičić "Strateški marketing", FON, Beograd, 2010. Additional:
  - 2. Mary Lou Roberts, Debra Zahay Internet Marketing "Integrating Online and Offline Strategies", Cengage Learning, Stamford, 2012.
  - 3. Dave Chaffey, Paul Smith "Emarketing Excellence. Planning and Optimizing your Digital Marketing "Routledge, New York, 2013.

The number of class hours per week				
Labs:	Workshops:	Research study:		
2				

# Teaching methods

Lectures, interactive discussions, learning trough teamwork to solve practical problems, individual students' study and problem troubleshooting based on the assignments, consultation in the preparation of research study and students' independent work through learning and preparation of research study.

Evaluation/Grading (maximum 100 points)				
Pre-exam requirements	Points	Final exam	Points	
Participation in class	10	Oral exam	50	
Practice	10			
Seminar paper	30			

Study program / study programs: Management

Degree level: Graduate academic study

Course:

**Services Marketing** 

Teacher: Radmila Janičić, Velimir Štavljanin, Ema Nešković

Course status: Chosen

**ECTS points**: 6

Prerequisites: Marketing

## Course objective

Course objective is improving knowledge in the field of marketing services, marketing planning in field of services, based on understanding customer behavior and integrated marketing functions of marketing communications with customers.

## Learning outcomes

Understanding and improving skills in field of services, marketing planning based on customer behavior. Aplied knowledge in the field of marketing services.

#### **Course structure and content**

Theoretical instruction:

Marketing Services as scientific discipline. Holistic approach to marketing services. Understanding of customer behavior as dynamic process in the field of services. Analysis of environmental factors that have impact on services. Research of customer behavior and use of informations in marketing planning process in the field of services. Improving of services quality. Development of information systems about customers. Defining of specific target segments of services. Improving of CRM approach to customers. Branding strategies in services sector. Impact of advertising on developing marketing services. Communications process with customers. Integrated marketing communications with customers. Communications with customers through new social media. New ways for approaching to customers. Ethical aspects of communications with customers. Strategies for improving customers motivations and satisfactions. Evaluations of customers satisfactions.

Practical instruction: Work on the real case studies from practice. Comparative analysis of case studies.

- 1. Kotler Ph., Bowen T. J., Makens J., Marketing for Hospitality and Tourism, 6<sup>th</sup> Edition, Prentice Hall, New York, 2013.
- 2. Filipović V., Kostić-Stanković M., Marketing menadţment, FON, Belgrade, 2012.
- 3. Veljković S., Marketing usluga, CID, Faculty of Economy, Belgrade, 2009.
- 4. Hoyer W., MacInnis D., Consumer Behavior, Houghton Mifflin Company, New York, 2004.

The number of class hours per week			Other classes:	
Lectures: 2	Labs: 2	Workshops:	Research study:	
Teaching metho	ods			
		Evaluation/Gradi	ng (maximum 100 points)	
Pre-exam requi	rements	Points	Final exam	Points
Tre-examrequi	rements	Tomas	r mai cam	Tomas
Participation in	class	30	Written exam	
Participation in	labs	30	40	100

Degree level: I level – Basic Academic Studies

Course:

#### **Mathematics 1**

Teacher: Vujčić V. Vera, Stojanović A. Milica, Lazović P. Rade, Đorić S. Dragan, Mihić R. Olivera, Manojlović P. Vesna

Course status: compulsory

**ECTS points**: 6

Prerequisites:-

## Course objective

Exploring and mastering the mathematical content designed for engineer's profile, related to the concept of number, basic concepts of algebraic structures, elements of linear algebra and analytic geometry, as well as the differential calculus of functions of one real variable.

## Learning outcomes

Students are trained to use matrices and differential calculus of functions of one variable which belong to the class of basic tools for modeling organizational and technical systems.

# **Course structure and content**

#### Theoretical instruction:

- 1. Introductory concepts. 2. Algebraic structures. 3. Concept of a function. 4. Concept of a vector. Vector space.
- 5. Notion of a matrix. Operations with matrices. Rank of a matrix. Inverse of a matrix. 6. Systems of linear algebraic equations. Kronecker-Capelli theorem and Kramer theorem. Gauss algorithm. 7. The equations of the plane and of the line in the space. 8. Concept of real functions of one real variable. Sequences. Convergence criteria. 9. Limit of the function. 10. Continuity of the function. Properties of continuous functions on the segment. 11. First derivative of the function. 12. Differential of the function and its application. Differentials of higher order. 13. Basic theorems of differential calculus. Taylor formula. 14. Notion of an extreme. Necessary and sufficient conditions for the extreme. 15. Convex curves and inflection points. Curve asymptote.

#### Practical instruction:

Solving exercises from: 1.Binary relations and operations. 2. Group, ring, field. 3 Examples of functions. 4. Vector spaces. Scalar, vector and triple vector product. 5. Matrix multiplication, inverse matrix, rank of the matrix, eigenvalues and eigenvectors. 6 Solving systems of linear algebraic equations. 7. Line and plane. 8. Limit of the sequence. 9. Limit of the function. 10 Continuity of the function. 11. Derivatives of the function. 12. I'Hospital theorem. 13. Teylor formula. 14. Graph of the function. 15. Examexercises.

- 1. D. Đorić, R. Lazović, Mathematics 1, FON, Belgrade, 2012.
- O. Mihić., V. Baltić, M. Boričić, Methodical collection of solved problems in Mathematics 1, FON, Belgrade, 2013

The number of class hours per week				Other classes:
Lectures: 2	Labs:2	Workshops:	Research study:	
Teaching meth-	ods			
Classical ex-ca	thedra teachi	ng using blackboard and	computer presentations	
		Evaluation/Gradia	ng (maximum 100 points)	
Pre-exam requi	irements	Points	Final exam	Points
Participation in	class	5	Written exam	20
Colloquium		20	Oral exam	50
Seminars/home	works	5		

**Degree level**: Level I – Basic Academic Studies

Course:

#### **Mathematics 2**

Teacher: Vujčić V. Vera, Stojanović A. Milica, Lazović P. Rade, Đorić S. Dragan, Mihić R. Olivera, Manojlović P. Vesna

Course status: Compulsory

**ECTS points**: 6

Prerequisites: -

#### Course objective

Mastering mathematical contents designed for the engineer's profile, related to the differential calculus of functions of several variables and integral calculus of functions of one and several variables.

#### Learning outcomes

Students are trained to use differential calculus of functions of several variables and integral calculus of functions of one and several variables, which are the basic tools of organizational and technical system modelling.

#### **Course structure and content**

#### Theoretical instruction:

1. Concept of a function of several variables. Limit value and continuity 2. Partial derivatives. Total differentials. Differentiability. 3. The existence of implicit functions. 4. Elements of field theory. Derivative in a given direction and gradient. 5. Taylor formula. 6. Necessary and sufficient conditions for constrained extremum. 7. Necessary and sufficient conditions for constrained extremum. 8. The definite integral. 9. The indefinite integral. Relation between definite and indefinite integrals. 10. Change of variables and partial integration. 11. Integration of rational and some irrational classes of functions. 12. Applications of integral calculus. Improper integrals. 13. Double and triple integrals. 14. Change of variables in double and triple integrals. 15. The infinite series. Power series.

# Practical instruction:

Exercises from the topics: 1.Examples of functions of several variables. 2. Partial derivatives. 3. Derivatives of implicitly given functions. 4. Directional derivatives and gradient. 5. Taylor formula. 6. Problem of the unconstrained extremum. 7. Problem of contrained extremum. 8. Evaluation of definite integrals. 9. Methods of integration. 10. Integration of rational and some irrational classes of functions. 11. Applications of integral calculus. 12. Double and triple integrals. 13. Change of variables. 14. Convergence of the series.

- 1. M. Stojanović, O. Mihić, Matematika 2, FON, Beograd, 2013
- 2. S. Dajović, Matematika 2, FON, Beograd, 2007
- 3. Đ.Jovanov, R. Lazović, D. Đorić, Matematika 2, Workbook and Tests Examples, FON, 2009

The number	Other classes:			
Lectures:2	Labs:3	Workshops	Research study	
Teaching me	thods			
The classic wa	ay of using the ta	ble, foils and presenta	ntion on computer.	
	I	Evaluation/Grading	(maximum 100 points)	
Pre-exam rec	quirements	Points 30	Final exam	Points 70
Participation i	in class	10	Written exam	20
Participation i	in labs		Oral exam	50
Colloquium		20		
Seminars				

Degree level: I level – Basic Academic Studies

Course:

**Mathematics 3** 

Teacher: Vujčić V. Vera, Stojanović A. Milica, Lazović P. Rade, Đorić S. Dragan, Mihić R. Olivera, Manojlović P. Vesna

Course status: compulsory

**ECTS points: 6** 

**Prerequisites**: Mathematics 1

#### Course objective

The course focuses on the theory of ordinary differential equations and systems of differential equations. It includes selected topics from the calculus of one complex variable and Laplace transforms, with application of Laplace transforms to linear differential equations and systems of linear differential equations with constant coefficients.

#### Learning outcomes

Students are trained to analyze and solve simple classes of differential equations and systems of differential equations, including linear equations and systems. Students aquire basic knowledge of complex functions, analyticity, contour integration, residues and evaluation of integrals. Students are trained to apply Laplace transforms to linear differential equations and systems of linear differential equations.

#### **Course structure and content**

#### Theoretical instruction:

1. Notion of a differential equation (DE). Existence and uniqueness of solutions to DE's. 2. Examples of simple classes of first order DE's and the corresponding solution methods. 3. Linear DE's of second order. 4. Linear DE's of order *n*. 5. Systems of DE's. First integral. 6. Systems of linear DE's. Fundamental matrix. 7. Matrix exponent. Stability. 8. Linear and quasi-linear partial differential equations of the first order. 9-10. Notion of a function of one complex variable. Analyticity. Cauchy-Riemann conditions. 11. Contour integral. Cauchy's theorem and Cauchy's formulas. Residues. 12. Evaluation of integrals. 13. Laplace transforms and basic properties. 14. Inverse Laplace transforms. Mellin's formula. 15. Application of Laplace transform to linear differential equations and systems of linear differential equations with constant coefficients.

#### Practical instruction:

Solving exercises from: 1.- 2. Selected classes of first order DS's. 3. Homogeneous linear DE's with constant coefficients. 4. Variation of parameters method for non-homogeneous linear DE's. 5. Systems of DE's. 6. Systems of homogeneous linear DE's with constant coefficients. 7. Variation of parameters method for non-homogeneous linear systems. 8. Partial DE's of the first order. 9-10. Elementary functions of one complex variable. Constructing analytic functions using Cauchy-Riemann conditions. 11. Contour integrals. Residues. 12. Evaluation of integrals. 13. Laplace transform. 14. Inverse Laplace transform. 15. Applications of Laplace transform.

# Literature/Readings

- 1. V. Vujčić, S. Dajović, Mathematics 3, FON, Belgrade, 2009.
- 2. M. Stojanović, D. Đorić, R. Lazović, Mathematics 3, Collection of Problems, FON, Belgrade, 2004.
- 3. D. Đorić, Mathematics 3, Solved Provlems, FON, Belgrade, 2009.

The number	Other classes: 1			
Lectures:2	Labs: 2	Workshops:	Research study:	
Too ohing mot	hada	•	1	•

#### **Teaching methods**

Classical ex-cathedra teaching using blackboard and computer presentations

Evaluation/Grading (maximum 100 points)				
Pre-exam requirements	Points: 30	Final exam	Points:70	
Participation in class	5	written exam	20	
Participation in labs		oral exam	50	
colloquium	20			
seminars/homeworks	5			

Degree level: Undergraduate studies

Course:

**Mathematical Models of Efficiency Meauserment** 

Teacher: Martić M. Milan, Savić I. Gordana

Course status: Elective

**ECTS points**: 5

Prerequisites: None

## Course objective

The objective is to enable students to understand basic concepts of efficiency measurement in the presence of multiple inputs and output factors. They also will be enabling to understand mathematical programming method – Data Envelopment Analyses (DEA), the application procedure, the basic mathematical models and well-know application.

### Learning outcomes

Students will be able to independently analyze problem of efficiency measurement, select decision making units and input/output parameters. They also are able to apply data envelopment analysis and specialized DEA software packages for performance evaluation of profit and nonprofit units affected by diverse factors. As a final stage of DEA implementation, students will be able to define efficient targets for all units under the evaluation.

#### **Course structure and content**

#### Theoretical instruction:

Measures and methods of performance measurement. Comparative Performance Analysis. Quantitative models for performance evaluation. Data Envelopment Analysis – DEA. Basic DEA models. Modified DEA models. DEA model to ranking of the efficient units. Procedure of DEA method application. Software for DEA. Comparison of DEA and regression analysis. Comparison of DEA methods and the multi-criteria analysis, Applications in banking sector. Applications in Health Care. Applications in Education. Other applications.

### Practical instruction:

Definition of performance measures. The procedure for defining performance measures and analysis of raw data. The basic DEA models. Input and output -oriented DEA models - graphical presentation. The basic CCR model and BCC model. Weight restrictions. Limitation of DEA models. Target inputs and outputs. DEA model to ranking of the efficient units. Cross- efficiency matrix. Creating a model in spreadsheet environment - a case study. Software EDEA. Examples of applications in banking, healthcare, education, economic units' efficiency evaluation.

#### Literature/Readings

Cooper W, Seiford L, Tone K, "Introduction to Data Envelopment Analysis and its Applications, With

DEA-Solver Software", Springer, 2006,

Zue J, " Quantitative Models for Performance Evaluation and Benchmarking: Data Envelopment Analysis with Spreadsheets - Applications and implementations issues ", Springer, 2009.

The number of class hours per week				Other classes:
Lectures: 2	Labs: 2	Workshops:	Research study:	

## **Teaching methods**

Lectures are followed by the corresponding presentations; all models will be illustrated on the hypothetical examples. Students will, through case studies, analyze the input and output factors that affect the efficiency, the results and use them to enhance the observed unit. The exercises are based on the use of MS Excel for practicing basic DEA models and software EMS and EDEA, DEA solver software for real problems

Pre-exam requirements	Points	Final exam	Points
Participation in class	10	Written exam	30
Participation in labs	10	Study	50

Teachers: Damnjanovic Vesna, Cicvaric Kostic Slavica

Course:

**International Marketing** 

Teacher: Damnjanović Ţ. Vesna, Cicvarić Kostić M. Slavica

Prerequisites: none

Course objective: To introduce students to the basic principles of marketing in an international context.

**Learning outcomes:** The knowledge and skills required for understanding complex international environment and planning international marketing activities

#### **Course structure and content:**

Theoretical part: International environment. World trade. International Trade Organisation (European and global). Economic, technological, financial, political and legal trends in the international market. Multi-klulturalno environment. Culture. Elements of culture. Specifics of culture high and low context. Changes in culture. Internationalization of marketing activities. Multinational and global marketing. Organization of international marketing activities. Ways of entering the international market. The strategy of global integration (standardization). The strategy of local responsiveness (adaptation). Product concept in international marketing. Product strategy in the international market. Product Features. The characteristics of the brand. Brand strategy in an international environment. Price in international marketing. Pricing in international markets. Terms of Sale. Terms of payment. Distribution in international marketing. Sales channels. Marketing logistics. Marketing communications in the international market. Language, culture and communication. The process of marketing communications. Instruments of marketing communications.

Research work: The analysis of case studies. The place and role of marketing in the internationalization of business. Specifics of international marketing research. Comparative analysis of the model selection of foreign markets. Alternative strategies of entering the international market. Establishing goals and strategies in international marketing. Planning international marketing mix. Preparation and defense of the project work.

### Literature/Readings:

- Filipovic V., Kostic-Stankovic, M., Marketing in a Global Environment, Faculty of Organizational Sciences, Belgrade, 2009
- Cateora PR, Gilly, MC, Graham, JL, International Marketing, 15th Edition, McGraw Hill, 2011
- Course materials and exercises Additional documentation as required, in accordance with an
  agreement with subject teachers and associates

The number of class hours	Lectures: 2	Research study:2
per week:4		

**Teaching methods:** lectures illustrated with additional audio-visual equipment, interactive discussions, small group work, problem and presentation of case studies, self-study students, consultation in the development of project work and independent work of students through learning and doing project work.

Pre-exam requirements	Points	Final exam	Points
Activity during lecture	20	Oral examination	60
Preparation and presentation of project work	20		

Degree level: Undergraduate

Course:

**International Management** 

Teacher: Milićević K. Vesna

Course status: compulsory

**ECTS points**: 6

Prerequisites: none

## Course objective

Students mastering of approaches, processes, methods and techniques of international management that is necessary from the point of successful inclusion of the company into international business. Acquisition of scientific and expert knowledge and abilities to manage international business with creativity development.

#### Learning outcomes

Competencies related to the complexity of effective management of international business of contemporary companies. Abilities to apply new knowledge into practice with dynamic approach.

#### **Course structure and content**

#### Theoretical instruction:

International business of company - approaches, models, practice. The institutionalization of the global economy, environmental analysis and multinational corporations. Relevance and functions of international management. International business strategies and creation of sustainable competitive advantages. Methods of managing business transactions in international trade and the importance of trading companies from international management perspective. Comparative management in the context of contemporary methods and techniques of management application. The globalization of business and regional economic integrations. Creation of strategic advantages of company in conditions of globalization. Management of global strategic alliances. Transformational management and international business management in transition economies. Foreign direct investments and measurement of company transnationality. The role of culture in international management. The challenges of international management related to European integrations. The relevance of mergers in terms of international management. Digitization, international management and Internet.

#### Practical instruction:

Class exercises follow the content and structure of lectures and include: development of access and analysis of models of international management, application of methods and techniques of international management, case study analysis, creative workshops, creation of international business strategy,

exercises using the Internet, interactive discussion.

# Literature/Readings

Milićević V., MeĎunarodni menadţment – novije tendencije, Fakultet organizacionih nauka, Beograd, 2009.

The number o	Other classes:			
Lectures:	Exercises:	Workshops:	Research study:	
2	2			

# **Teaching methods**

Lectures with the participation of students in interactive teaching, presentation of practical examples, case studies, creative workshops, exercises to solve specific management problems in international operations, exercises with the use of the Internet, consultations in the preparation of seminar papers.

Pre-exam requirements	Points	Final exam	Points
Participation in class	20	Written exam	
Participation in labs		Oral exam	55
Seminar paper	25		

Degree level: Undergraduate studies

Course:

#### **Soft computing**

Teacher: Vujošević B. Mirko, Makajić-Nikolić D. Dragana, Savić I. Gordana

Course status: Elective

**ECTS** points: 5

**Prerequisites**: Operations research 1

**Course objective:** to introduce students to contemporary soft computing approaches, primarily to solve problems of optimal decision making

#### **Learning outcomes**

Students will get insight into application of approaches based on fuzzy sets and logic to solving optimization problems in different areas and to use adequate software tools.

#### **Course structure and content**

**Both, theoretical and practical instruction:** Approaches to modeling uncertainty, vagueness and imprecision. Management problems in terms of vagueness. Fuzzy sets and fuzzy logic. Probability and possibility measures. Fuzzy mathematical programming. Fuzzy linear programming. Decision-making systems based on fuzzy rules. Neural networks. The problems of classification and prediction. Fuzzyneural systems. Evolutionary computing. Genetic algorithms. The antalgorithms

- 1. M. Vujošević, Operaciona istraţivanja izabrana poglavlja, FON, Beograd, 1999.
- 2. R. Hecht-Nielsen, Neurocomputing, Addison-Wesley, New York, 1990
- 3. G. Deco, D. Obradovic, An information-theoretic approach to neural computing, Springer Verlag, Berlin, 1996.
- 4. G. J. Klir, B. Yuan, Fuzzy sets and fuzzy logic theory and applications, Prentice Hall, Upper saddle River, 1995
- 5. Xiang-Sun Zhang, Neural Networks in Optimization, Kluwer Academic Publishers, London, 2000

The number of class hours per week				Other classes:
Lectures:	Labs:	Workshops:	Research study:	
30	30			

# Teaching methods

Theoretical instruction – interactive ex cathedra. Practical instruction – individual work with teacher's assistance in computer room.

#### **Evaluation/Grading (maximum 100 points) Pre-exam requirements Points** Final exam Points Participation in class 20 Oral exam from selected chapters 20 Participation in labs 30 Homework 30 Alternatively Written exam 60 Oral exam 40

Degree level: Undergraduate studies

Course:

#### Management

Teacher: Petrović Č. Dejan, Mihić M. Marko, Obradović LJ. Vladimir

Course status: Compulsory

**ECTS points**: 6

**Prerequisites:** /

## Course objective

- Acquisition of the latest knowledge in the field of management, modern scientific discipline that deals with the problems of managing organizational systems.
- Understanding and mastering the latest methods and techniques that are used in management.

#### **Learning outcomes**

Students' ability for implementation of professional knowledge, modern methods and techniques in the processes of planning, organizing, leading and monitoring of different activities, projects and organizational systems.

# **Course structure and content**

#### Theoretical instruction:

Definition and management development. Management processes. Functional areas of management. Planning process. The process of organization. Process of managing personnel. The process of leadership. The control process. Decision-making process. Information system for the management of the company. Manager. Manager and team work. Management and specialized management discipline. Management skills.

## Practical instruction:

Methods and techniques of management. Planning methods. Methods of organization. Control methods. Managerial decisions. The knowledge and skills of managers. The selection and the choice of managers. The team formation. Case studies.

- Chuck W., Principles of Management, Data Status, Belgrade 2013
- Jovanovic P, Management Theory and Practice, College of Project Management, Belgrade, 2007

• Robbins S.P,	Coutler M, Managen	nent, Data Status,	Belgrade 2005	
The number of	class hours per wee	ek		Other classes:
Lectures:	Labs:	Workshops:	Research study:	
2	2			
Teaching meth	ods			
Auditory, Illust	rative and Demonstr	ative, Verbal and	Textual, Practical Methods	
	Evalu	nation/Grading (n	naximum 100 points)	
Pre-exam requ	irements	Points	Final exam	Points
Participation in	class	20	Written exam	20
Test/s		50		
Participation in	labs	10		

Degree level: Undergraduate studies

**Course:** 

**Innovation Management** 

Teacher: Stošić A. Biljana

Course status: Obligatory

**ECTS points**: 6

**Prerequisites:** 

## Course objective

Acquisition of knowledge in the field of designing and managing processes of innovation and development of new products and business processes (organization, marketing, technology, etc.). Learning about theoretical and practical aspects of innovation. The emphasis is on methods, models and techniques supporting innovation design and management (including tools and techniques for creative thinking and problem solving) and software support.

## Learning outcomes

Ability to design and manage all stages of the innovation process in terms of developing new products and business processes (including organization, marketing, technology, etc.) and innovation portfolio. Understanding the role of innovation and development regarding the level of the specific company up to the national level (micro and macro). Gaining capability to use different methods, models and techniques supporting innovation design and management.

#### Course structure and content

Theoretical instruction: The innovation theory. Conceptual ground and typology of innovation. Innovation and changes. Innovation and development of products, services, processes, technology, organization, marketing. Business model innovation. Innovation as a management and engineering process. Innovation and entrepreneurship. Relation between innovation and R&D activities. Innovative organization (types, features, organizational structure and organizational culture). Innovation strategy and innovation value chain. Innovation attributes. Basics of innovation projects. Risk and role network in the innovation process. Idea management (ideation, managing and evaluation). Innovation process models from idea to realization. Linear sequential model. Temporary integrative models. Innovation systems. National innovation systems. Innovation infrastructure: innovation centers, business incubators, clusters and networks. Innovation performance and innovation indicators. EU innovation policy and supporting programmes. Intellectual property in managing innovation (strategy and mechanisms).

**Practical instruction:** Supporting methods for innovation management. Analysis and application of ideation creative methods in generating new ideas, prediction, evaluation and selection of innovation projects. *Practical exercises*: development and application of expert systems and knowledge based systems in managing innovation, overview of selected ERP system modules and software of business intelligence (systematic idea management, new product development, portfolio management, etc.). Software support in managing innovation projects. Case studies from the field.

## Literature/Readings

#### Required:

Stošić, B. Innovation Management - Innovation Projects, Models and Methods, Faculty of Organizational Sciences, Belgrade, 2013.

Stošić, B. Innovation in Technology, Faculty of Organizational Sciences, Belgrade, 1997.

## Optional:

Trott, P., Innovation Management and New Product Development, Prentice Hall, 2005.

Von Stamm, B., Managing Innovation, Design and Creativity, Wiley, 2008.

OECD, Eurostat, Oslo Manual - Guidelines for Collecting and Interpreting Innovation Data, Joint Publication, 3rd Edition, 2005.

The number of class hours per week 60+8				Other classes:
Lectures:	Labs:	Workshops:	Research study:	
2	2			

# **Teaching methods**

Power Point presentations, research activities through overview and analysis selected case studies, tasks, presentation of seminar papers and discussions, overview of the software packages from the field (expert systems, knowledge based systems, software support in managing innovation projects) laboratory exercises and laboratory work.

Pre-exam requirements	Points	Final exam	Points
Participation in class	20	Written exam	50
Participation in labs	30		

Degree level: Undergraduate academic studies

Course:

### **Production and Key Performance Management**

Teacher: Lečić-Cvetković M. Danica

Course status: Elective

**ECTS points**: 6

Prerequisites: none

### **Course objective:**

The course objective is to capacitate students about performance indicators, development and implementation of performance indicators, selection of key performance indicators and production management based on key performance indicators.

### **Learning outcomes:**

The course outcome is students' capability to solve complex problems in production companies by using key performance indicators. Ensure adequate knowledge about techniques and methods for application of KPIs in production management, as well processes in production company which are directly linked to production process.

### **Course structure and content:**

### Theoretical instruction:

Introduction: production, production processes. Basic concept for performance management. Basic concept – managing production performances. Performance indicators in production company. Development of performance indicators in production management. Selection of key performance indicators (KPI) in production management. Key performance indicators in production (1). Key performance indicators in production (2). Business environment impact on KPIs. Application of selected adequate performance indicators. Production and key performance management system (1). Production and key performance management system (2). Information systems in production performance management. Development of approach for key performances management in production.

### Practical instruction/Labs:

Introduction: Production performance management. Production performance indicators development. Classification of performance indicators in production. KPIs in production planning. KPIs in production preparation. KPIs in production realization. KPIs in production logistics. KPIs in products distribution. Advance approach to key performances management in production. Information systems in key performance indicators in production.

### Literature/Readings:

- 1. Todorovic J., Lecic-Cvetkovic D., Production management (in Serbian), FON, Belgrade, 2005.
- 2. Parmenter D., Key performance indicators: developing, implementing, and using winning KPIs, Wiley & Sons, Inc., Hoboken, New Jersey, 2010.

3. Gardner	C., Effective oper	rations and performan	ce management, Bloomsbur	ry Infor.Ltd, UK, 2010.
The number of	Other classes:			
Lectures: 2	Labs: 2	Workshops:	Research study:	
Teaching met	hods			
	ractical work on		l businessenvironment.	
Pre-exam req	uirements	Points	Final exam	Points
Participation in	ı class	10	Oral exam	40
Practical instructions/pro	iject/essay	50		

**Degree level**: Undergraduate academic studies

Course:

**Production and Service Management** 

Teacher: Lečić-Cvetković M. Danica

Course status: Compulsory

**ECTS points**: 6

Prerequisites: none

### Course objective:

The course objective is to capacitate students to acquire knowledge about production and services management, understand basic model of production management, as well as application of modern information systems and Internet technologies in production and services management. Additionally, students will be trained to use ERP software solutions developed for integrated management of production/service systems.

### **Learning outcomes:**

The course outcome is students' capacity to apply certain knowledge in practice by solving problems from field of production and service management by using actual theoretical approaches and relevant software support.

Course structure and content:

Theoretical instruction:

Introduction: production – process, system, function. Production management. Basics of theory of management (1). Basics of theory of management (2). Production management model – introduction. Production management model – Robust planning. Production management model – Scheduling. Production management model – Shop-floor management. Just in Time (JIT) production approach. PROMAN model. Japanese management. Production Information systems (1). Production Information systems (2). E-business and manufacturing. E-manufacturing.

Practical instruction/Labs:

Software for production and service management and ERP. Overwiev of capability of ERP software for production and service management. Software MS PROJECT. Software NAVISION. Software NAVISION – production module. Software SAP. Software SAP BUSSINES ONE. Software

PANTHEON. Software AUTOMOD. Software ARIS. Software EASE. Software BAAN. Software ORACLE.

### Literature/Readings:

- 1. Todorovic J., Lecic-Cvetkovic D., Production management (in Serbian), FON, Belgrade, 2005.
- 2. Kumar S. A, Suresh N., Production and Operations Management, New Age International Ltd, 2008.
- 3. Timings R., Wilkinson S., E-manufacture, Prentice Hall, Edinburg, 2004.
- 4. Lecic-Cvetkovic D., *Software for production management* SAP, Navision, Baan, Oracle, Pantheon, etc. (in Serbian), in electronic form, available on www.om.fon.rs, Belrade, 2011.

The number of	Other classes:			
Lectures: 2	Labs: 2	Workshops:	Research study:	

### **Teaching methods**

Lectures, practical work, labs (working with software or demo version of software), application of software to case studies.

Pre-exam requirements	Points	Final exam	Points
Participation in class	10	Written exam	30
Colloquiums	30	Oral exam	20
Practical instructions/project/essay	10		

Degree level: Undergraduate studies

Course:

### Management of technology and development

### Teacher:Levi-Jakšić I. Maja, Marinković P. Sanja

Course status: Obligatory

ECTS points: 5

Prerequisites: /

### **Course objective:**

Providing knowledge and skills of strategic and operational technology management. Students gain insights in the practices and cases related to solving specific issues of forecasting, planning, organizing and managing the dynamics of change of technology, technological systems, processes and operations in companies.

### **Learning outcomes:**

Students are equipped with knowledge and skills of strategic and operational technology management in the areas of forecasting, planning, organising and managing the dynamics of change of technologies, technology systems, processes and operations.

The students gain team work experience by fulfilling assignments of problem analysis and critical thinking based on innovative companies examples.

### **Course structure and content**

**Theoretical instruction:** Management of Technology; Technology and organization; Integrative models of organization; Strategic management of technology; Support for the strategic management of technology; Operational management of technology; Support for the operational management of technology; Components of processes and operations; The output of the technological system; Technology transfer; Globalization and technological cooperation; Global technology strategies.

**Practical instruction:** Analysis of examples of application and solving problems by using different methods in management of technology and development: Technological forecasting: Delphi, PATTERN, Brainstorming; Indicators of technology performance in the enterprise: Indicators of technological progress (TP), TP types, TP rate, The matrix of objectives; Methods of evaluation and selection of technology: The Method of Ranking, AHP method, Methods for supporting technology innovation in the enterprise; Solving tasks by using the software, Application of methods in domestic enterprises; Creative workshops; Presentation of term papers and project assignments.

### Literature/Readings:

Burgelman, R, Christensen, C. M., Wheelwright, S. C., Strategic Management of Technology and Innovation, Mc Graw Hill, 2008.

Cetindamar, D., Phaal, R., Probert, D., Technology Management - Activities and Tools, Palgrave

Macmillan, 2010.

Harrison, N., Samson, D., Technology Management - Text and International Cases, Mc Graw Hill, 2002.

Levi Jakšić, M., Menadţment tehnologije i razvoja, Čigoja štampa, Beograd, 2010

Levi Jakšić, M., Marinković, S., Petković, J., Menadţment inovacija i tehnološkog razvoja, FON, Beograd, 2011

Levi Jakšić, M., Marinković, S., Obradović, J., RS PC tehnologija, Edukativni softver, Beograd, 2005

The number o	Other classes:			
Lectures: 2	Exercises: 2	Workshops:	Research study:	

**Teaching methods:** Lectures, interactive workshops, exchange of ideas and knowledge through group discussions, learning through the case studies, mentoring and teamwork; Power Point presentations with case studies; Training students to apply technology forecasting methods and techniques in companies; Solving tasks with active participation of students; Involving students in research work through seminar papers.

# Evaluation/Grading (maximum 100 points) Pre-exam requirements Points Final exam Points Colloquium: two 48 written examination - tasks (instead of seminar papers and workshop) 40 written examination - theory 12

Degree level: Undergraduate studies

Course:

### **Total quality management**

Teacher: Ţivković D. Nedeljko

Course status: Optional

ECTS points: 5

Prerequisites: None

### Course objective

Understanding the basis and principles of total quality management. Mastering the methods and techniques of total quality management.

### Learning outcomes

Studens' ability to practically apply the principles, methods and techniques of total quality management.

### **Course structure and content**

### Theoretical instruction:

1. About the subject (syllabus, student responsibilities, methods of studying, methods work, methods of knowledge application, methods of knowledge assessment). 2. Total quality management (TQM) 3. TQM principles. 4. Quality definition. 5. Measurement of quality. 6. Quality analysis. 7. Quality improvement. 8.-9. TQM techniques – qualitative. 10.-11. TQM techniques – quantitative. 12.-13. Quality improvement. 14. Case studies. 15. Concluding remarks.

### Practical instruction:

Settings and analysis of cases of application of TQM principles, tools and techniques in organizational systems. Research study is also included.

### Literature/Readings

1. Ron Basu "Implementing Quality: A Practical Guide to Tools and Techniques", Thomson Learing, 2004.

The number of	Other classes:			
Lectures:	Labs:	Workshops:	Research study:	
2	2			
Teaching met				

Theoretical instructions, practical instructions, consultation, project work.				
Evaluation/Grading (maximum 100 points)				
Pre-exam requirements	Points	Final exam	Points	
Project work	40	Oral exam	30	
Written exam	30			

Degree level: Undergraduate studies

Course:

### Financial performance management

Teacher: Țarkić-Joksimović A. Nevenka, Benković S. SlaĎana, Barjaktarović-Rakočević M. SlaĎana

Course status: elective

**ECTS points**: 4

Prerequisites: /

### Course objective

Acquiring knowledge in measuring and managing financal performances in enterprises.

### Learning outcomes

Teaching students to evaluate financial performances and to use new methods in financial performance management.

### **Course structure and content**

### Theoretical instruction:

Concept of business and financial performances. Multidisciplinary measuring business performances. Indicators of financial performances. System for measuring performances. Performance management. Financial aspects of performance management.

### Practical instruction:

Financial performance measurement. Altman Z-Score. Ohlson model. Taffler model. Lau model. Integrated systems for performance measuring. Measuring performances matrix. Performance pyramid. Balanced Scorecard. Performance prism. Measuring concepts for business excellence evaluation. Integrated model for performance measuring of small and medium enterprises.

### Literature/Readings

- 1. Zarkic Joksimovic Nevenka, Sladjana Benkovic, Milos Milosavljevic: *Finansijski menadžment*, Fakultet organizacionih nauka, Beograd, 2013.
- 2. Paladino B.: Corporate Performance Management Best Practices: A Case Study Approach To Accelerating CPM Results, John Whiley & Sons, 2013.
- 3. Bourne M., Bourne P.: *Handbook of Corporate Performance Management*, John Whiley & Sons, 2013.
- 4. David Parmenter: Key Performance Indicators: Developing, Implementing and Using Winning KPIs, Whiley, New Jersey, 2010

Kurt Verweire, Lutgart van den Berghe: *Integrated Performance Management: A Guide to Strategic Implementation*, Sage Publications, London, 2004

The number	Other classes:			
Lectures:	Labs:	Workshops:	Research study:	
2	2			
Teaching me				

Lecturing and mentoring. Students are actively involved in the educational process throughinteractive discussion, practical work, homework, case studies and workshops.

Pre-exam requirements	Points	Final exam	Points
Participation in class		Oral exam	70
Participation in labs			
Colloquiums	30		

# Study program / study programs: Management and organization Degree level: Bachelors studies Course: Tools and Techniques of Project Management Teacher: Obradović LJ. Vladimir Course status: Elective ECTS points: 4 **Prerequisites:** Course objective Introducing students to the fundamental methods and techniques of Project Management. Providing students with the up to datemethods and techniques used in Project Management. Learning outcomes At the end of the learning process, after the fulfilment of pre-exam requirements and after the exam, students are expected to know and understand the contents of the subject as well asto be able to use modern methods and techniques of the Project Management in order to successfully manage various projects. **Course structure and content**

### Theoretical instruction:

Planning methods

Methods of organization

Cost estimates methods

Resource optimization

Methods of risk management on projects

Analysis of project stakeholders

Logical framework

### Practical instruction:

Problem Tree

Objective Tree

Man	of	kev	events

Preferred methods

Empirical, statistical, normative method of estimating costs

PBS, WBS, OBS, RACI

Method actual values

Cost optimization of the project

The method of risk assessment

### Literature/Readings

- Jovanović P., Petrović D., Mihić M., Obradović V.: Methods and techniques of project management, FON, Belgrade, 2007
- D Milosević: Project Management Toolbox, John Wiley & Sons, Inc., Hoboken, New Jersey 2003

The number of	Other classes:			
Lectures:	Labs:	Workshops:	Research study:	
2	2			

### **Teaching methods**

Auditory, illustrative and demonstrative, verbal and textual, practical methods.

Pre-exam requirements	Points	Final exam	Points
Participation in class	20	Written exam	50
Participation in labs	30		

Degree level: Undergraduate studies

Course:

**Optimization Methods** 

Teacher: Vujošević B. Mirko, Stanojević J. Milan

Course status: Elective

**ECTS** points: 5

**Prerequisites**: Operations Research 1

### Course objective

Students will get insight into application of optimization methods to decision making processes in different areas: Supply Chain Management, finding network topologies of computer, telecommunication and road networks, multi-criteria decision making, decision making under uncertainty and incomplete information.

### Learning outcomes

With knowledge obtained at this course students will be able to understand role, importance and advantages of optimization in decision making process. They will be capable to apply optimization methods and techniques and to use actual software solutions for optimization-based decision support.

### Course structure and content

Both, theoretical and practical instruction: 1. Network optimization: Shortest path problem; problem of finding all shortest paths between all vertices in a network; shortest spanning tree, Steiner tree problem; travelling salesman problem; network flow problems. 2. Location problems: discrete location problems; continuous location problems; location-allocation problems; network location problems. 3. Multi-criteria optimization: basics; methods for determining efficient solutions (a priori approach); methods for determining entire set of efficient solutions (a posterior approach). 4. Identification and approximation problems and application of neural networks in their solving. 5. Basics of genetic algorithms.6. Introduction to fuzzy sets and fuzzy linear programming.

### Literature/Readings

- 1. M. Vujošević, M. Stanojević, N. Mladenović, Optimization Methods: Network, Location and Multicriteria Models, ugoslav Operational Research Societ, 1996. (in Serbian)
- 2. D. Cvetković at al. Combinatorial optimization, Jugoslav Operational Research Society, Belgrade, 1997. (in Serbian)
- 3. M. Vujošević, Optimization methods in engineer management, Faculty of Organizational Sciences, Belgrade, 2012. (in Serbian)
- 4. R. Fourer, D.M. Gay, B.W. Kernighan, AMPL: A Modeling Language for Mathematical Programming, Duxbury Press / Brooks /Cole Publishing Company, 2002.
- 5. A. Makhorin, Modeling Language GNU MathProg Language Reference, Free Software Foundation,

2013.				
The number	of class hours p	oer week		Other classes:
Lectures:	Labs:	Workshops:	Research study:	
30	30			

### **Teaching methods**

Theoretical instruction – interactive ex cathedra. Practical instruction – individual work with teacher's assistance in computer room. Also, can be realised as a block classes in the corresponding amount.

Pre-exam requirements	Points	Final exam	Points
Participation in class	20	Oral exam from selected chapters	20
Participation in labs	30		
Homework	30		
	Alternativ	vely	
Written exam	60	Oral exam	40

Degree level: Undergraduate studies

Course:

**Technology management methods** 

Teacher: Marinković P. Sanja

Course status: Elective

**ECTS points**: 4

Prerequisites: /

### Course objective:

Providing knowledge about various methods and techniques that encourage and support technological innovation in the enterprise as an important condition for business competitiveness in modern conditions.

### **Learning outcomes:**

Course students acquire the knowledge and skills to solve specific issues of forecasting, planning, organizing and managing the dynamics of technological change, technology systems, processes and operations in practice. They are able to recognize which method to apply in a particular situation, with as much confidence it can be used and how much modification is necessary to apply a personal opinion rather than the obtained result is used as a basis for future actions planning.

### **Course structure and content**

Theoretical instruction: Technology management; Technology and organization; Strategic management of technology; Support to strategic management of technology; Operational management of technology; Support to operational management of technology; Technological forecasting: Delphi, PATTERN, Brainstorming; Technology performance indicators of in the enterprise, Indicators of technological progress (TP), type of TP, TP rate, Objectives Matrix; Evaluation and selection of technology –methods, Ranking method, AHP method, methods to support technology innovation in the enterprise.

**Practical instruction:** Analysis of application examples and solving problems using different methods in the field of management of technology and development; Solving exercises using software; Application of the methods in local companies; Presentation of term papers and project tasks; Case studies; Presentations of application of selected methods in specific companies.

### Literature/Readings:

Porter, A.L., Cunningham, S.W., Banks, J., Roper, A.T., Mason, T.W., Rossini, F.A., Forecasting and Management of Technology, John Wiley&Sons, New York, 2011.

Levi Jakšić, M., Menadţment tehnologije i razvoja, Čigoja štampa, Belgrade, 2006.

Levi Jakšić, M., Marinković, S., Petković, J., Menadţment inovacija i tehnološkog razvoja, FON, , Belgrade, 2011.

Levi Jakšić M., Marinković S., Petković J., PC Tehnologija, Edukativni softver, Belgrade, 2005.

The number of class hours per week				
Lectures:2	Exercises:2	Workshops:	Research study:	

**Teaching methods:** Lectures, interactive workshops, exchange of ideas and knowledge through group discussion, learning through case studies, mentoring and teamwork; Training students to apply technology management methods and techniques in enterprises; Solving tasks with active participation of students; Involving students in research work through seminar papers

Pre-exam requirements	Points	Final exam	Points
Continuous assessment during semester, student activities (seminars, attendance, project work etc.)	30	Exam	70

Degree level: Bachelor studies

Course:

### Metrology with fundamentals of technique

Teacher: Mijatović S. Ivana

Course status: mandatory

**ECTS points**: 6

Prerequisites: none

### Course objective

Acquiring of knowledge about metrology on the levels of understanding basic technical and organizational aspects of metrology

### Learning outcomes

Active participant will be able to understand importance, purposes and benefits of metrology and metrology infrastructure at national, regional and international level.

### **Course structure and content**

### Theoretical instruction:

Basic terminology, development, importance and main activities of metrology. Category of Metrology. Industrial Metrology. Scientific Metrology. Legal Metrology. History of measurement and measures. Quantities, metrological units and measurement standard (etalons). Derived quantities and derived metrological units. Certified Reference Materials. Traceability and calibration. Reference procedures. Uncertainty. Legal Metrology. History of Legal Metrology. EU Legislation for measuring instruments. EU directives for measuring instruments; Role of metrology in Quality infrastructure. The Meter Convention.; International, regional and national metrological infrastructure. Mutual Recognition agreements. International, regional and national metrological agreements. Basic terminology of techniques and technologies. Industrial Technologies. Measurements in industry. Specific requirements for industrial metrology. Management and organization of metrology department in companies. ISO 9001 requirements for measuring instruments.

### Practical instruction:

Metrological units; SI Base Units; Measurement standards (etalons), Basics of Measurement – Type of measurement errors. Measurement uncertainty. Characteristics of measuring instruments. Metrology information.

Laboratory workshops are organized at Metrological laboratory of Faculty of Organizational Science.

### Literature/Readings

- 1. Howarth, P., Redgrave F., Metrologija, Direkcija za mere i dragocene materijale, 2008.
- 2. Mijatović I., Nastavni materijali iz Metrologije u elektronskom obliku (tekstovi, prezentacije, domaći zadaci i forumi), 2013., <a href="http://e-learn.fon.bg.ac.rs/course/">http://e-learn.fon.bg.ac.rs/course/</a>
- 3.Bucher, L.J., The Metrology Handbook, The measurement Quality Division, American Society for Quality ASQ, 2012.
- 4. De Silva, G.M.S., Basic Metrology for ISO 9000 Certification, Butterworth Heinemann, 2002

The number of	Other classes:			
Lectures:	Labs:	Workshops:	Research study:	0
2	1	1	0	

Teaching methods: Interactive lectures, workshops, case studies, on-line discussions, on-line tests

Pre-exam requirements	Points	Final exam	Points
Participation in class	5	Study paper	15
Home works	10	Oral exam	60
Midterm exams	10		

Study program / study programs:Management and organization
Degree level: Undergraduate studies
Course:
Multimedia technologies and Internet in culture
Teacher:Bogdanović M. Zorica,Labus B. Aleksandra
Course status: Elective
ECTS points: 5
Prerequisites:

**Course objective:** The aim of the course is to introduce concepts of multimedia technologies and ebusiness capabilities and their application in culture to students.

### Learning outcomes

Students are enabled for multimedia technologies applications in e-business in various areas of culture.

### **Course structure and content**

**Theoretical instruction:** Basics of information and communication. History of information and communication technologies. Culture and art as forms of communication. Multimedia technologies. Virtual reality. Internet business and web design. Application of multimedia technology and internet business in culture, art, media, religion. Virtual galleries and museum. Using internet of things in culture. Using mobile business and wireless technology in culture.

**Practical instruction:** Making internet business plan and Internet marketing plan of cultural institutions. Web design and development of web sites of cultural institutions. Supporting organization of cultural events. Using social networks. Use of mobile technology.

### Literature/Readings

- 1. E-resources, available at <u>www.elab.rs</u>
- Klaus Finkenzeller (2010). RFID Handbook: Fundamentals and Applications in Contactless Smart Cards, Radio Frequency Identification and Near-Field Communication (Third Edition). John Wiley & Sons Inc.
- 3. Wei-Meng Lee (2011). Beginning Android Application Development. Wiley Publishing, Inc.
- Greg Milette, Adam (2012). Stroud Professional Android Sensor Programming. John Wiley & Sons, Inc.
- 5. Luke Ahearn (2008). 3D Game Environments. Elsevier, Inc.

The number of	Other classes:			
Lectures: 2	Labs: 2	Workshops:	Research study:	

### Teaching methods

Lectures, exercises, case studies, lab exercises in classrooms with computers, project / seminar papers,

distance education.			
I	Evaluation/Grading (ma	aximum 100 points)	
Pre-exam requirements	Points	Final exam	Points
Assignments	40	Written exam	20
		Seminar paper	40

Degree level: Undergraduate studies

Course:

### Normative regulation of quality

Teacher:Pejović B. Gordana

Course status: compulsory

**ECTS points**: 5

Prerequisites: Fundamentals of quality, Quality engineering, Quality management

### Course objective

Students will acquire basic knowledge on the principles of the European single market operation, as well as the principles and content of the European New Approach Directives and domestic technical regulations in this area. Students are trained in the details about the procedure and the necessary conditions for companies to obtain the CE mark, or the Serbian conformity mark for its product. Students will be able to apply that knowledge in practice.

### Learning outcomes

Students acquire sufficient knowledge about the scope of the European regulatory environment and an understanding of the concepts - conformity assessment, certification, harmonized standards, market surveillance, notified bodies, CE marking, Serbian laws and regulations, and Serbian conformity mark - and understanding of the mechanisms/processes of their interconnectedness. Through the research paper students apply complete procedure of CE marking to a specific company and specific product, and thus demonstrate that have acquired the necessary knowledge and techniques.

### **Course structure and content**

### Theoretical instruction:

1. Introduction. Concepts and principles of European directives application; 2. Scope of application of the New Approach directives; 3. Responsibilities of all stakeholders in the implementation of EU directives; 4. Product compliance with EU directives; 5. Procedure for conformity assessment; 6. Notified Bodies; 7. CE marking; 8. Market surveillance; 9. Quality infrastructure in the implementation of European directives; 10. National regulation and Serbian conformity mark - the first part; 11. National regulation and Serbian conformity mark - the second part; 12. Contents of conformity assessment procedure (Part 1); 13. Contents of conformity assessment procedure (Part 2); 14. List of products covered by New Approach Directives.

Practical instruction: Labs, Students' research

1. Introduction. Concepts and principles of European directives application; 2. Scope of application of the

New Approach directives. Examples; 3. Responsibilities of all stakeholders in the implementation of EU directives. Examples and explanations; 4. Compliance with EU directives. Examples; 5. Procedure for conformity assessment; 6. Notified Bodies. Instruction for the final research paper preparation; 7. CE marking. Examples and explanations; 8. Colloquium; 9. Market surveillance. Examples and explanations; 10. National regulation and Serbian conformity mark. Examples and explanations; 11. Guidelines for the EU directives and national regulation implementation. Examples and explanations; 12. Contents of conformity assessment procedure. Examples and explanations; 13. List of products covered by New Approach Directives. Examples; 14. Final research paper presentation.

### Other forms of class

Preparation of the final research paper, including consultation (30 classes x 2 hours), to enable students to apply complex knowledge and techniques, that include procedure for CE mark granting at the specific company and specific product.

### Literature/Readings:

- Normative regulation of quality-european norms for products, V. Boţanić, D. Stokic, students' textbook, Faculty for Organisational Science, Belgrade 2013
- Normative regulation of quality-european norms for products, V. Boţanić, D. Stokic, students' labs instruction, Faculty for Organisational Science, Belgrade 2013
- 3. Instruction for the implementation of the New approach and Global approach directives, Danish Technical Institute (DTI), SCG Quality, 2006
- Law on technical requirements for products and conformity assessment (Official Gazette of RS, No 36/2009)
- 5. TEHNIS single information centre on Serbian technical regulation http://www.tehnis.merr.gov.rs

The number of	Other classes:			
Lectures:	Labs:	Workshops:	Research study:	_
2	2	0	0	

Teaching methods: Lectures, labs and consultation

Pre-exam requirements	Points	Final exam	Points
Participation in class	5	Written exam (in addition oral exam, if needed)	40
Colloquium	25		
Final research paper	30		

Degree level: Undergraduate Academic Studies

Course:

### **Selected Topics in Quality Management 1**

Teacher: Filipović V. Jovan

Course status: mandatory

**ECTS points**: 4

**Prerequisites:** /

### Course objective

To familiarize students with standardized management systems, with consideration of their application and integration in practice.

### Learning outcomes

A student familiar with the relevant standards for management systems and qualified to participate in their implementation and integration.

### **Course structure and content**

### Theoretical instruction:

The standardized management system concept, the regional (quality, environment, safety, security, risk, energy efficiency, ...), sectorial (industry-specific: QMS in the production of automobiles and spare parts, QMS in food and beverage industry, the aerospace QMS industry, QMS in the oil and natural gas, QMS software engineering, QMS in health ...), standards support agreements.

### Practical instruction:

Case studies of specific industries

Other forms of teaching:

Preparation of project paper through which students are trained for application and integration of relevant standards. Consultations are held every week at present professors and assistants.

### Literature/Readings

- 1. Filipović, J. i Đurić, M. Sistem menadţmenta kvaliteta, 2010, FON, Beograd
- 2. Hoyle, D., ISO 9000 Quality Systems Handbook Using the Standards as a Framework for Business Improvement (6th Edition) , 2009, Taylor & Francis
- 3. Relevant international standards

The number of	Other classes:			
Lectures: 2	Labs: 2	Workshops:	Research study:	
Teaching met	thods			
_		case studies, analysis	and application of standards	
	F	Evaluation/Grading (	maximum 100 points)	
Pre-exam req	uirements	Points	Final exam	Points
Participation is	n class	5	Written exam - combined assignments and theory	25
Homework		10	Oral exam	20
Colloquium		25		
Project paper of	defense	15		

Degree level: Undergraduate Academic Studies

Course:

### **Selected Topics in Quality Management 2**

Teacher: Filipović V. Jovan

Course status: mandatory

**ECTS points**: 4

Prerequisites: /

### Course objective

To familiarize students with the specific services and quality management in the service sector, regarding to fulfillment of the ISO 9000 requirements to services.

### Learning outcomes

Student qualified to participate in the design of a particular business system in accordance with the requirements of ISO 9001.

### **Course structure and content**

### Theoretical instruction:

On goods and services; Everything we do, however, are services; Quality in the service industry; Design and development of related services; Production and provision of service; Measurement relating to services; Relationships with service users, improvement of service quality.

### Practical instruction:

Case studies for industry specific services (health, education, sport, entertainment, financial service...)

Other forms of teaching:

Preparation of project paper through which students are trained for application and integration of relevant standards. Consultations are held every week at present professors and assistants.

### Literature/Readings

- 1. Filipović, J. i Đurić, M. Sistem menadţmenta kvaliteta, 2010, FON, Beograd
- 2. Hoyle, D., ISO 9000 Quality Systems Handbook Using the Standards as a Framework for Business Improvement (6th Edition), 2009, Taylor & Francis
- 3. ISO 9001:2008 Quality Management System Requirements
- 4. ISO 9004:2009 Managing for the sustained success of an organization A quality management approach

### The number of class hours per week

Other classes:

Lectures: 2	Labs: 2	Workshops:	Research study:	
Teaching met	hods			
	cises, analysis of		and application of standards  maximum 100 points)	
Pre-exam req	uirements	Points	Final exam	Points
Participation in class		5	Written exam - combined assignments and theory	25
Homework		10	Oral exam	20
Colloquium		25		
Project paper of	defense	15		

Degree level: Bachelor studies

Course:

Quality management 3 – chosen chapters

Teacher: Mijatović S. Ivana

Course status: mandatory

**ECTS points**: 6

Prerequisites: none

### Course objective

Acquiring of knowledge about quantitative methods and techniques on the levels of understanding and application.

### Learning outcomes

Active participant will be able to understand and adequately apply quantitative methods and techniques of quality management.

### **Course structure and content**

### Theoretical instruction:

P1. Introduction to industrial researches. Problems, objectives and methodological concepts of industrial research in area of quality management. P2 and P3. QPS concept. Critical incident techniques. P4. Six Sigma. DMAIC model. Design for Six Sigma (DFSS). DMAIC Tools. P5. Problems and opportunity identification. Defining priorities. Identification of critical quality characteristics from customers points of views. SIPOC diagram,. Six Sigma Project charter. P6 and P7. Measuring of performances. Identification of key input and output variables. P8 and P9. Analyze of opportunity. Understanding reasons for variations and potential roots causes. Variations. Classification of Variations. P10. FMEA. P11. Analysis of process capability. Process capability indexes. P12. Performance improvements. Evaluating and selecting solutions. Robustness. P13 and P14. Control of improvements. Quality Plans. Analyses of performance and reporting.

### Practical instruction:

V1. Workshops: Role of industrial research. V2, V3 and V4. Workshops: QPS.V5. Workshop: DMIAC V6. SIPOC diagram. V7. Workshops: DFSS model V8. Workshops: Defining priorities. Advanced application of SN ratio y characteristics). V9. FMEA V 10. and V11. Process Capability Indexes V12, V13 and V14 Introduction to Design and analysis of experiments.

### Literature/Readings

- 1. Mijatović I., Ințenjering kvaliteta autorizovana skripta, 2013/2014.
- 2. Mijatović I., Teaching materials in e-form (e-tests, e-forums, texts, presentations, case studies), 2013., http://e-learn.fon.bg.ac.rs/course/
- 3. Taguchi G., Chowdhuty S., Wu Y., Taguchi s Quality Engineering Handbook, John Wiley and Sons, 2005.
- 4. Montgomery D.C., Design and Analysis of Experiments, John Wiley and Sons, 2009.
- 5. Allen T.T., Introduction to Engineering Statistics and Six Sigma, Springer-Verlag, London, 2006.

The number of class hours per week					Other classes:
	Lectures:	Labs:	Workshops:	Research study:	0
	2	2	0	0	

Teaching methods: Interactive lectures, workshops, case studies, on-line discussions, on-line tests

Pre-exam requirements	Points	Final exam	Points
Participation in class	5	Written exam	20
Home works	20	Oral exam	35
Midterm exams	20		

Study program / study programs:Management and organization
Degree level: Undergraduate studies
Course:
Quality Management 4 – Selected Chapters
Teacher:Ţivković D. Nedeljko,Filipović V. Jovan
Status of course: optional
Number of ECTS: 4
Prerequisites:
Objective of the course
To enable students to acquire concepts and terminology of food safety management system, and to understandits place and role in the management of organizations. The use of different FSMS model is an integral part of this objective.
Outcome of the course
A student is capable to: a) understand the requirements of food safety management system, b) design solutions to meet the requirements of food safety management system, v) draft basic documents necessary for the

### **Content of the course**

establishment of food safety management system.

Theoretical instruction: Food safety management system-Introduction (Scope, normative references, terms and definitions), The structure of standard ISO 22000:2005: Food safety management system- requirements, Prerequisite programs (PRP), The steps that precede analysis of hazards (teem for food safety, product characteristics, intended use, flowcharts), Hazard analysis, Establishing a HACCP plan, System traceability, Inspection of non-compliance, IFS, BRC, Global Gap.

*Practical instruction:* Prerequisite programs (PRP), The steps that precede analysis of hazards (teem for food safety, product characteristics, intended use, flowcharts), Hazard analysis, Establishing a HACCP plan, System traceability, Inspection of non-compliance.

### Literature

- Nedeljko Zivkovic, Ivan Janicijevic, "Food safety management systems", electronic edition-mimeographed notes, 2013.
- 2. Marriott N. "Principles of food sanitation", Springer, New York, 2006.
- 3. ISO 22000- Food safety management system-Requirements

The number of class hours per week				
Labs:2	Workshops:	Research study:		
			•	

### **Teaching methods**

Processing of scientific and technical literature (domestic and foreign) with the presentation of real situations and

examples from practice; presentations; discussion in class; creating and solving problems and case studies; visit the practice; visits of distinguished experts from the industry; practical work in companies.

Evaluation/Grading (maximum 100 points)				
Pre-exam obligations	Points	Final exam	Points	
Seminar paper	30	Written exam	40	
		Oral exam	30	

**Degree level**: Undergraduate academic studies

Course:

### **Public Relations**

Teacher: Filipović S. Vinka, Kostić-Stanković M. Milica, Janičić R. Radmila, Cicvarić Kostić M. Slavica, Vlastelica Bakić L. Tamara

Course status: Mandatory

**ECTS points**: 5

**Prerequisites**: Marketing

### Course objective

Introducing students to the concept, activities and goals of public relations. Training students for planning and organizing public relations.

**Learning outcomes:** Gaining knowledge and skills in the field of public relations. Mastering the methods and techniques used in public relations and their use in the creation of identity, image and reputation of an institution.

### **Course structure and content**

### Theoretical instruction:

The basic characteristics of public relations. The definition and meaning of public relation concept; Public relations as a process; Goals and objectives of public relations; Position of public relations in the organization. The ethics of public relations. Public relations and international environment; Public relations activities. Building institutional identity, image and reputation. Media Relations. Organization of special events. Sponsorship. Lobbying. Crisis public relations; Planning and organization of public relations. Planning process of public relations. Planning a public relations campaign. Organizing public relations function; Verbal and non-verbal communication. Professional behavior.

Practical instruction: Exercise, Other forms of teaching, Research studies: Case studies analysis - organizing public relations. Defining the process of public relations on the example of a particular organization in the region. Analysis of ethical and unethical examples of public relations practice. Solving the problem of public relations in an international environment. Practical tasks: building institutional identity, image and reputation. Case studies - press conferences and other media events organization. Writing press releases. Public appearances exercise. Workshop on planning public relations. Creating budgeting programs for public relations. Measurement and evaluation models in public relations. Simulation and analysis in organizing various public relations activities.

Literature	/Reading	S
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Basic:

Filipović V., Ko	stić-Stankov	vić M., (20	11) Odnosi s javnošć	u, F0N, Beograd		
Additional:						
Material from le	ctures and e	xercise.				
Additional litera	ture if neede	ed, and in a	greement with lectur	rers.		
The <i>number of c</i>	class hours	per week			0	ther classes:
Lectures: Labs: Workshops: Research study:						
2	2					
Teaching metho	ods					
	nts' indepen	dent resear	ch and problem solv	dies, learning to work toge ing based given assignmen		
		Eva	nluation/Grading (n	naximum 100 points)		
Pre-exam requirements			Points	Final exa	am	Points
Participation in class			10			
Practice (preparation and presentation of project assignment)		nment)	20	Oral exam		30
Test/s			40			

Degree level: Graduate academic study

**Course:** 

**Media Relations** 

Teacher: Janičić R. Radmila, Cicvarić Kostić M. Slavica, Vlastelica Bakić L. Tamara

Course status: Chosen

**ECTS points**:

Prerequisites: Marketing and Public Relations

### Course objective

Course objective is improving knowledge in the field of media relations planning and integrated functions of media relations and media communications, as part of marketing and corporative communications.

### Learning outcomes

Understanding and improving skills of planning methodology, realizations and evaluations of integrated media relations. Aplied knowledge in the field of marketing and corporative communications.

### **Course structure and content**

### Theoretical instruction:

Functions and objectives of media relations. Caracteristics of media communications. New media approach in corporative communications. Analysis of media environment, target groups, sociological impact of media relations and media communications. Specific type of communications, television, radio, publications, Internet. Analysis of global media communications. Corporative media communications. Departments for media communications. Planning of media communications. Defining of media communications objectives. Defining of target groups and key messages. Strategies of media relations and communications in crisis situations. Writing of media materials. Conference for journalist. Media events. Interview and answer on questions in media. New media communications. Advertising process. Planning of media communications according objectives and target groups. Creative strategies in advertising. Integrated media communication. Corporative media communications. Ethical aspects of mediacommunications. Evaluation of media communications. Media monitoring and press cliping. Analysis of media communications contents.

Practical instruction: Work on media communications plan on the real case studies from practice. Comparative analysis of case studies. Simulation of press conference. Practice of writing news and material for media. Practice of public speac, inetrview and communications of social networks. Analysis of new media. Analysis of etichal aspect of media communications. Building models for media evaluations.

Literature/Read	lings			
Vlastelica T., Me	dijska kampanj	a – publicitet i oglaš	śavanje, Zaduţbina Andrejevid	E, Beograd, 2007.
Vlastelica Bakić	T., Lalić D., Pr	imeri dobre prakse o	odnosa s javnošću 2013, FON,	Beograd, 2013.
The number of	class hours per	week		Other classes:
Lectures: 2	Labs: 2	Workshops:	Research study:	
Teaching metho	ds			
	Ev	aluation/Grading (	maximum 100 points)	
Pre-exam requir	rements	Points	Final exam	Points
Participation in c	lass	30	Written exam	
				100
Participation in la	abs	30	40	100

Degree level: Undergraduate studies

Course:

## Operations research 1

Teacher: Vujošević B. Mirko, Čangalović M. Mirjana, Martić M. Milan, Stanojević J. Milan, Kuzmanović S. Marija, Savić I. Gordana, Makajić-Nikolić D. Dragana

Course status: Mandatory

**ECTS points**: 6

**Prerequisites**: Mathematics 1, Mathematics 2

**Course objective:** Instructing students to basic concepts and methods of operations research (linear, nonlinear and integer programming). The stress will be on modelling as one of basic methods of management science.

**Learning outcomes:** Content of this course qualifies students for mathematical modelling of business and organizational systems and solving the practical management problems applying quantitative methods using modern software tools.

#### Course structure and content

Theoretical instruction: Introduction to Operations Research (OR) and mathematical programming: methodology of OR, mathematical model, feasible solution, optimal solution, local and global optimum. Linear programming (LP) and its characteristics. Geometric interpretation of LP. General, symmetric, standard and canonical form of LP problem. Simplex method. Possible outcomes of simplex method. The dual LP problem, its features and application possibilities. Transportation problem (TP). Some special cases of TP. Standard combinatorial optimization problems (assignment problem, knapsack problem, etc.) and their solving by exact and approximate methods. Integer programming and its solving methods. The basic characteristics and properties of non-linear programming problem (NP). The use of LP and NP in business analytics.

**Practical instruction:** Basic concepts of mathematical modelling. Modelling of standard problems in management (portfolio optimization, diet problem ...). The formation of some specific mathematical LP models. Graphical method of solving LP problems. Simplex method – the basic steps. Simplex Method – advanced techniques. The transport problem: modelling and obtaining the initial solution. Methods for solving TP to optimality. Specific application of TP in management. Solving some standard problems of combinatorial optimization using exact and approximate methods. Optimization problems on networks. Exact methods for solving integer programming (branch and bound). Nonlinear programming (NP): formulation of NP models, solving NP problems using analytical and numerical methods.

# Literature/Readings

#### **Basic:**

1. S. Krčevinac at al., Operations Research 1, FOS, Belgrade, 2013. (in Serbian)

2. M. Martić at al., Operations Research 1 – Selected Sasks, FOS, Belgrade, 2013. (in Serbian)

# Additional:

- 1. M. Vujošević, Linear programming, FOS, Belgrade, 2013. (in Serbian)
- 2. J.A. Lawrence, B.A. Pasternack, Applied Management Science, John Wiley & Sons Inc. 2002.

The number o	Other classes:			
Lectures:	Labs:	Practical work:	Research study:	
30	30	15	seminar task	

**Teaching methods:** Classic (ex cathedra) using blackboard, computer, projector. Solving shortcase studies and practical work in computer room.

#### **Evaluation/Grading (maximum 100 points) Pre-exam requirements Points** Final exam **Points** 40 40 Colloquium – tasks Written exam (alt. to coll. tasks) Participation in labs 5 Colloquium – theory 40 Oral exam (alt. to coll. theory) 40 Seminar tasks 15

Degree level: Undergraduate studies

Course:

#### **Operational Research 2**

Teacher: Vujošević B. Mirko, Čangalović M. Mirjana, Martić M. Milan, Stanojević J. Milan, Kuzmanović S. Marija, Savić I. Gordana, Makajić-Nikolić D. Dragana

Course status: Compulsory

**ECTS points**: 5

Prerequisites: Mathematics 1, Mathematics 2, Theory of probability

#### Course objective

The objective is to enable students to understand different methods and techniques of operations research which can be applied in the various fields of management. Stress will be on project planning techniques, network optimization, dynamic optimization, game theory, heuristics, queuing and inventory optimization models.

# Learning outcomes

Students will gain the knowledge in quantitative methods which represent the compulsory fund of knowledge for modern engineers and managers. Students will be able to understand, analyze and model practical problems in the various fields of management. They also will be able to solve problems by applying quantitative methods using modern software tools and present results in a proper form for decision making.

# **Course structure and content**

Theoretical and practical instructions covering the following areas: Project Planning, Analysis of the structure. Network Planning - CPM and PERT. Planning of the project cost by PERT - cost and LP methods. Game Theory - Introduction, simple and mixed matrix game, domination of strategies. Solving mixed matrix games. Determination of equilibrium and optimal strategies in bi-matrix games. Heuristic methods - principles, classification and application. Models of multi-stage decision making, dynamic programming - recurrence relations. Solving multi-phase management process by dynamic programming. Analysis of the queuing systems. Modeling systems with queues - Markov chains. Deterministic models of inventory management. Stochastic models of inventory management. Reliability optimization.

## Literature/Readings

J.A. Lawrence, B.A. Pasternack, Applied Management Science, John Wiley & Sons Inc. 2002.

The number of	Other classes:			
Lectures: 2	Excursuses: 2	Workshops:	Research study:	

# Teaching methods

The classical way (ex-cathedra) using table, computer, projector, resolution of short case studies and one hour of labs weekly.

# Evaluation/Grading (maximum 100 points)

Pre-exam requirements	Points	Final exam	Points
Participation in class	5	Oral exam (alt to midterm test)	40
Project study	15	Written exam (alt to midterm test)	40
Midterm tests (theoretical and practical part)	80		

Degree level: Undergraduate studies

**Course:** 

# **Optimization in Natural Resources Management**

Teacher: Stanojević J. Milan, Petrović B. Nataša

Course status: Elective

**ECTS** points: 5

**Prerequisites**: Operations research 1, Operations research 2

## Course objective

Introducing basic concepts of natural resources management to students. Identifying problems in the usage of different types of natural resources and their restoration. Solving these problems with methods and techniques of operations research.

## Learning outcomes

The course strongly focuses on real-world situations and problems in natural resources area. Students will be prepared to apply their skills to identifying, modelling and solving these problems in order to achieve their optimal efficiency and ensure the quality of the natural environment and reduce the negative consequences of inappropriate usage of resources.

#### **Course structure and content**

#### Theoretical instruction:

Analysis of natural resources in the world with special focus on Serbia – agro-industry, forestry, fishing and mining. Specifics related to the time horizon; special reference to analysis of risk and uncertainty. Review of applications of operations research in natural resources industry. Modelling of selected problems in the agro-industry, forestry, fisheries and mining. Solving selected optimization problems with methods of linear, nonlinear and integer programming using available software. Positive Mathematical Programming.

#### Practical instruction:

The practical instruction is designed to follow the theoretical classes. Units are covered with available software tools applied to actual real world examples.

- 1. Handbook of operations research in natural resources, editors Andres Weintraub, Carlos Romero, Trond Bjørndal, Rafael Epstein, Published by Springer Science+Business Media, LLC, 2007.
- A Long View of Research and Practice in Operations Research and Management Science: The Past and the Future, editors ManMohan S. Sodhi, Christopher S. Tang, published by Springer Science+Business Media, LLC, 2010.
- 3. S. Krčevinac et al., Operations research 1, Faculty of Organizational Sciences, Belgrade, 2013. (in Serbian)
- S. Krčevinac et al., Operations research 2, Faculty of Organizational Sciences, Belgrade, 2013. (in Serbian)

The number of	Other classes:			
Lectures:	Labs:	Workshops:	Research study:	
2	2		1	

# **Teaching methods**

The course is performed using ex-cathedra, lectures, research seminars, practical classes, fieldwork and team work and independent research. All members of the class are expected to show genuine commitment to maximize the return from the time invested in the class. There will also be a number of practical exercises and problems to be solved in the classroom or at home.

Evaluation/Grading (maximum 100 points)						
Pre-exam requirements Points Final exam Points						
Participation in class	10	Oral exam	30			
Homework	20	Seminar work	40			

Degree level: Undergraduate academic studies

**Course:** 

#### **Event Management**

Teacher: Cicvarić Kostić M. Slavica, Jaško O. Ondrej, Čudanov J. Mladen, Jevtić V. Miloš

Course status: Elective

**ECTS points**: 4

Prerequisites:

## Course objective

The aim of this course is to introduce the basic techniques and activities necessary for planning, promotion, successful implementation and evaluation of special events to students.

#### **Learning outcomes**

Acquisition of basic knowledge in organization of various special events: sports events, scientific meetings, conferences, seminars, various meetings etc.

#### **Course structure and content**

#### Theoretical instruction:

Definition and characteristics of special events. Planning a special event. Planning activities program. Planning human resources. Characteristics of forming a team of volunteers and organization representatives. Planning logistics support. Planning marketing activities (branding, promotion, advertising, public relations). Sponsoring special events. Planning event financing. Safety and security of participants at the event. Legal issues related to special events. Planning infrastructure needs. Preparation of documentation. Technical support to the event. Key elements of budgetary control. Reporting during implementation. Possible risks and risk management strategies. Activities after the completion of the event.

#### Practical instruction:

Labs, other forms of teaching, research papers

Preparation of project documentation - project structure. Refining ideas. Labs - Mapping the process of special events. Marketing aspects of special event. Principles of marketing in services. Financial aspects of special event - Costing. Financial aspects of special event - providing the necessary resources. Organizing a team for the implementation of special event. Functions and responsibilities of team members. The choice of location. Identification of key stakeholders. The importance of communication in the implementation of special events. Case study - Sports competitions organization. Case study - Scientific symposium organization. Case Study - Wedding organization.

## Literature/Readings

1. Event management - Managing events in tourism, culture, business and sports, Lin van der Vagen, Brenda

R. Karlos,	Mate B	Beograd	, 2010
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2. Special Events: A New Generation and the Next Frontier, Joe Goldblatt, John Wiley & Sons, 6th Ed., 2010

3. Special Event Production: The Process, Doug Matthews, Routledge, 2007

The number of	Other classes:			
Lectures: 2	Labs: 2	Workshops:	Research study:	

# **Teaching methods**

Monologue method, demonstration method, case studies, learning how to work together in solving practical problems, individual research and troubleshooting based on the task, working on project papers

# **Evaluation/Grading (maximum 100 points)**

Pre-exam requirements	Points	Final exam	Points
Participation in class	20	Written exam	
Tests	30		
Seminar paper	50		

Degree level: Bachelors degree

Course:

#### Fundamentals of industrial engineering

Teacher: Slović D. Dragoslav, Radović M. Milić

Course status: Obligatory on Operations management and Quality management study programs

**ECTS points**: 6

Prerequisites: /

## Course objective

To describe the development of industrial engineering, to train students for solving problems of work method engineering (analysis, design, implementation, and improvement) and determination of work performance – productivity and work standards and time, and to describe work evaluation and wage incentives

## Learning outcomes

To improve knowledge, ability, and skills of students needed for team work aimed at solving problems, through acquisition of knowledge of work method engineering and work performance evaluation.

#### **Course structure and content**

#### Theoretical instruction:

Development and application of industrial engineering; Work method engineering – Objective, procedure, instruments, and goals; Work place design and improvement; Work process design and improvement; Operation design and improvement at the level of movement; Work method standardization; Required time calculation and work standard determination; Calculation of basic time for work elements; Calculation of elements of rest and unforeseen outages; Development and application of work and time standards; Work value evaluation – analytical assessment of jobs and tasks; Wage incentives.

#### Practical instruction:

Application of Pareto principle and questioning principle; Current state analysis and design of improved future state; Work equipment layout, activity scheduling, activity interdependancies of multiple resources, operations at the level of movement; Work procedures and work instructions design; Predetermined work times (MTM2 and MOST methods); Work sampling; Required time determination and work and time norms; Design of work catalogues, work process conduct charts, and work division plans; Practical assignments.

#### Literature/Readings

Petrović B., Proučavanje rada, FON, Beograd, 1996; Petrović B., D. Slović, Proučavanje rada 2 - zbirka

zadataka.	FON	Recorad	2004
zauaiana.	TOIN.	Deograu.	400 <del>1</del>

Kanawaty G., Introduction to Work Study - 4th edition, International Labour Organisation, Geneva, 1992; Meyers F.E., Motion and Time Study: For Lean Manufacturing, Prentice Hall, Upper Saddle River, 1999

The number of class hours per week				Other classes:		
Lectures: 2	Lectures: 2 Labs:2 Workshops: Research study:					

# Teaching methods

Monologic method, discussion, demonstration, case studies, learning through mutual work on practical problem solving, individual problem solving, individual work on project assignments, consultations with project assignment realisation

Evaluation/Grading (maximum 100 points)						
Pre-exam requirements Points Final exam Points						
Participation in class		Written exam	48			
Participation in labs	52					

Degree level: Undergraduate studies

Course:

#### **Fundamentals of Information and Communication Technologies**

Teacher: Simić B. Dejan, Milovanović M. Miloš

Course status: Compulsory

**ECTS** points: 5

Prerequisites:

## Course objective

Students are introduced to basic concepts in information and communication technologies and acquire the necessary skills to work on a computer. This will significantly improve their productivity in solving problems with the help of information technology and tools typically available on a personal computer.

#### Learning outcomes

Students will gain the knowledge and skills needed for work on a computer, as well as fundamental knowledge required for the analysis and application of modern information and communication technologies.

#### Course structure and content

#### Theoretical instruction:

L-01: Number Systems and Codes, L-02: History of Computing, L-03: Data, information, and knowledge, L-04: Hardware, L-05: Software, L-06: Data organization, L-07: File organization, L-08: Databases, L-09: Computer Networks, L-10: Java, L-11: Communication technologies, L-12: Electronic commerce, L-13: Data Security, L-14: HTML, L-15: XML

#### Practical instruction:

Exercises, Other forms of lectures, Research work: E-01: Introduction to ICT, E-02: Configuration and administration of the Windows operating system, E-03: Advanced use of word processors – Word, E-04: Advanced use of word processors – Word (continuation), E-05: Advanced techniques for working with tables – Excel, E-06: Advanced techniques for working with tables – Excel (continuation), E-07: Test: Windows+Word+Excel, E-08: Making presentations – PowerPoint, E-09: Internet and e-mail service, E-10: Making Internet presentations, E-11: Making Internet presentations (continuation 1), E-12: Making Internet presentations (continuation 2), E-13: Test: PowerPoint + Internet, E-14: Integrated test, E-15: Integrated test

- 1. Dejan Simić, Fundamentals of information and communication technologies, textbook, FON, Beograd 2011.
- 2. Dejan Simić, Workbook for fundamentals of information and communication technologies, FON, Beograd 2011.
- 3. <u>Douglas E. Comer</u>, Internetworking with TCP/IP Volume 1: Principles, Protocols, and Architecture, Pearson Education, 2013.
- 4. V. Rajaraman, Introduction to Information Technology, Second Edition, PHI Learning Private Limited, Delhi, 2013.
- 5. August E. Grant, Jennifer H. Meadows, Communication Technology Update and Fundamentals, Thirteenth

6. The material in electronic form, FON, Beograd, 2013.  The number of class hours per week					Other classes:
Lectures: 2	Labs: 1	Workshops: 1	Ro	search study:	
Teaching meth	ods				
Lectures, Exerc	ises, Practica	l Work, Consultation			
Lectures, Exerc	ises, Practica	,	rading (maxim	um 100 points)	
,	ises, Practica	Evaluation/G		um 100 points) Final exam	Points

# Study program / study programs: Management and organization Level of studies: Undergraduate studies Course: Fundamentals of Quality Teacher: Filipović V. Jovan, Vasiljević V. Dragan Status of course: mandatory Number of ECTS: 6

## **Objective of the course:**

Condition for taking: /

To enable students to understand basic concepts and terminology of quality management, and establish basis for dealing with forthcoming courses.

#### Outcome of the course

A student is capable to understand basic quality management concepts, advantages and shortcomings regarding application of these concepts.

#### Content of the course

Theoretical classes: History of quality management. Development of quality science. Philosophies and trends in quality management. Criteria for defining quality and definitions of quality. Quality in production and service provision. Dimensions of product and service quality. Variations. Quality trilogy. Systems and systems thinking. Systems approach to quality. Process and process management. Quality management. Quality management system. Quality assurance. Integrated management systems. Effectiveness and efficiency. Process improvement (incremental, break-through, Benchmarking, Reengineering). TQM principles. Infrastructure, practices and tools of TQM

Practical classes: Presentation of goals, objectives and methods. Introduction to case studies. Workshop1: Quality and personal values. Workshop 2: History of quality. Workshop 3: Trends in quality management. Workshop 4: Customers and interested parties. Workshop 5: Quality trilogy. Workshop 6: Identification of basic concepts and definitions of process/service quality. Development of basic QMS documentation. Quality of product (hardware, software, processed materials and services). Development of quality characteristics for specific product

# Literature:

- 1. Filipović, J., Đurić, M. Osnove kvaliteta, 2009, FON, Beograd
- **2. Filipović, J.**, Jovanović, B., Menadţment kvaliteta i standardizacija u informacionim sistemima i tehnologijama, FON, Beograd (in print)

Number of classes			Other classes
Theoretical: 2 Practical	2 Other forms:	Study and research work:	1

## Methods of conducting classes

Theoretical classes, practical classes, case study analysis, analysis and application of standards

Knolwedge assessment (maximum 100 points)					
Pre-exam obligations	Points	Pre-exam obligations	Points		
Activity on classes	5	Written exam	25		
Homework	10	Oral exam	20		
Mid-term exam	25				
Essay	15				

Study progran	n / study programs:	Management and	l organization		
Degree level: U	Indergraduate studies	S			
Course:					
Programming	Basics				
Teacher:Vlajić	S. Siniša				
Course status:	Required				
ECTS points: 6	5				
Prerequisites:	-				
_	ve: Gaining knowled king with MS Access	-		in Visual Basio	programming
_	omes: Ability of stude by using Visual Ba	-	t a simple software	systems that w	ork withMS
Course structu	re and content				
Theoretical ins	truction:				
Procedures. Fur Access. Program	the basic principles on actions. Arrays. Mate mming language Vis eptions. Working with	rix. Records. SQL ual Basic under M	queries. Developme S Access. Modules	ent environme	nt of the MS
Practical instru	ection:				
algorithmic stru	nvironment MS Accordictures. Arrays. Proce Work with database eminar paper.	edures. Functions.	Matrix. Records. G	raphical user i	nterface. Events
Literature/Rea	ndings				
Basic literature	<b>::</b>				
Siniša Vlajić: P	rogramming Basics,	(on serbian langu	age), ISBN: 978-86	-86887-29-0, I	Belgrade (2014)
The number of	f class hours per we	ek			Other classes:
Lectures: 2	Labs: 1	Workshops:	Research study:		1
Teaching meth	l lods				

• The professor will theoretically explain each of the considered thematic units and by practical examples

will explain their use in the development of complex software systems.

- Assistants will elaborate thematic units which professor explained. For each thematic unit assistants will prepare concrete examples that will show and explain to the students in the computer center.
- Students should to do tasks, which will be prepared by assistants.

Evaluation/Grading (maximum 100 points)						
Pre-exam requirements Points Final exam Points						
Seminar	20	Exam on the computers	30			
		Oral exam	50			

Degree level: Undergraduate

Course:

**Introduction to Game Theory** 

Teacher: Kuzmanović S. Marija, Martić M. Milan

Course status: Elective

**ECTS points**: 4

Prerequisites:

## Course objective

The course is designed to introduce students to the basic concepts, principles, models and techniques of game theory and the possibility of their application in modeling and analyzing strategic interaction in the complex and interactive business environment. By exposing students to a wide variety of topics and applications, the course gives students some idea of the vast range of phenomena one can use game theory to model and explain. This course will also improve powers of logic and encourage students to think strategically in their future everyday life.

# Learning outcomes

On successful completion of this course, students will be able to: understand the different types of games and their uses in strategic thinking; identify strategic situations and represent them as games; analyze different games and use a variety of tools to find equilibria solution; assess the importance of information in games and how this can change behaviors; understand the way in which game theoretic models can be applied to a variety of real-world scenarios in business and other areas. Finally, students will be able to analyze experimental results and critically think on the behavioral implications derived from experiments and real-world observations.

#### Course structure and content

Theoretical instruction: P01: Introduction and basic principles: Course objectives. Terminology. Strategic Thinking. Understanding the rules\_Rationality and Common Knowledge. Equilibrium. P02-P06. Concepts and Techniques: Simultaneous Games. Domination. Mixed games and uncertainty. Nash equilibrium. Sequential Games. Sequential Rationality and backward induction. Mixed Games. Repeated games. P07-P10. General classes of games and strategies: Cooperative and Non-cooperative games. Typical games. Prisoner's Dilemma – solving and application. Strategic use of information. Strategic Moves, Commitment and Credibility. P11-P15. Applications in economics, marketing, finance, computer science, political science. Military applications. Other applications.

*Practical instruction:* Modeling strategic interaction. Business games. Typical games: Prisoner's dilemma, Coordination, Battle of the sexes, Chicken game, Hawk and Dove. Analogy of the typical games with real situations through examples. Methods and techniques for solving the strategic equilibrium. The interpretation of the strategic equilibrium. Software for solving games and simulation. Case Studies: Price war, Market entry, Strategic investment, Negotiation, Auctions.

- 1. Krčevinac, S. et al., Operaciona istrațivanja 1, FON, Beograd, 2006.
- 2. Stojanović, B., Teorija igara elementi i primena, Sluţbeni glasnik, 2005.
- $3.\ Dixit\ A.,\ and\ Skeath\ S.,\ Games\ of\ Strategy,\ 2nd\ edition,\ Norton,\ New\ York,\ 2004.$

4.	Dixit A	and N	Valebuff	В	Thinking	Strategic	allv.	Norton.	New	York.	1991

5. Presentations and exercises; 6. www.gametheory.net

The number of class hours per week			Other classes:	
Lectures:	Labs:	Workshops:	Research study:	
2	2			

# **Teaching methods**

Lectures accompanied by appropriate presentations and multimedia content. Exercises based on realistic and illustrative examples. Creative workshops based on interactive work with students through analysis of case studies, experimental games and simulations.

Evaluation/Grading (maximum 100 points)					
Pre-exam requirements	Points	Final exam	Points		
Class Participation	10	Written exam	30		
Practical lectures	30				
Seminar work	30				

Degree level: Bachelor Academic Studies

**Course:** 

#### **Organization Basics**

Teacher: Jaško O. Ondrej, Čudanov J. Mladen, Jevtić V. Miloš

Course status: Required

**ECTS points**: 6

Prerequisites:

## Course objective

The objective of the course is to introduce first year students with the basic concepts in organizational sciences, as well as to gain knowledge about the organization of business systems, that will provide basis for understanding particular aspects of the business system on senior years of study.

## Learning outcomes

To get basic knowledge in the field of organization of business systems and to get skills and abilities to solve practical organizational problems.

#### Course structure and content

#### Theoretical instruction:

Development of Organizational Sciences. Defining the concept, social width and importance of the organization. Organizational principles, methods, techniques, tools and instruments. Theories of organization. The strategic elements of the organization. Organization of business systems. The organization of work processes in manufacturing and other industries. Production management. Production facilities, calculating, synchronization. Productivity, definitions, factors, the importance of labour productivity. Organizing, structuring the organization, setting direction and planning the work process. Models of the organization. Models of organizational structures. The main institutional forms of organization.

## Practical instruction:

The development of organization theory - Scientific Management. The development of organization theory - Administrative theory. The development of organization theory - Bureaucratic organizations. The development of organization theory - Theories of behaviour in organizations. Management Science. Contemporary organization theories. Work organization - analysis of technological alternatives, the organization of the production process. Methods for determining time standards of performance. Management and regulation - control of costs and inventories. Quality management. Labour productivity - mechanization, automation, innovation. Types of authority in the organization. Models of organizational structures - examples. The basic functions of companies - job descriptions.

- 1. Jaško, O., Čudanov, M., Jevtić, M. & Krivokapić, J. (2013). *Osnovi organizacije i menadžmenta*. Beograd, Srbija: Fakultet organizacionih nauka.
- 2. Krivokapić, J., Todorović, I. & Komazec, S. (2013). *Osnovi organizacije i menadžmenta praktikum*. Beograd, Srbija: Fakultet organizacionih nauka.
- 3. Daft, R. L. (2009). *Organization Theory and Design*. Stamford, Connecticut, USA: Cengage Learning.
- 4. Morgan, G. (2006). Images of Organization. London, UK: Sage Publications.

The number of class hours per week			Other classes:	
Lectures:2	Labs:2	Workshops:	Research study:	

# **Teaching methods**

Monological method, demonstrative method, case study, learning through mutual work on practical problem solution, independent research and problemsolving on the background of given problems.

# **Evaluation/Grading (maximum 100 points)**

Pre-exam requirements	Points	Final exam	Points
Participation in class	5	Written exam	20
Test	30	Oral exam	45

Degree level: Undergraduate studies

**Course:** 

#### **Key concepts of financial management**

Teacher: Țarkić-Joksimović A. Nevenka, Benković S. SlaĎana, Barjaktarović-Rakočević M. SlaĎana

Course status: mandatory

**ECTS points**: 6

**Prerequisites:** /

## Course objective

Instructing students to basic concepts and methods of financial management (financial function in organization, system of financial management in organization, financial markets, financial planning, financial analysis, investment policy and investment decisions). The stress will be on basic financial concepts and categories in order of understanding the financial manager's role.

## Learning outcomes

Content of this course qualifies students for making financial decisions, due to of understanding key financial problems in organization, which is the basis for solving the practical management problems throughout applying of financial management concepts and methods.

# Course structure and content

## Theoretical instruction:

Key concepts of financial management. Basic concepts of financial management in enterprises. Institutional and business environment. Basic concepts and principles of financial markets opertions. Basic concepts of financial planning and analysis. Basic concepts and principles of investment policy. Basic concepts and principles of financial policy and dividend policy.

#### Practical instruction:

Financial goals. Introduction to operational financial management. Enterprises as participants on financial markets. Basics of investment projects evaluation. Financial reports analysis. Principles of cash flows and financial planning.

- 1. Țarkić Joksimović Nevenka, SlaĎana Benković, Miloš Milosavljević: *Finansijski menadžment*, Fakultet organizacionih nauka , Beograd, 2013.
- 2. Benković SlaĎana: *Operativno finansijsko poslovanje*, Fakultet organizacionih nauka, Beograd, 2006.
- 3. Brigham E.: Financial Management: Theory & Practice, Cengage Learning, 2013.
- 4. Brigham E., Houston J.: Fundamentals of Financial Management, Cengage Learning, 2009.
- 5. Titman S., Martin J., Keown A.: Financial Management: Principles and Applications, 11th ed.,

The number	Other classes:			
Lectures:	Labs:	Workshops:	Research study:	
2	2			
C	d mentoring. Stud	dents are actively invol- mework, case studies a	ved in the educational proce	ss through interactive

Pre-exam requirements	Points	Final exam	Points
Participation in class		Oral exam	70
Participation in labs			
Colloquiums	30		

Degree level: Undergraduate studies

Course:

**Quality assessment of business system** 

Teacher: Ţivković D. Nedeljko, Vasiljević V. Dragan

Course status: Compulsory

**ECTS points**: 6

Prerequisites: Quality management system

## Course objective

Enabling students to master the terminology related to assessment of management systems, as well as to study the techniques of audit with respect to different assessment criteria.

# Learning outcomes

Students' ability to apply techniques of management systems audit.

#### **Course structure and content**

#### Theoretical instruction:

1. Introduction. Quality of business systems. 2. Quality assessment (audit) of business system. 3. Models of excellence. 4. Basic concepts and definitions. 5. Types of assessment. 6. Management of assessment programs. 7. The assessment activities. 8. Activities of the spot assessment. 9. Assessment techniques. Formulation of assessment findings. 10. Communication during the assessment. 11. Qualification and evaluation of auditors. 12. Normative regulation of management systems audit. 13. Certification of management systems. 14: Requirements of standards and criteria for the certification bodies establishment. 15. Accreditation and accreditation bodies.

#### Practical instruction:

1. The assessment (audit) process. 2. Creation of an assessment program. Auditors. 3. The process of compliance assessment. 4. The process of implementation and results assessment. 5. Assessment documentation. 6. Introductory meetings. Communication during the audit. 7. Techniques of data collection during assessment. 8. Formulation of assessment findings. 10. Meetings of audit teams. 11. Reporting and record-keeping. 12. Assessment conclusions. 13. Closing and monitoring corrective measures. 14. Certificate maintenance and inspection. 15. Concluding remarks.

# Literature/Readings

# Basic literature:

1. "Quality assessment of business system" - Slides of authorized lectures and practical tutorials,

Nedeljko Zivkovic, Ivan Janicijevic, 2013.

Additional literature:

2. "ISO 19011", International organization for standardization, 2011

The number of class hours per week

Lectures: Labs: Workshops: Research study:

2 2

# **Teaching methods**

Theoretical instructions, practical instructions, laboratory exercises, consultation, projectwork.

# **Evaluation/Grading (maximum 100 points)**

Pre-exam requirements	Points	Final exam	Points
Participation in class - theoretical	10	Written exam	50
Participation in class - practical	20	Oral exam	20

Degree level: Bachelor studies

Course:

#### **Quality Planning**

Teacher: Mijatović S. Ivana, Vasiljević V. Dragan

Course status: mandatory

**ECTS points**: 6

Prerequisites: none

## Course objective

Acquiring of knowledge about quality planning on the levels of understanding and application of the methods, the techniques and the concepts for quality planning; development of competence in technical writing and communication specific for quality management.

## Learning outcomes

Active participant will be able to understand and adequately apply obtained knowledge about the methods, the techniques and the concepts for quality planning.

#### **Course structure and content**

#### Theoretical instruction:

P1. Basics term in quality planning. Policies, strategies and quality objectives. P2. System and contingent approaches as a base for quality planning. Process Management. Process Mapping. P3. Understanding and building the quality chains. Quality of projects and quality of conformance P4. Values and Quality Culture. P5. Integrating quality management into policy, strategy and business management. P6. Quality Planning Techniques. Quality Planning Spreadsheet (QPS). Role of FMECA in QPS concepts. P7. Identification customer requirements for quality. Critical incident technique. P8. The content analysis – application in Identification customer requirements for quality in research. P9. User instruction. P10. Design of system for prevention of complaint and complaint handling. Use of standards – standard interpretation (ISO 10001, ISO 10002 and ISO 10003.) P10 and P11. Quality management system - Documentation management. Instructions for documents' forms. Procedure for document management. 12. Quality Plans. P13. Performance measurement frameworks. P14. Monitoring and measuring of customer satisfaction.

# Practical instruction:

V1. Case Study: Quality planning. V2 and V3. Workshop: Process mapping (relationships diagrams, inter functional process maps, flow charts). V4. Case Study: Quality Culture. V5. Workshop: Quality objective deployments. V6 Workshop: Quality Planning Spreadsheet (QPS). V7. Workshop: Critical incident technique. V8. Workshop: Design of user instruction. V9. Workshop: Design of procedure for prevention of complaint and complaint handling in accordance to ISO 10001, ISO 10002 and ISO 10003. P10, P11 i P12

Workshop: Design of quality management systems. P13 and P14. Workshop: Quality plans

# Literature/Readings

- 1. Mijatović I., Planiranje kvaliteta autorizovana skripta, 2013.
- 2. Mijatović I., Nastavni materijali iz Planiranja kvaliteta u elektronskom obliku (tekstovi, studije slučaja, interaktivne radionice, domaći zadaci i forumi), 2013., <a href="http://e-learn.fon.bg.ac.rs/course/">http://e-learn.fon.bg.ac.rs/course/</a>
- 3. Gryna F., Chua R., Defeo J., Juran's Quality Planning and Analysis for Enterprise Quality, McGraw-Hill Series, 2005.
- $4. \ Standardi: ISO 9000, ISO 9001, ISO 10013, ISO 10001, ISO 10002, ISO 10003, ISO 10004, ISO 10005, SRPS ISO/IEC Guide <math>37:2009$ , IEC 82079-1:2012

The number of o	Other classes:					
Lectures:	Lectures: Labs: Workshops: Research study:					
2	2	0	0			

Teaching methods: Interactive lectures, workshops, case studies, on-line discussions, on-line tests

# **Evaluation/Grading (maximum 100 points)**

5	Written exam	20
20	Oral exam	35
20		
		20 Oral exam

Degree level: Undergraduate academic studies

Course:

Planning of production and services delivery (PPSD)

Teacher: Omerbegović-Bijelović K. Jasmina

Course status: Compulsory

**ECTS points**: 6

Prerequisites: « Managerial systems» and «Operational research 1»

# Course objective

The course objective is to capacitate students to plan in systems of production and services delivery through education for modelling (defining: objectives and constraints, as well as the need for resources and ways to satisfy them); for the application of methods, techniques, technical resources and organizational tools - in PPSD; for defining solutions, designing their application, management of application of planning solutions - to the level of improvement/quality development of plans (and the entire management).

# Learning outcomes

The course outcome is students' capacity to: a) Plan business objectives, activities and resources - using software and/or without it; b) Run business (sub)systems and management activities; c) Monitor, predict and model business changes; g) Work as a team and prevent conflicts; d) Work creatively and produce knowledge; f) Take care of the environment and all stakeholders; e) Create socially responsible management, f) Manage students' careers, g) Integrate physical, financial and social aspects of work.

#### **Course structure and content**

#### Theoretical instruction:

Planning of production and services delivery (PPSD) in everyday life. Planning PPSD as a management phase (of organizational systems, processes, structures, resources). Objects of planning P/SD and types of plans. The purpose of P/SD plans, time horizon and goals. Planning the exit from organizational systems. Long-term planning of P/SD vs. "strategic planning" (planning of strategies). Medium-term of planning P/SD. Models and methods of planning resources of organizational systems. Specifics of organizational systems planning resources. Short-term (operational) planning of P/SD. Organization of planning of P/SD in organizational systems. Quality of planning, meta-planning and development of planning. Practice of planning of P/SD in organizational systems. Research and trends in science and planning practice.

#### Practical instruction:

Casework planning for specific companies and specific situations, with real documentation and its sources; Defining solutions and projects for their implementation.

#### Labs:

Preparing for planning of P/SD in everyday life (linking previous knowledge). Models of planning objectives and constraints of P/SD (by the time horizon). Planning models for the environment needs measuring demand. Planning models - modelling of offerings of P/SD. Planning of P/SD from the perspective of market conditions. Aggregate planning. Resource needs planning and planning the ways/trajectory to satisfy these needs (1&2 part). Planning of operative period duration according to "stock cover" indicator. Models and methods of operational planning (MMOP): Distribution and allocation of work/tasks. MMOP: Scheduling for one product. MMOP: Scheduling for n products. Other MMOP. Software support to planning. Planning in practice and possibilities; practice development tools; quality of planning.

## Other ways of teaching:

Labs; Research (according to students` interest)

#### Literature/Readings

- Omerbegović-Bijelović, J. Planning and preparation of production and services delivery (in Serbian), FON, Belgrade 2006;
- 2. Omerbegović-Bijelović, J. Planning and preparation of production and services delivery (in Serbian) in Excel, FON, Belgrade 2005;
- 3. Recent literature (and from the Internet) from Operations management, Management, Planning ...
- 4. Planning documents from practice

The number of class hours per week: 75

Other classes:

Lectures:	Labs:	Workshops:	Research study:	
3	2			

# **Teaching methods**

Lectures - with presentation of the situations and formulation, i.e. problem modeling; presentation in ppt; discussion in class (with prior team and individual preparation of students); detecting and solving problems and case studies; visit the practice; visits of businessmen; Labs - in classroom and laboratory (software for production and service delivery management); Practical work for/in companies (project); Processing of scientific and professional literature; writing (students') professional and scientific papers (by student's choice).

Evaluation/Grading (maximum 100 points)					
Pre-exam requirements Points Final exam Points					
Participation in class	10	Written exam (or 3	30		
		colloquiums)			
Practical instructions/ project	30	Oral exam	30		
Colloquium and/or essay	$(3 \times 10) = 30$				

Degree level: Graduate academic study

Course:

**Consumer Behavior** 

Teacher: Janičić R. Radmila, Štavljanin B. Velimir, Vlastelica Bakić L. Tamara, Vukmirović A. Jovanka

Course status: Chosen

ECTS points: 4

Prerequisites: Marketing

## Course objective

Course objective is improving knowledge in the field of consumer behavior, marketing planning based on understanding consumer behavior and integrated marketing functions of marketing communications with customers/consumers.

# Learning outcomes

Understanding and improving skills of marketing planning based on consumer behavior. Aplied knowledge in the field of marketing and consumer behavior.

# **Course structure and content**

Theoretical instruction:

Consumer Behavior as scientific discipline. Understanding of customer/consumer behavior as dynamic process. Analysis of environmental factors that have impact on consumer behavior. Research of consumer behavior and use of informations in marketing planning process. Development of information systems about consumers/customers. Methodology of research consumer behavior: focus group, interview, experiment. Defining of specific target segments. Impact of advertising on consumer behavior. Motivation process of comsumers behavior. Communications process with consumers/customers. Consumers behavior in buying process. Caracteristics of consumers behavior. Cultural differencies in buying process. Integrated marketing communications with consumers/customers. Communications with consumers through new social media. New ways for approaching to consumers/customers. Ethical aspects of communications with consumers. Strategies for improving consumers motivations and satisfactions. Marketing research of consumers behavior. Marketing information systems of consumers behavior. Evaluations of consumers satisfactions.

Practical instruction: Work on the real case studies from practice. Comparative analysis of case studies.

## Literature/Readings

Maričić B., *Ponašanje potrošača*, Ekonomski fakultet, Beograd, 2011.

Hoyer W., MacInnis D., Consumer Behavior, Houghton Mifflin Company, New York, 2004.

The number of cl	Other classes:			
Lectures: 2	Labs: 2	Workshops:	Research study:	

Teaching methods	•	1				
	Evaluation/Grading	(maximum 100 points)				
Pre-exam requirements	Pre-exam requirements Points Final exam Points					
Participation in class	30	Written exam				
Participation in labs	30	40	100			

Degree level: Graduate academic study

Course:

**Business ethics** 

Teacher: Orlic D. Ranko

Course status: Compulsory

**ECTS points**: 5

**Prerequisites:** 

## Course objective

There are four main objectives of this course: 1) to identify important moral issues emerging in different business contexts; 2) to help students understand moral, social and economic environment in which these issues appear; 3) to introduce students with ethical theories relevant for solving moral problems in business context; and 4) to help students develop analytical skills necessary for moral judgment.

## Learning outcomes

Gaining necessary knowledge and preparing students to use it in practice.

#### Course structure and content

#### Theoretical instruction:

World of business, ethics and good life. Business life, law and ethics. Corporations and culture. Rules, roles and responsibilities. Competition, games and decisions. Rationality, goals and means, cooperation and coordination. Conflict of interests and meaning of morality. That is not my problem: definition of responsibility. Social responsibility and participants in organizational life. Free entrepreneurship and social justice. Human rights and international business. Freedom and power: privacy and pressures in work environment. Meaning of work. Personal perspective of business world: friendship, family, sex and marriage. Work well and do well. Conclusion: character and integrity.

# Practical instruction:

Exercises follow the topics covered by lectures.

- 1. Solomon, C. Robert: *Above the Bottom Line An Introduction to Business Ethics*, Forth Worth: Harcourt Brace & Company, 1994.
- 2. Vallance Elizabeth: Business Ethics at Work, Cambridge: Cambridge University Press, 2003.
- 3. Hartman P. Laura: Perspectives in Business Ethics, New York: McGraw-Hill, Irwin, 2002.
- 4. De George T. Richard: Poslovna etika, Beograd: Filip Visnjic, 2003.
- 5. Orlic Ranko (editor): Utilitarizam i poslovna etika, Pancevo: Mali Nemo, 2007.
- 6. Orlic Ranko (editor): Kant i poslovna etika, Pancevo: Mali Nemo, 2004.

The number of	Other classes:			
Lectures: 2	Labs: 2	Workshops:	Research study:	

# **Teaching methods**

Lectures, interactive classes: workshops, exchanging ideas and knowledge through group discussion, learning by example using case studies, mentoring and teamwork aimed at preparing essays on agreed topic, presentation method.

Pre-exam requirements	Points	Final exam	Points
Essay(s), homework assignment(s)	30	Written exam	70

Degree level: Undergraduate studies

Course:

#### **Business Intelligence**

Teacher: Suknović M. Milija, Delibašić V. Boris

Course status: Mandatory

**ECTS points**: 6

**Prerequisites:** 

#### Course objective

Introduction to the most important disciplines and tools for business intelligence. In addition to the theoretical aspects, students are taught practical skills and working knowledge of modern business intelligence tools.

## Learning outcomes

Students acquired the ability to recognize situations in which business intelligence can be utilized. Students gained practical knowledge and skills for working with business intelligence tools.

#### **Course structure and content**

#### Theoretical instruction:

L-01: Introduction to business intelligence. L-02: Data warehousing basics. L-03: Case studies of data warehouse applications. L-04: Development of data warehouses and reporting systems. L-05: Invited lecture 1. L-06: Introduction to data mining with case studies. L-07: Data mining algorithms. L-08: Data mining algorithms 2. L-09: Invited lecture 2. L-10: Invited lecture 3. L-11: Case based reasoning. L-12: Knowledge in business intelligence. L-13: Group advising and preparation for the exam.

#### Practical instruction:

E-01: Collaboration systems and formation of project teams. E-02: OLAP reporting. E-03: Development of OLAP cubes. E-04: Development of OLAP cubes 2 and student project definition. E-05: Defense of project specification. E-06: Software workspace for data mining. E-07: Application and evaluation of data mining algorithms. E-08: Managing the data mining project using software. E-09: Preparation and revision of student projects. E-10: Defense of projects. E-11: Case based reasoning and project assignment. E-12: Defense of CBR projects. E-13: Group advising and preparation for the exam.

# Literature/Readings

- 1. Suknović M, Delibašić B (2010) Business intelligence and decision support systems, FON (in Serbian).
- 2. Lecture presentations and materials available on website www.odlucivanje.fon.bg.ac.rs

The number of	Other classes:			
Lectures:	Labs:	Workshops:	Research study:	
2	2			

# **Teaching methods**

Lectures are delivered by combining classic format, case studies and invited lectures by experts from the industry. Lab exercises are conducted by presenting the business intelligence tools. Students are formed in groups (of three members) and are doing homework and project assignments using software tools, and problems specified during exercises.

Pre-exam requirements	Points	Final exam	Points
Written exam	50	Oral exam	50

Degree level: Undergraduate studies

Course:

#### **Business Information Systems**

Teacher: Pantelić S. Ognjen, Vučković Đ. Milica

Course status: Elective

**ECTS points**: 6

Prerequisites: /

## Course objective

The course provides an overview of the characteristics of business information systems and students master the basic concepts of integrated software solutions.

#### Learning outcomes

The student learns the characteristics of business information systems and will be able to participate in system analysis as a part of the implementation process of business information systems and to identify specific types of information systems and their processes. The student learns the general characteristics of integrated software solutions.

#### **Course structure and content**

#### Theoretical instruction:

Integrated data processing, IS development and marketing, IS acquisition and warehousing, IS quality system, IS production and maintenance, Finance and accounting IS, Human resources IS, IS development.- ERP systems, IS in the service industry- the specifics, IS in supply chain management, IS in e-business and public sector, IS governance, IT economy, IT business standards, Preparing for the exam.

### Practical instruction:

Business process modeling, Business process modeling- more complex practical examples, Business process modeling using software, Data Dictionary, Data modeling, Data modeling- more complex practical examples, Data modeling using CASE tools, Using SQL query language, MS NAV ERP systembasic characteristics, Individual work with MS NAV ERP system, Using Power Designer software, Writing individual student paper, Preparing for the written exam.

# Literature/Readings

- 1. David, L. Olson, Subodh, K. Enterprise Information systems, World Scientific, 2010
- David, L.Olson. Managerial issues of Enterprise resource planning systems, University of Nebraska, 2004
- 3. Bocij, P. Chaffey, D. Business Information Systems, Prentice Hall 2003
- 4. Wigand, R., Mertens, P. Introduction to Business Information Systems, Springer 2003
- 5. Ognjen Pantelić, Power Designer guide, FON, 2009

The number	Other classes:			
Lectures:	Labs:	Workshops:	Research study:	
2	2	1		

# Teaching methods

Formal lectures and practical lectures, Practical lectures in laboratory, Writing individual student paper

Pre-exam requirements	Points	Final exam	Points
Student paper	30	Written exam	30
		Oral exam	40

Degree level:

Course:

**Business Law** 

Teacher: Drakulić S. Mirjana

Course status: Obligatory

**ECTS points**: 5

**Prerequisites:** 

#### Course objective

Enable students to enter into negotiations and agreements in national and international business environment based on business law knowledge.

#### Learning outcomes

Advancement of knowledge and skills which could be used in problem solving in practise.

#### Course structure and content

#### Theoretical instruction:

Scope, development and significance of Business Law, Hierarchy of legal sources, Business Entities: types, characteristics, establishment, registration and individualization, Entrepreneurs, Corporations: historical development, significance and operations. Monopolistic agreements: types, characteristics, legal effect, Commission for Protection of Competition. Unlawful competition: types and liabilities. Speculations. Business transactions and obligations: contracts, negotiations, types of agreements. Advertising regulation. e-Business regulation. Business and corporate criminal: types, characteristics, consequences and liabilities. Intellectual property law and international conventions. International business transactions. International competition and lobbying. International contracts. Regulation of international business. European Union law. International organizations, International bilateral and multilateral agreements and regulation of international trade. World Trade Organization, United Nations and regional organizations.

## Practical instruction:

The concept of law and scope of Business law. Presentation skills and teamwork.

Registration of business entities. Case study. Unfair advertising. Competition law breaches. Violations in e-business. Intellectual property. Registration of trademark and patent. Conflict of trademark and Internet domain names. Protection of consumers. Environmental protection law. International business transactions. Employment law.

## Literature/Readings

- 1. Drakulić M., Fundamentals of Business Law, FON, Beograd, 2001.
- 2. Drakulić M., Krivokapić Dj., Drakulić R., Enviromental Law, Beograd, WUS Austria, 2010. str 146.
- 3. Vukadinović R., *European Union Law*, Centar za pravo Evropske unije Pravnog fakulteta u Krgujevcu, Kragujevac, 2013.
- 4. Keenan D., Business Law, Harlow, Pearson-Longman, 2005.

The number of	f class hours per we	eek		Other classes:
Lectures:	Labs:	Workshops:	Research study:	
2		2		

# **Teaching methods**

Discussion and demontation method, debating, case studies, team projects, independent research and problem solving of assignments, consultations and independent project work. Workshops are performed via eLerning software MOODLE.

Pre-exam requirements	Points	Final exam	Points
Participation in class	2	Grading by students	2
Workshops	14	Midterms x2	30
Case studies / debating	15	Final exam	20
Assignments	14		
Dictionary of business topics	3		

Degree level: Undergraduate

**Course:** 

#### **Entrepreneurial Business**

Teacher: Milićević K. Vesna, Ilić J. Bojan

Course status: elective

**ECTS points**: 5

Prerequisites: none

#### Course objective

Gaining knowledge in the field of initiating, planning, implementation and development of entrepreneurial business. Development of creative abilities and mastering specific practical skills needed to conduct entrepreneurial business.

#### Learning outcomes

Competencies related to the complexity of creating and managing the development of entrepreneurial business, and the creation of its sustainable competitive advantages. Abilities for starting the initiative, for creative and flexible activity and appropriate application of new knowledge in practice.

#### **Course structure and content**

#### Theoretical instruction:

Multidimensionality of individual entrepreneurship and *start-up*. Contemporary intra-corporate entrepreneurship. Analysis of business options. Identification and selection of business ideas, business plan writing, methods of providing the necessary resources, the realization of business ideas. Entrepreneurial processes and creativity. Options in business development and risk analysis. The importance of business incubators. Fostering entrepreneurial business and entrepreneurial culture. Entrepreneurial management and the creation of sustainable competitive advantages. Alternative entrepreneurial strategies, innovation and business development. Measuring the success of entrepreneurial business. Specific features of entrepreneurial business in the area of services. Examples of entrepreneurial business in various economies in the world. Internet entrepreneurship and venture capital. Quality and development of relationship between large companies and small firms, clusters and entrepreneurial networking.

## Practical instruction:

Class exercises follow the content and structure of lectures and include: case study analysis, elaboration of criteria for the selection of business options, implementation of the methodology of strategy and business plan development for entrepreneurial business, exercises using the Internet, application of business plan development software, creative workshops.

# Literature/Readings

- 1. Draker P., *Inovacije i preduzetništvo* (selected chapters), Privredni pregled, Beograd 1996.
- 2. Deakins D., *Preduzetništvo malih firmi* (selected chapters), Data Status, Beograd, 2012.
- 3. Hisrich R., Peters M., Shepherd D., *Entrepreneurship* (selected chapters), McGraw-Hill, Irwin, 2013

The number of	f class hours per we	eek		Other classes:
Lectures:	Exercises:	Workshops:	Research study:	
2	2			

# **Teaching methods**

Lectures with student participation in interactive teaching, presentation of practical examples, case studies, creative workshops, exercises to solve specific business problems related to entrepreneurial business

Pre-exam requirements	Points	Final exam	Points
Participation in class	10	Written exam	
Participation in labs		Oral exam	55
Seminar paper	35		

Degree level: Bachelor Academic Studies

Course:

#### Entrepreneurship

Teacher: Jaško O. Ondrej, Jevtić V. Miloš

Course status: Elective

**ECTS points**: 4

Prerequisites:

#### Course objective

The objective of the course is to provide students with basic knowledge of entrepreneurship and starting own businesses. Studying the necessary knowledge, skills and abilities of entrepreneurs. Studying legislation related to establishing own business. Acquiring knowledge in making business plans for both new and existing businesses.

#### Learning outcomes

Acquiring knowledge necessary to make business plans and establish own business, as well as the knowledge of all the factors affecting the entrepreneurial venture.

#### **Course structure and content**

#### Theoretical instruction:

Characteristics of entrepreneurs. The necessary knowledge and skills of entrepreneurs. Developing own business. Developing strategic plan. Legislation in starting own business. Basic forms of taxes for entrepreneurs and enterprises. Support for the development of entrepreneurship state. Labour law, employment, collective agreements, ordinances. Technological aspects of the business enterprise. Market aspects of the business enterprise. External communication with clients. Managing own business. Financing a business venture. Lending opportunities. Managing the value of the company - company performance criteria.

### Practical instruction:

The methodology of making a business plan - definition of roles, characteristics and users. Stages of developing a business plan. Analysis of technical and technological components of business. Analysis of business locations. The investment plan. Fixed assets and working capital. The cycle of working capital. Inventory management. Plan of costs. Plan of capacity utilization. Loan repayment plan. Analysis of investments. Creation of synthetic financial statements. Assessment of the financial viability of the enterprise. Risk assessment - evaluation of the weaknesses of the business enterprise, new technologies, contingent planning, SWOT analysis. Software support to the development of a business plan.

## Literature/Readings

Poslovni plan - vodič za izradu, Paunović Blagoje, Zipovski Dimitraki, Ekonomski fakultet, Beograd, 2013.

The number of	Other classes:					
Lectures: 2	Labs: 2					
Teaching methods						
C	,	,	ndy, learning through mutual solving on the background of	*		
Evaluation/G	rading (maximu	ım 100 points)				
Pre-exam req	Points					
Participation in	n class	20	Oral exam	40		
Writing term p	aper	40				

Degree level: undergraduate studies

**Course:** 

#### **Economic development**

Teacher: Kragulj P. Dragana, Jednak J. Sandra

Course status: elective

**ECTS points**: 4

Prerequisites: none

#### Course objective

Getting familiar with the basic issues and concepts of economic growth and development, as well as the mutual relations of economic policies and development.

#### **Learning outcomes**

Enabling students for the economic analysis of issues that characterize the processes of economic development.

#### **Course structure and content**

#### Theoretical instruction:

Introduction of the theory of economic growth and development; objectives, factors and indicators of economic development; contemporary strategies of economic development; basis of economic policies (monetary, fiscal, exchange rate policy, price policy) in the economic development; financing of economic development; domestic savings as a source of financing economic development; external sources (FDI and portfolio investments) of financing economic development; international organizations and development; developing countries and the global economy; institutional mechanisms and managing of development processes; macroeconomic policy of development; production function; models of economic growth; Harrod - Domar model of economic growth; neoclassical model of economic growth by Robert Solow.

#### Practical instruction:

Seminar classes follow the methodical units lectures.

## Literature/Readings

Kragulj D., *Ekonomija - Osnovi mikroekonomske i makroekonomske analiza*, izdanje autora, Beograd, 2013., (selected chapters);

Cvetanović S., Teorije privrednog razvoja, 1997., (selected chapters);

Dragutinović, D., Filipović, M., Cvetanović, S., *Teorije privrednog rasta i razvoja*, CID, Ekonomski fakultet, Beograd, 2012., (selected chapters);

Mankiew G., Macroeconomics, Worth Publisher 2010., (selected chapters);

Todoro, M.P., Smith S.C, *Economic Development*, Addison-Wesley, 2006., (selected chapters).

The number of	f class hours per v	veek		Other classes:
Lectures: 2	Labs: 2	Workshops:	Research study:	

# **Teaching methods**

Lectures, exercises, case studies and consultations. Students are encouraged and activated through interactive classes.

Pre-exam requirements	Points	Final exam	Points
Participation in class	10	Presentation of the seminar paper and oral exam	50
Seminar paper	40		

Degree level: Bachelors degree

**Course:** 

#### **Production systems**

Teacher: Radović M. Milić, Slović D. Dragoslav

Course status: Obligatory

**ECTS points**: 6

Prerequisites: /

#### Course objective

The objective of this course is to introduce students to basic processes and operations in production and service systems, and their relations. Students will learn basic concepts of process planning, eqipment selection, layout, waste elimination, by using specific engineering and management methods.

#### Learning outcomes

Conceptual knowledge to classify and categorize principles, theories, and models to understand basic processes and operations in production and service systems, and their relations.

#### Course structure and content

## Theoretical instruction:

Basic terms of production organization; Basic principles of modern production philosophy; Operations in manufacturing and service business systems; Process approach; Process engineering and reengineering; Business process organization and management; Product portfolio optimization; Technological process as a basis for business organization; Optimization of number and size of batches; Manufacturing equipment selection; Calculating optimal number of machines, operators, and work places; Work scheduling; Production system's operation analysis; Creative work-shops; Final instructions for written exam.

#### Practical instruction:

Calculating the level of organization of business systems; Project assignment – determining organization level of business systems; Product portfolio optimization; Optimization of number and size of batches; Manufacturing equipment selection; Calculating optimal number of machines, operators, and work places; Functional layout, cell layout, and product layout; Work scheduling; Production system's operation analysis; Revision exercises.

## Literature/Readings

Radović M., Proizvodni sistemi, FON, Beograd, 2007.

Radović M., Proizvodni sistemi, proizvodnja, analiza i upravljanje, primeri i zadaci, FON, Beograd,

2007.					
Chryssolouris G., Manufacturing Systems: Theory and Practice, Springer, New York, 2006.					
The number o	f class hours pe	er week		Other classes:	
Lectures: 2	Labs:2	Workshops:	Research study:		

# **Teaching methods**

Power Point presentations, business case presentations, active participation in problem solving, workshops, individual work on project assignments

Pre-exam requirements	Points	Final exam	Points
Participation in class	25	Written exam	50
Participation in labs	25		

Degree level: Bachelor Academic Studies

Course:

#### **Designing organizations**

Teacher: Jaško O. Ondrej, Čudanov J. Mladen, Jevtić V. Miloš

Course status: Required/Elective

**ECTS points**: 6

#### Prerequisites:

#### Course objective

The objective of the course is to learn concept of the organizational design through the acquisition of knowledge about the basic elements and models of organization, typical and contemporary models of organizational structure, dimensions and factors of organizational structure and the process of designing organizational structures, and to develop appropriate skills in applying practical methods of organization design.

#### Learning outcomes

Improving students' knowledge in the field of organization design and modern solutions in that field; improving skills for resolving structural, strategic and systemic problems in the organization.

#### Course structure and content

#### Theoretical instruction:

Basics of organization design. Elements of the organization. Models of the organization. Organizational structure - definition. Dimensions of organizational structure - the division of labour, departmentalization, decentralization, coordination, formalization. The process of designing and building the organizational structure factors. Process design approach. Models of organizational structures. Network models of organizational structure. Transaction costs. Outsourcing. The human factor in the organization and the organizational culture.

### Practical instruction:

Methods of data collection and analysis. The division of labour - specialization. The coordination. Departmentalization and grouping activities. Decentralization of decision-making in the organization. Rules of drawing organizational chart. Process design approach. The main determinants of the company - the vision, mission, goals. Contemporary models of organizational structure. Control centres. Simulation of business processes in selected case studies. Research methods of organizational culture.

#### Literature/Readings

- Jaško, O., Čudanov, M., Jevtić, M. & Krivokapić, J. (2013). Projektovanje organizacije. Beograd, Srbija: Fakultet organizacionih nauka.
- 2. Dulanović, Ţ. & Jaško, O. (2007). *Organizaciona struktura i promene*. Beograd, Srbija: Fakultet organizacionih nauka.
- 3. Beograd, Srbija: Fakultet organizacionih nauka.

- 4. Mintzberg, H. (1979). *The Structuring of Organizations*. Upper Saddle River, New Jersey, USA: Prentince-Hall, Inc.
- Kates, A. & Galbraith, J. R. (2007). Designing Your Organization. San Francisco, USA: Jossey-Bass.
- 6. Recardo, R. J. (2008). *Organizational Design: A Practical Methodology and Toolkit*. Amherst, Massachusetts, USA: HRD Press, Inc

The number o	f class hours per w	eek		Other classes:
Lectures:	Labs:	Workshops:	Research study:	
2	2			

## Teaching methods

Monological method, demonstrative method, case study, learning through mutual work on practical problem solution, independent research and problem solving on the background of given problems.

Pre-exam requirements	Points	Final exam	Points
Participation in class	20	Oral exam	80

Degree level: Bachelors degree

Course:

#### **Production systems**

Teacher: Radović M. Milić, Slović D. Dragoslav

Course status: Elective

ECTS points: 5

Prerequisites: /

#### Course objective

Teaching students the basic concepts of human resources management, mainly focusing on various HRM activities including job analysis, job design, staffing (planning, recruitment, selection), performance appraisal, compensations and benefits, HR information systems, employee health and safety, equal employment opportunities, industrial relations etc.

## Learning outcomes

This course qualifies students for:

- Thorough comprehension and understanding of different HRM activities, policies and practices
- Analysis and implementation of HRM activities
- The ablility to solve HR-related issues using specific methods and procedures taught within the course
- Combining knowledge acquired in different fields during the course of studies and the practical application of said knowledge
- Applying up to date information and the latest IT solutions in implementing various HRM practices

#### Course structure and content

#### Theoretical instruction:

Introduction to the subject: basic concepts and activities in the field of HRM; Ensuring equal opportunities for employment; Designing jobs and work tasks; Analysis of jobs and work tasks; Planning and recruiting human resources; Selection of human resources; Orientation and training; Personnel development and career planning; Evaluation of employees; Fees; Health and safety of employees; Coordination; Human Resources Research and Personnel Information System; Trade unions and collective bargaining; The future of human resources management.

#### Practical instruction:

Introduction to the subject: basic concepts and activities in the field of HRM; Ensuring equal opportunities for employment; health and safety of employees; Analysis of jobs and work tasks; Designing jobs and work tasks; Personnel planning; Recruitment of personnel; Selection of human resources; Repetition exercises; Orientation and training; Personnel development and career planning; Evaluation of employees; Fees: Salaries and rewards; Benefits: Benefits; Trade unions and collective bargaining; Repeat exercises.

Literature/Rea	adings			
Р. Орлић, Кадр	овски менаџм	ент, Зоран Дамњаног	вић и синови, Београд, 200	5.
The number of	Other classes:			
Lectures: 2	Labs:2	Workshops:	Research study:	
Teaching meth	nods			
Power Point pro	esentations, bus	iness case presentation	ns, active participation in pro	blem solving, work-
shops, individu	al work on proje	ect assignments, educa	itional games.	
	H	Evaluation/Grading (	maximum 100 points)	
Pre-exam requ	iirements	Points	Final exar	n Points
Participation in	class	10	Written exam	50
Colloquium		20		
Homework		20		

Teachers: Damnjanovic Vesna, Vukmirovic Jovanka

Course:

Case Study Analysis in Business

Teacher: Damnjanović Ţ. Vesna, Vukmirović A. Jovanka

Prerequisites: none

**Course objective:** Improving and linking knowledge and skills of analysis and study practices in business. Improving solving skills and presentation of case studies.

**Learning outcomes:** Integrating key skills in business practices for the preparation and presentation of case studies. Presentation skills, analytical and teamwork in solving business problems from practice

#### **Course structure and content:**

#### Theoretical part

Applying mm case study method. The role of teachers and students. History of development methods mm case study in marketing. Application of case studies in business. Analysis of the situation in business. Marketing and sales analysis of case studies. The financial analysis of case studies. Identification of business problems. Business entry market strategy. Identifying risk. Plan implementation of case studies in business. Monitoring the effects of marketing, sales and finance.

#### Practical classes:

Study project work: Project work will enable students to pass all stages of reading, prepare, solve and present case studies. Three stages of learning for students in the case study approach. Individual preparation. Reading case studies. Working in small teams. The methodology of writing and solving case studies, model of organizing competitions for the case study. Presentation skills. Skills of teamwork. Problem-solving skills. Leadership skills. Analytical skills. Negotiation skills.

## Literature/Readings:

- 1. Damnjanovic V, Marketing in Practice Applying the Case Study mm method, Faculty of Organizational Sciences, University of Belgrade, October 25, 2011
- 2. Louise A. Mauffette-Leenders, Michiel R. Leenders, James A. Erskine, *Writing Cases*, Ontario, Ivey Publishing
- 3. Mauffette-Leenders, L.A. Erskine, J.A. M. R. Leenders, (1999), *Learning with cases*, Ontario, Ivey Publishing
- 4. Erskine J. A., M. R. Leenders, L.A. Mauffette-Leenders, (1998), *Teaching with cases*, Ontario, Ivey Publishing

The number of class hours	Lectures: 2	Research study:2

per week:4			
Teaching methods: Interactive lectur	res, case studies, vide	eo presentations, debates	
Eva	luation/Grading (m	naximum 100 points)	
Pre-exam requirements	Points	Final exam	Points
Activity during lecture	20	Oral examination	60
Activity during lecture	20	Oral examination	00
Preparation and presentation of	20		
project work			

Degree level: Bachelor

**Course:** 

**Psychology** 

Teacher: Mihailović M. Dobrivoje

Course status: elective

**ECTS points**: 4

**Prerequisites:** 

#### Course objective

The aim is to introduce students with psychological concepts relevant for organizational behavior, explaining psychological terminology, as well as the theoretical and methodological principles applicable in the organizational context. Focus of the course is on psychological aspects of managing human resources.

#### Learning outcomes

Students should be able to recognize personal and interpersonal challenges in the organizational context and to be competent in application of psychological principles in order to resolve related issues.

#### **Course structure and content**

#### Theoretical instruction:

Psychology as a science and psychological side of work. Personality, personality traits, measurement. Work psychology: scope, objectives and methods – job analysis. Professional orientation: process of choosing profession. Procedure and modern tendencies in professional selection; forecasting work behavior. Job adaptation: adaptation problems and methods of job techno-psychophysiology. Job absenteeism and turnover. Psychological aspects of injuries at work. Introduction to organizational psychology. Social and work groups. Personality and organization: types and problems. Leadership: term, theories and psychological problems. Work motivation: term and theories, factors and managing motivation. Communication in organization: process, types, difficulties in communication. Stress in organization: term, phases, types, sources, consequences, management.

#### Practical instruction:

Subject and tasks of psychology – workshop. Instructions for writing essay. Job analysis – example. Comparative analysis of selection of profession – discussion. Techniques of professional selection – job interview role play. Defense mechanisms – workshop. Work injuries: example analysis. Preparation for test 1 – quiz. Presentation of essays – part 1. Social and work groups: case study. Presentation of essays – part 2. Leadership problems and theories of leadership: case study. Motivation: case study. Problems of

communication	in organization: cas	e study. Stress: indiv	idual stressful events -discussi	on.
Literature/Rea	ndings			
	5			
Mihailović, D.	Psychology of Work	and Organization, F	OS, Belgrade, 2010.	
The	2 .1 1	.1.		041
i ne <i>number oj</i>	class hours per wee	ek -		Other classes:
Lectures: 2	Labs:	Workshops: 1	Research study:	
		-	·	
Teaching meth	a da			
reaching men	ious			
Lectures, intera	ctive classes, solving	g concrete assignmen	ts (workshops), experiential lea	arning through
role playing, gr	oup discussions, case	e study, teamwork or	essay writing.	
		-		
Evaluation/Gr	ading (maximum 1	00 points)		
Pre-exam requ	iromonts	Points	Final exam	Points
Tre-examrequ	in cincints	Tomes	r mai caam	Tomits
Participation in	class	10	Tests	55
Essay		5	Oral exam	30

Degree level: Undergraduate studies

Course:

#### Development of small and medium-sized enterprises

## Teacher: Levi-Jakšić I. Maja, Marinković P. Sanja

Course status: Alternative

ECTS points: 5

Prerequisites: /

#### Course objective

The aim of this course is to introduce students to the theoretical concepts, developed models, methods and techniques used in development processes in small and medium-sized enterprises (SMEs). The development of SMEs is based on creativity and innovation, and students perceive the phenomenon of SMEs in the wider social context and acquire more detailed knowledge, specific to the survival, stability and development of SMEs.

#### Learning outcomes

Students are becoming qualified to implement the theoretical and practical activities in development of small and medium-sized enterprises, as the main actors in this process, or as consultants who recognize the limitations of management and organization; they are able to manage changes in SMEs and create a strategy of stability, growth and development which is suitable for specific conditions of SMEs.

#### **Course structure and content**

**Theoretical instruction:** The development of strategic thinking in SMEs; Innovations, Management and Entrepreneurship; Models of incremental/radical innovations; Innovation process: phases, cost model, evaluation, economic feasibility, methods and models; Types of innovation and categorization of companies (life cycle, size, age); Entrepreneurial venture; The growth and development of SMEs; SME - vertical and horizontal integration, cooperation, outsourcing; Networks, partnerships and technology transfer; Entrepreneurship and business plan; Innovative strategies of SMEs; Development and promotion of creativity in SMEs.

**Practical instruction:** Exercises follow the content and structure of lectures and include: Case studies; Analysis of examples of methods and models in management of technology and development in SMEs; Application of the strategic management methods, SWOT/TOWS in SMEs; Development of a model of innovation process - from idea to commercialization; Applying Balanced Scorecard in measuring the technological and innovative performance of SMEs; Applying tools for measuring innovation in SMEs; Measuring productivity in SMEs by using the objective matrices; Presentation of term papers and project assignments.

## Literature/Readings:

Byers, T.H., Dorf, R.C., Nelson., A.J., Technology Ventures: From Idea to Enterprise, 3<sup>rd</sup> Ed., International Ed. McGraww Hill, 2011.

George, G., Bock, A.J., Inventing Entrepreneurs: Technology Innovators and Their Entrepreneurial Journey, Pearson Prentice Hall, 2009.

Shane, S., Technology Strategy for Managers and Entrepreneurs, Prentice Hall, 2009.

Levi Jakšić, M., Strateški menadţment tehnologije-inovacije, menadţment i preduzetništvo, FON, Beograd, 2001

Mariković, S., Menadţment inovacija u uslugama, Zaduţbina Andrejević, Beograd, 2012

The number of class hours per week				Other classes:
Lectures: 2	Exercises: 2	Workshops:	Research study:	

**Teaching methods:** Lectures, interactive workshops, exchange of ideas and knowledge through group discussions, learning through the case studies, mentoring and teamwork; Power Point presentations with case studies; Training students to apply technology forecasting methods and techniques in SME companies; Solving tasks with active participation of students; Involving students in research work through seminar papers.

Pre-exam requirements	Points	Final exam	Points
Continuous assessment during semester - seminars, attendance, student participation, activities and tests	70	Exam	30

Degree level: Undergraduate studies

Course:

# **Computer Integrated Manufacturing**

Teacher:Ilić R. Oliver

Course status: Compulsory

ECTS points: 6

# **Prerequisites**:

# Course objective

Knowledge and laboratory experience in the integrated use of computers in all aspects of manufacturing.

## Learning outcomes

Knowledge and laboratory experience to solve problems in computer integrated manufacturing (CIM) using quantitative analysis and software tools (WinQSB and PFAST).

# **Course structure and content**

Theoretical instruction:	Practical instruction:
P-01: Introduction to the Course.	V-01: Introduction.
P-02: Computer Integrated Mnufacturing Concepts.	V-02: Material Requirements Planning 1.
P-03: An Approach to CIM.	V-03: Material Requirements Planning 2.
P-04: Fundamentals of Manufacturing and	V-04: Assignment 1.
Automation.	V-05: Quantitative Analysis of AGV Systems.
P-05: Flexible Automated Materials Handling. P-06: Flexible Automated Storage Systems.	V-06: Quantitative Analysis of AS/RS.
	V-07: Production Flow Analysis.
P-07: Group Technology.	V-08: Quantitative Analysis of Manufacturing
P-08: Flexible Manufacturing Systems.	Cells.
P-09: Flexible Automated Flow Lines.	V-09: Assignment 2.
P-10: Flexible Automated Assembly Systems.	V-10: Cell Layout Problem.
P-11: Flexible Automated Quality Control.	V-11: Part Sequencing Problem.
P-12: Planning and Control Systems in CIM.	V-12: Line Balancing Problem.

P-13: Virtual Reality CIM S	ystems.	V-13: Assignment 3.	
P-14: Computer Integrated I	Enterprise.	V-14: Case Study.	
P-15: Contemporary CIM.		V-15: Revision.	
Literature/Readings			
1. Ilić, Oliver R., <i>Računars</i> .	ki integrisana proizvodnje	a. FON. Beograd. 2003.	
		a, FON, Beograd, predavanja u e-forn	ni.
		ad Manual, Version 2.0, John Wiley &	
	n Hybrid Cellular Layou	ts, New Ideas for Design of Flexible	and Lean Layouts
		and Systems Engineering, The Ohio	
Columbus, OH 43210, Ja		and Systems Engineering, The Sine	State Chiveristy,
The number of class hours			Other classes:
•	•		
Lectures: 2 Labs: 2	Workshops:	Research study:	
Teaching methods: Lectures	s, creative workshops, and	l laboratory experiments.	

<b>Evaluation/Grading (maximum 100 points)</b>

Pre-exam requirements	Points	Final exam	Points
Participation in class	11-20	Written exam	16-30
Participation in labs	16-30	Oral exam	16-30
A seminar paper	11-20		

Study program / study programs: Management and organization			
Degree level:	Undergraduate Studies		
Course:			
Accounting			
Teacher:Benković S. Slađana,Knež	ević P. Snežana		
Course status:	Mandatory		
ECTS points:	6		
Prerequisites:	None		

## **Course objective:**

Instructing students to basic concepts and methods of accounting (Bookkeeping and Accounting, Financial Accounting, Concepts and Conventions, Double Entry System, Preparation of Journal, Ledger and Trial Balance, Preparation of Final Accounts, Profit and Loss Account and Balance Sheet with Adjustment Entries). The stress will be on key accounting concepts and categories in order of understanding generating financial reports.

#### **Learning outcomes:**

The content of this course qualifies students for conceptually define accounting and bookkeeping, identify the accounting rules in determining financial results and prepare financial statements for users.

#### **Course structure and content:**

#### Theoretical instruction:

The concept and content of accounting. Access to double-entry bookkeeping. Accounting records. Bookkeeping coverage raise funds. Accounting including cost and expenses. Accounting for revenue. Closing entries and finding books. Method of calculating periodic results. The outcome of periodic distributions. Cover the loss. Management accounting.

## Practical instruction:

Inclusion of acquisition and investment funds. Inclusion of investments in materials, inventory and packaging. Inclusion of purchase. Including cost of materials, the cost of small tools and packaging and labor costs. Inclusion of the cost of the goods carried. Inclusion of financial and other expenses. Temporal separation of costs. For revenue generation and trading company. Time division of income. Correction of balance sheet accounts. Developing active - passive accounts. Disposals of fixed assets.

#### Literature/Readings

- Ţarkić Joksimović Nevenka, Bogojević Arsić Vesna: Accounting, Faculty of Organizational Science, Belgrade, 2013.
- 2. Țarkić Joksimović Nevenka, Bogojević Arsić Vesna, Benković SlaĎana, Šikanjić Branko: *Study guide for Accouting*, Faculty for Organiyational Science, Belgrade, 2010.
- 3. Jones M.: Accounting, 6th ed., John Wiley & Sons Ltd, 2010.
- 4. Weygandt J. J., Kimmel D. P., Kieso E. D.: *Financial accounting a focus in fundamentals*, 6<sup>th</sup> ed., John Wiley & Sons, Ltd., 2008. (chapters od 1-14)
- 5. Hongren T. C., Harrison Jr. T. W.: Financial and Managerial Accounting, 1st, Pearson Education, 2008.
- 6. Vassen E.: Accounting information systems: a managerial approach, John Wiley & Sons Ltd, 2002.

The number of class hours per week				Other classes:
Lectures:	Labs:	Workshops:	Research study:	
2		2		

## **Teaching methods:**

Teaching process will be conducted through lectures, exercises and consultations. Students should be actively involved in the learning process through interactive discussions, exercises, homework, case studies and workshops.

Pre-exam requirements	Points	Final exam	Points
Participation in class		Written exam	50
Participation in labs		Oral part of exam	30
Quiz	20		

Degree level: Master studies

Course:

Auditing

Teacher: Knetević P. Snetana, Poznanić Vladimir

Course status: elective

**ECTS points**: 4

Prerequisites: Accounting

#### Course objective

Acquiring knowledge and skills of a comprehensive insight into the importance of internal and external audit. Understanding the process and audit cycle.

#### Learning outcomes

Acquisition of knowledge and practical tools necessary to perform internal and external audits.

#### **Course structure and content**

#### Theoretical instruction:

Retrospective of the audit. External and internal audit. Basis of audit of financial statements. Professional standards. Planning and supervision. Phases of the audit process. The importance and role of internal audit in corporate governance system. Organization and reliability of internal audit. Internal oversight, internal control and internal audit. Internal audit role in improving governance. Transaction cycle. Audit documentation. Audit records. The effects of information technology on the audit. Fraudulent and illegal acts. Sampling in audit. Auditor's report.

#### Practical instruction:

Professional regulation in the audit. Business and professional ethics in the audit. Reliance on internal control and internal audit in the audit process. Simulation of the analytical procedures to obtain audit evidence. Documentation and working papers auditor. Independent Auditors' Report to the formation of opinions: positive thinking, expressing reservations, negative thinking and refraining from giving opinions.

## Literature/Readings

- 1. Carmichael D. R, Willingham, J. J: *Pojmovi i metode revizije* (The concepts and methods of audit), Mate, Zagreb, 2000.
- 2. Soltani B.: Revizija: međunarodni pristup, (Audit: an international approach), Mate, Zagreb, 2010.
- 3. Porter B, Simon S, Hatherly D: Principles of External Auditing, John & Wiley, 2003.
- 4. Pickett K. H. S, Pickett M. J: Auditing form Managers: The Utimate Risk Management Tool, John

& Wile	ey, Sons, Ltd, 200	5.		
The number	of class hours p	er week		Other classes:
Lectures:	Labs:	Workshops:	Research study:	
2	2			
C	onducted through	*	d consultations. Students are acreises, homework aned case stu	•
	]	Evaluation/Grading (	maximum 100 points)	
Pre-exam rec	quirements	Points	Final exam	Points
Participation	in class		Written exam	100
Participation	in labs			

Degree level: Undergraduate studies

Course:

Simulation in business

Teacher: Marković M. Aleksandar, Radenković LJ. Boţidar, Jeremić M. Veljko

Course status: mandatory

**ECTS points:** 5

Prerequisites: none

#### Course objective

To introduce and explain the basic concepts, ideas, and opportunities of computer simulation to support decision-making process to analyze the dynamic behavior of business and organizational systems. To provide an overview of the methodology and describe ways of modeling and simulation of dynamic systems. To provide an overview of simulation software and their practical use.

#### Learning outcomes

Explaining the basic ideas of simulation modeling and applying them to appropriate examples, this program provides a transition to the detailed study of various mechanisms of simulation, simulation software, the application of statistical methods in the simulation process and linking simulation modeling with modern methods and tools in the fields of management, organizational and computer science.

#### Course structure and content

Theoretical instruction: Modeling and models; Models classificationl. Computer simulation - basic concepts and applications. Model parameters. Validation and verification of simulation models. Behavior and dynamics of business systems. Basics of continuous systems simulation. Languages and software for continuous systems simulation. Application of continuous systems simulationat the business systems. Basics of discrete-event stochastic simulation. Languages and software for discrete-event stochastic simulation. The use of discrete-event stochastic simulation in business systems. Probability and statistics in simulation modeling. Analysis of the input data of the simulation models. Generating samples. Current trends in computer simulation.

**Practical instruction:** Conceptual models in system dynamics – causal-loopdiagrms. Systems with and without feedback loops; feedback loop gain. Modeling of business systems with causal-loopdiagrms. Conceptual models of dynamic systems - stock & flow diagrams. Modeling business systems with stock & flow diagrams. Computer models in continous system simulation. Simulation software SDS - basic ideas and concepts. Examples of continous system simulation in the SDS softwere. Basic concepts of discrete event simulation - examples. Methodology for modeling of discrete-event systems. Simulation of business systems in GPSS softwere. Current trends in simulation - examples.

#### Literature/Readings

1. Radenković, B., Stanojević, M., Marković A., Computer simulation, Faculty of organizational

sciences and Faculty of Transport and Traffic Engineering, Belgrade, 2010. 2. Marković, A., "Simulation in business –teaching materials (e-format), FOS, Belgrade, 2013., www.sipo.fon.bg.ac.rs. 3. Rajkov, M., Radenković, B., "Simulation in business-script", FOS, Belgrade, 1994. The number of class hours per week Other classes: Lectures: 2 Labs: 2 Workshops: Research study: **Teaching methods** 

Classes on the board, presentations, exercises, case studies, problem solving, assignments, termpapers.

Pre-exam requirements	Points	Final exam	Points
Colloquia	40	Written exam	
Homework	10	Oral exam	50

Degree level: Undergraduate studies

**Course:** 

Simulation models in finance

Teacher: Marković M. Aleksandar, Kneţević P. Sneţana, Jeremić M. Veljko

Course status: elective

**ECTS points**: 4

Prerequisites: none

#### Course objective

The aim of the course is to give students an overview of the methodology of modeling in finance, to show them the possibilities and the importance of the use of financial simulation models and software. To acquire the necessary knowledge and skills to be able to develop their own spreadsheet financial models that will enable faster and better financial decision-making. To introduce changes to the current approach of studying finance, which is based on a process of active learning through building and using own spreadsheet financial models.

#### Learning outcomes

After completing this course, students should master the basic techniques of spreadsheet modeling, to be able to independently develop a greater number of basic spreadsheet simulation models for a variety of financial problems. To learn how to use the models for making qualitative and quantity-based decisions in the area of financial management and financial risks management.

#### Course structure and content

Theoretical instruction: Introduction - modeling and models; models classification. Modeling in finance - financial models. Financial forecasting. Modeling in spreadsheet programs. Spreadsheet modeling lifecycle. Advantages and disadvantages of spreadsheet models. Spreadsheet simulation. Preparing the model for simulation. Stochastic processes, determining the probability distribution of the data and risk analysis. Modeling of dependence. Simulation run. The analysis of simulation results. Add-in programs for spreadsheet models.

**Practical instruction:** Basics spreadsheet modeling - MS Excel. Development and construction of spreadsheet models: the "Single Cash Flow" - determining the current and future value of cash flow; Models for the payment of annuities; Models to determine the net present value of the investment with constant and variable discount rate; Model for the amortization of the loan; Model for determining the value of the shares; Examples of sensitivity analysis in Excel models - Solver & Goalseek; Models of linear and nonlinear regression; Models for financial planning - corporate financial planning; Model for portfolio analysis.

## Literature/Readings

- 1. Holden W Craig, Spreadsheet Modelling in the Fundamentals of Corporate Finance, Prentice Hall, 2002.
- 2. Holden W Craig, Spreadsheet Modelling in the Fundamentals of Investments, Prentice Hall, 2002.
- 3. Shim K. J., Siegel G. J., *Handbook of Financial Analysis, Forecasting and Modelling*, Prentice-Hall, 2001.
- 4. Wilmott P., Introduces Quantitative Finance, John Wiley & Sons, 2001.
- 5. Wayne, W., Financial Models Using Simulation and Optimization, Palisade Corporation, 2000.
- 6. Marković, A., Lectures, presentations and teaching materials in e-format, 2012.

The number of class hours per week				Other classes:
Lectures: 2	Labs: 2	Workshops:	Research study:	
Teaching met	thods	1		

Classes on the board in the computer classroom, presentations, practical work at the computer, assignments, homeworks.

Pre-exam requirements	Points	Final exam	Points
Participation in class	10	Written exam	
Essays/projects	40	Oral exam	50

Degree level: Undergraduate studies

Course:

#### **Environmental Quality Management Systems**

Teacher: Petrović B. Nataša

Course status: Obligatory

**ECTS** points: 5

Prerequisites: /

#### Course objective

Providing knowledge of environmental management systems, and environmental quality management systems, with a view on improved environmental quality of overall development.

## Learning outcomes

Knowledge about the systems of environmental quality, as well as management strategies and management skills in application of EMS and ISO 1400x.

#### **Course structure and content**

#### Theoretical instruction:

Fundamentals of ecology and environmental management. Environmental problems. Environmental Quality Management Systems. Environmental management. Breakthrough of formalized systems of environmental management. Initiatives and activities of the International Chamber of Commerce (ICC) for the introduction of environmental control/control of environmental protection and environmental management. ISO 14000. ISO 14001 certification. Interpretation and audit according to the requirements of ISO 14001 certification. Integrated design audit plan according to the requirements of ISO 14001 certification. Integrated design audit checklists as required by the standards.

#### Practical instruction:

Creative workshops, debates on current environmental topics, case studies and interactive educational discussion about the environmental problems. Design and analysis: "inventory of ecological knowledge". Review and analysis of the factors that have led to environmental problems/environmental issues. Design and analysis: "wood quality environmental systems". Case study: environmental management. Review and analysis of the factors that led to the development of formalized system of environmental management. Design and analysis of CAF and AGO e.g. establishing a system of environmental management. Case Study: ISO 14000. Case study: ISO 14001. Case Study: environmental auditing according to the requirements of the ISO 14001 standard. Preparation and analysis of the design of an integrated audit plan according to the requirements of the ISO 14001 standard. Preparation and analysis of the design of integrated audit checklists according to the requirements of ISO 14001 certification.

Development and analysis of environmental policy of the organization. Making presentations and presentation of seminar papers and case studies.

# Literature/Readings

- 11. Petrović N.: Sistem kvaliteta životne sredine, skripta. Beograd: FON, 2007.
- 12. Petrović N.: Handout-i sa predavanja. Beograd: FON, 2013.
- 13. Barrow C.J.: *Environmental Management-Principles and Practice*. London: Routledge, 1999. Botkin D., E. Keller: *Environmental Science-Earth as a living planet*. USA: John Wiley&Sons, Inc, 2003.

The number of	f class hours per we	eek		Other classes:
Lectures:	Labs:	Workshops:	Research study:	
2	2			

# Teaching methods

Presenting content (ppt and multimedia presentations, educational films ...). Interactive work on solving the case study. Discussions on pre-defined and presented problem. Teamwork in creative workshops. Critical analysis, evaluation and synthesis of information, problems and issues in developing specific and independent research when making term papers and study of research papers.

Evaluation/Grading (maximum 100 points)						
Pre-exam requirements Points Final exam Points						
Seminars	10	Written exam	50			
Written tests	40					

Degree level: Undergraduate studies

**Course:** 

# Occupational health and safety management system

Teacher:Pejović B. Gordana

Course status: compulsory

**ECTS points**: 5

**Prerequisites:** 

# Course objective

Creating a basis for addressing the problems of the management of health and safety at work, through the study of the corresponding system, introducing to the Law on occupational safety and health, its implementing regulations and review of standards for management systems that apply in this area.

### **Learning outcomes**

Student is able to develop a comprehensive risk assessment document for a specific business system and to participate in the design of occupational health and safety management system in accordance with OHSAS 18001.

# **Course structure and content**

### Theoretical instruction:

1. Introduction. Terms and definitions. The importance of health and safety at work. Policy and objectives; 2. Preventive actions, employer and employees in occupational safety and health system, liability; 3. Documents in the occupational safety and health system, collaboration and reporting records. License; 4. Classification of risk and hazard and risk assessment; 5. Risk assessment - continued; 6. The work environment. Hazardous materials. Funds for the work. Installation and resources. Personal protective equipment; 7. Health and safety at work in buildings designed for the working and auxiliary facilities; 8. Dangerous operation of electricity; 9. Health and safety in the construction works; 10. Health and safety in the chemical-technological processes; 11. Health and safety in agriculture; 12. Protection against noise in work areas; 13. Protection against fire and explosion; 14. Health and safety on the processing of non-metallic minerals, ferrous and nonferrous metallurgy, wood processing.

# Practical instruction:

1. Introduction to the occupational safety and health management system; 2. Occupational safety and health policy making; 3. Explaining the preparation of the project work paper; 4. Explaining the concepts and methods of risk assessment; 5. Working with checklists; 6. Funds for the work and tools in the context of occupational safety; 7. Application of protective measures at work for buildings; 8. Preparation

of documentation for the work in the presence of electricity; 9. Personal protective equipment; 10. Protection trademarks; 11. to 14. Implementation of OHSAS 18001 requirements; Visits to companies or screening of safety at work protection measures;

Preparation of project work paper in which students are developing a Risk assessment document for a particular business system. Consultations are held every week at responsible teachers and associates.

# Literature/Readings:

- 1. Authorised script, A. Petrović, V. Boţanić, M. Djurić, Belgrade 2013
- Standard OHSAS 18001 Occupational health and safety management system. Requirements. Institute for standardisation of Serbia, 2007
- 3. Standard OHSAS 18002 Occupational health and safety management systems. Guidelines for the implementation of OHSAS 18001:2007. *Institute for standardisation of Serbia*, 2007
- 4. Law on occupational safety and health, Official gazette of RS, No.101/2005
- 5. Risk assessment- General guide, European Agency for Safety and Health at Work
- 6. Role of organisational culture in the occupational health and safety management system, Maja Krsmanović, Mladen Djurić, Danka Knezević, SYM-OP-IS-2010, September 2010.

The number of	f class hours per we	eek		Other classes:
Lectures:	Labs:	Workshops:	Research study:	_
2	2	0	0	

**Teaching methods:** Lectures, labs, consultation, preparation of project work paper, visit to the factory, or screening

Evaluation/Grading (maximum 100 points)			
Points	Final exam	Points	
10	Written exam	30	
20	Oral exam	20	
20			
	Points  10  20	Points Final exam  10 Written exam  20 Oral exam	

Degree level: Undergraduate Academic Studies

**Course:** 

**Quality Management System** 

Teacher: Filipović V. Jovan, Vasiljević V. Dragan

Course status: mandatory

**ECTS points**: 4

Prerequisites: /

# Course objective

Students to be trained for the concepts and terminology of quality, understand its place and role in the management of the organization, as well as to study the its structure. The use of different models of QMS (first those of the ISO 9000 series) is an integral part of this objective.

# Learning outcomes

The ability of students to : a) understand the requirements for a quality management system and its place in the integrated management system b ) design solutions to meet the requirements for a quality management system, c) the drafting basic documents necessary for the establishment of quality management systems

### **Course structure and content**

### Theoretical instruction:

Basic theory of management, quality management system, QMS Documentation, Understanding the organization and its context, understanding the needs and expectations of stakeholders and interested parties, Determining the scope of the quality management system, issues and requirements that may affect the planning of the quality management system and can be used as an input element for the development of quality leadership (leadership and commitment, quality policy, roles, responsibility and authority in the organization), planning (measures to proceed with risks and opportunities, general quality objectives and planning their reaching planning changes), support (resources, training, awareness and communication), Implementation/operation/operational work (operational planning and management, identification of market needs and interaction with customers, the operational planning process, management of the external supply of goods and services, development of goods and services, the production of goods and services, marketing of goods and services, nonconformity of goods and services, performance evaluation/performance (monitoring, measurement, analysis and evaluation, internal audits and review by management), nonconformity and corrective measures, improvement.

# Literature/Readings

- 1. Filipović, J. i Đurić, M. Sistem menadţmenta kvaliteta, 2010, FON, Beograd
- 2. Hoyle, D., ISO 9000 Quality Systems Handbook Using the Standards as a Framework for Business

Improvement (6th Edition), 2009, Taylor & Francis

3. Hoyle, D., ISO 9000: 2000: An A-Z Guide, 2002, Butterworth-Heinemann Title; 2nd edition

The number o	Other classes:			
Lectures: 2	Labs: 2	Workshops:	Research study:	

# **Teaching methods**

Lectures, exercises, analysis of case studies, analysis and application of standards

Pre-exam requirements	Points	Final exam	Points
Participation in class	5	Written exam - combined assignments and theory	25
Homework	10	Oral exam	20
Colloquium	25		
Project paper defense	15		

Degree level: Undergraduate studies

Course:

# **Project Management Software Support**

Teacher:Petrović Č. Dejan

Course status: Elective

ECTS points: 4

Prerequisites: /

# **Course objective:**

- Acquisition of the latest knowledge related to available software packages for project management
- Introducing and teaching students about the basic characteristics and usage of software packages for project management

# Learning outcomes

At the end of the learning process, after fulfilment of pre-exam requirements, and passing the exam, students are expected to know and understand the content of the subject, and to be able to use and apply software packages for project management in the processes of planning, monitoring and control of projects as well as programs.

# Course structure and content

# Theoretical instruction:

MS Project

Primavera Project Planner - P3

Primavera Project Planner for the Enterprise - P3E

Managing one project using software packages

Managing multiple projects using software packages

Financing several projects

# Practical instruction:

Defining baseline data about the company

Modelling the project and the project element analysis

Determination variants plans and formation of the base plan

Plan Correction and reporting

Definition of individual projects that are competing for shared resources

Planning several projects

Reporting and monitoring of projects realization

Financing and planning of materials on several projects

# Literature/Readings

- 1. Petrović D., Mihić M.: A Handbook for the use of Microsoft Project, Project Management Association of Serbia YUPMA, Belgrade, 2007
- 2. Preradović J., Jovanović P., Petrović D., Nešić N.: Project management a methodological guide, Intergraf, Belgrade, 1998.

The number of	f class hours per we	ek		Other classes:
Lectures:	Labs:	Workshops:	Research study:	
2	2			

# **Teaching methods**

Auditory, Illustrative and Demonstrative, Verbal and Textual, Practical Methods

Pre-exam requirements	Points	Final exam	Points
Participation in class	20	Written exam	20
Test/s	50		
Participation in labs	10		

Degree level: Undergraduate studies

Course:

Sociology

Teacher: Miladinović M. Slobodan, Petrović M. Dalibor

Course status: Obligatory

**ECTS points**: 5

# **Prerequisites:**

Course objective: The student should acquire basic knowledge of sociology, to learn about the major social categories and principles that have been brought in an organizational context and to introduce the main features and characteristics of our society and that this knowledge can be used in practice, ie. to understand the social context of organizational phenomena and to understand the sociological way of thinking the same.

**Learning outcomes:** Acquisition of basic sociological knowledge with practical ability to recognize social categories and their application

### **Course structure and content**

**Theoretical instruction:** P-01: Introductory class, Sociology as a science, the notion of the subject of sociology; Q-02: Groups and organizations; P-03: Scientific and technological development and society; P-04: Social values; P-05: Social power; P-06: The social structure: class and the elite; P-07: The class structure of our society; P-08: Social mobility; P-09: The contemporary social systems; P-10: The globalization of modern society; P-11: A society in transition; P-12: Ecology and Society; P-13: Labor; P-14: Organized labor; P-15: Economic Democracy and Participation

*Practical instruction:* V-01: Introductory class, Sociology as a science, the notion of the subject of sociology; V-02: Social Research; V-03: Groups and organizations; V-04: Scientific and technological development and society; V-05: Social values; V-06: Social power; V-07: The social structure; V-08: Exercises of repetition; V-09: Social mobility; V-10: The contemporary social systems; V-11: The globalization of modern society; V-12: Society in Transition; V-13: Ecology and Society; V-14: Labor and organized labor; V-15: Exercises of repetition.

Literature/Readings: dr Slobodan Miladinović: Uvod u sociologiju organizacije, FON, Beograd, 2007.

The number	The number of class hours per week					
Lectures:	Labs:	Workshops:	Research study:			
15*2=30		15*1=15				
Teaching me	ethods					
Frontal teach			ring, Presentation of seminar pa	pers, Colloquium		
n			_	D:4		
Pre-exam re	quirements	Points	Final exam	Points		
Participation	in class	10	Written test	30		
Seminar		10	Oral exam	50		

Degree level: Bachelor studies

Course:

Standardization 1

Teacher: Mijatović S. Ivana

Course status: mandatory

**ECTS points**: 6

Prerequisites: none

**Course objective:** Acquiring of knowledge, on the level of understanding, about standardization in business.

### **Learning outcomes:**

Active participant will be able to: understand importance, purposes and benefits of standardization and standards; understand roles and complex relationships among organizations for standardization in business.

### Course structure and content

### Theoretical instruction:

P1. Standardization and standards basics. P2. History of standardization. P3. Classifications of standards and standardization. P 4. Relationships between standards and markets. Competing standards. Dominant design. Installed base. Phenomena of *lock-in* and *bandwagoning*. P 5. Voluntary (formal) standardization. International, regional and national standardization. Formal organization for standardization. P6. Basics of European standardization systems. Standardization in Serbia. P7. Basics of standardization system of Russian Federation. Basic of U.S. standardization system. P8. *Consortia based standardization*. P 9. Sectoral standardization. P10. Standards development. Interested parties and stakeholders in standardization. Life cycle of standards. Standardization development strategies. P 11. Company standardization. Models for development internal standards. P12. Standardization in management. History of formalization and standardization in management. History of management system standards. P13. and P14. Standardization in product design. Standardization and transfer of knowledge and technologies. Paradox of standardization and innovation.

# Practical instruction:

P1. Information about assignments requirements. V 2. Case study: History of standardization. V3. Classification of standards and standardization. V4. Case study: Standards and markets. V5. Formal standardization. V6. Workshop: Negotiations in TC workgroup. V7. Case study: *Consortia based* standardization. V8. Case study: Sectoral standardization. V9. Standards development. V 10. Models for development internal standards V11. and V12. Management systems standards. V13. and V14. Case

study: Standardization in product design

# Literature/Readings

- 1. Mijatović I., Standardizacija, Fakultet organizacionih nauka, 2014. (u izdavanju)
- 2. Mijatović I., Nastavni materijali iz Standardizacije u elektronskom obliku (tekstovi, studije slučaja, interaktivne radionice, domaći zadaci i forumi), 2013., <a href="http://e-learn.fon.bg.ac.rs/course/">http://e-learn.fon.bg.ac.rs/course/</a>
- 2. Murphy, C. N., Yates, J.A., The International Organization for Standardization (ISO): global governance through voluntary consensus, Taylor & Francis, 2009.
- 3. Hesser W., Feilzer A., de Vries H., Standardization in Companies and Markets, Helmut Schmidt University Hamburg, 2007.

The number of	of class hours per	week		Other classes:
Lectures:	Labs:	Workshops:	Research study:	

# **Teaching methods**

Interactive lectures, workshops, case studies, on-line tests and on-line discussions.

Pre-exam requirements	Points	Final exam	Points
Participation in class	5	Written exam	20
Home works	15	Oral exam	30
Midterm exam	30		

Degree level: BSc

Course:

**Statistics** 

Teacher: Bulajić V. Milica, Radojičić A. Zoran, Jeremić M. Veljko

Course status: Compulsory

**ECTS points**: 6

**Prerequisites:** 

# **Course objective:**

Introduction to basic methods of statistical analysis and its application in solving practical problems.

### Learning outcomes

Students will be able to model and solve practical statistical problems and give appropriate conclusions by using basic statistical methods.

### Course structure and content

### Theoretical instruction:

T01: Statistical interference, population, sample. T02: Statistics and their distributions. T03: Theory of estimation, criteria for choice of estimates. T04: Maximum likelihood method. T05: Confidence intervals. T06: Confidence intervals (continuance). T07: Hypothesis testing, parametric tests. T08: Parametric tests (continuance). T09: Parametric tests (continuance). T10:Non-parametric tests. T11: Non-parametric tests (continuance). T12: Regression models. T13: Method of ordinary least squares. T14: Testing hypothesis about parameters of linear regression. T15: Method of analysis of variance.

# Practical instruction:

P01: Population, sample. P02: Statistics and their distributions. P03: Statistics and their distributions (continuance). P04: Maximum likelihood method. P05: Confidence intervals. P06: Confidence intervals (continuance). P07: Practical exercise. P08: Hypothesis testing, parametric tests. P09: Parametric tests (continuance). P10:Non-parametric tests. P11: Non-parametric tests (continuance). P12: Regression models. P13: Regression models (continuance). P14: Method of analysis of variance. P15: Practical exercise.

### Literature/Readings

1. Vuković N., Bulajić M., Osnove statistike, Fakultet organizacionih nauka, Newpress, ISBN:

978-86-7680-293-7, Beograd, 2014 2. Bulajić M., Vukmirović D., Radojičić Z., Jeremić V., Totić S., Đoković A., Dobrota M., Statistika zbirka zadataka, FON, 2013. Vuković N., PC statistika i verovatnoća, FON, 2005. The number of class hours per week Other classes: Lectures: 2 Labs: 2 Workshops: Research study: Teaching methods: Traditional with the use of whiteboard and computer

Pre-exam requirements	Points	Final exam	Points
Participation in class	5	Written exam	25
Participation in labs	5	Oral exam	25
Colloquium	20		
Seminar	20		

Degree level: Undergraduate studies

**Course:** 

# Statistical methods in management

Teacher: Jeremić M. Veljko

Course status: Elective

**ECTS points**: 4

**Prerequisites:** 

# Course objective

The review of statistical methods and models that can be used as support for decision making in different areas of management. Special attention is devoted to methods that are being used in marketing and business management.

### **Learning outcomes**

Students are prepared for modelling and solving practical problems in management by applying methods of statistical analysis.

### **Course structure and content**

# Theoretical instruction:

L01: Data collecting. L02: Sample and sample planning. L03: Classification of methods and models. Automatic control and correction of errors. L04: Creating of questionnaire. Logically design of questionnaire. Sample data processing. L05: Hypothesis testing. Using of standard statistical software packages. L06: Multivariate statistical analysis models. L07: Methods of data transformation. L08: Computer support for statistical research. L09: Prediction, classification and risk analysis. L10: Econometric modelling. L11: Financial time series analyses. L12: AR, MA and ARMA models. L13: ARIMA, ARCH and GARCH models. L14: Practical problems resolving. L15: Practical problems resolving.

# Practical instruction:

P01: Data collecting. P02: Sample planning. P03: Automatic control and correction of errors. P04: Creating of questionnaire. Sample data processing. P05: Standard statistical programs. P06: Multivariate statistical analysis. P07: Computer-support for statistical research. P08: resolving concrete problems in practice Practical problems resolving. P09: Risk analysis. P10: Econometric modelling. P11: Financial time series analyses. P12: AR, MA and ARMA models. P13: ARIMA, ARCH and GARCH models. P14: Practical problems resolving. P15: Practical problems resolving.

# Literature/Readings

- 1. Metcalfe A. V., Statistics in Management Sciences, Oxford University Press, New York, 2000.
- 2. Keller G., Warrack B., *Statistics for Management and Economics*, Abbreviated Edition", Thompson, New York, 2006.
- 3. Ramsdent F., The Essentials of Management Ratios, Gower Publishing, Ltd., UK, 1998.
- 4. Neter J., Wasserman W., Whitmore G.A., Applied Statistics, Allyn and Bacon, USA, 1993.
- 5. Montgomery D. C., George C., *Applied statistic and probability for engineers*, John Wiley & Sons Inc., 1999.

The number of	Other classes:				
Lectures: 2	Lectures: 2 Labs: 2 Workshops: Research study:				

# **Teaching methods**

The traditional way of lecturing, with the use of whiteboard and computer.

Pre-exam requirements	Points	Final exam	Points
Participation in class	5	Written exam	25
Participation in labs	5	Oral exam	25
Colloquial	20		
Seminar work	20		

Degree level: BSc

Course:

### **Statistical Inference**

Teacher: Bulajić V. Milica

Course status: Elective

**ECTS points**: 4

**Prerequisites:** 

# Course objective

Introduction to the application of predictive statistical models. Offers detailed knowledge of possibilities and methods of statistical analysis, as well as more detailed insight in methods of statistical inference.

### Learning outcomes

Students will be able to make the adequate predictions on heterogeneous data in order to achieve greater accuracy while making conclusions and thus gaining the better assurance in the decision-making process. Students will be capable apply the statistical software package in solving these problems.

# **Course structure and content**

# Theoretical instruction:

L-01: Distributions. L-02: Distributions of linear forms. L-03: Parametric inference.L-04: Non-parametric inference. L-05: Gauss-Markov model. L-06: Bayes inference. L-07: The application of software in statistical inference L-08: The contingency tables analysis. L-09: Binaryzation of data. L-10: Discrete methods for analysis of multidimensional data. L-11: Cochran – Mantel – Haenszel testing. L-12: Coefficient of preference. L-13: Relative risk and ratio. L-14: The applicability and model validation. L-15: Parameter valuation based on data.

### Practical instruction:

P-01: The examples of applications of distributions. P-02: Simulations of distributions. P-03: The case study of parametric inference. P-04: The case study of non- parametric inference. P-05: Markov chains. P-06: Simulation of Bayes's inference. P-07: The entropy. P-08: The concept of minimal entropy. P-09: 2X2 tables. P-10: 2x2xK tables. P-11: Odds ratio. P-12: Logistic regression. P-13: Logit regression models. P-14: The analysis of missing data. P-15: The analysis of multiple choice answers.

# Literature/Readings

1. Casella G., Berger R., Statistical Inference, Wiley John&Sons, Incorporated, 1999.

- 2. Barnett V., Comparative Statistical Inference, Wiley, John&Sons, Incorporated 1999.
- 3. Spiegelhalter D. J., Abrams K. R., Myles J. P., Barnett V., *Bayesian Approaches to Clinical Trials and HealthCare Evaluation*, Wiley, John&Sons, Incorporated, 2004.
- 4. Maddala G.S., *Introduction to Econometric*, John Wiley & Sons, 2001.
- 5. Lovrić, M., Metodi neparametarskog statističkog zaključivanja, Ekonomski fakultet, 2002.

The number o	Other classes:					
Lectures: 2	Lectures: 2 Labs: 2 Workshops: Research study:					

# **Teaching methods**

The traditional way of lecturing, with the use of whiteboard and computer

Pre-exam requirements	Points	Final exam	Points
Participation in class	5	Written exam	25
Participation in labs	5	Oral exam	25
Colloqia	20		
Seminar work	20		

Degree level: Graduate academic study

Course:

Strategic Marketing

Teacher: Janičić R. Radmila, Kostić-Stanković M. Milica, Štavljanin B. Velimir, Damnjanović Ţ. Vesna, Cicvarić Kostić M. Slavica, Vlastelica Bakić L. Tamara, Vukmirović A. Jovanka

Course status: Basic

**ECTS points**: 5

**Prerequisites**: Marketing

# Course objective

Course objective is improving knowledge in the field of strategic marketing planning, based on strategic analysis, implementation and control, in the order to get better position on concurent market place.

# Learning outcomes

Understanding and improving knowledge and skills of strategic planning methodology, implementation and evaluations of marketing strategies. Aplied knowledge in the field of strategic marketing planning.

### **Course structure and content**

Theoretical instruction:

Defining of Strategic marketing. Strategic analysis, strategic implementation and strategic control. Strategic analysis of market place. SWOT analysis. Analysis of concurency. Analysis of environmental factors. BCG analysis. Core competence analysis. Consumer and customer behavior analysis. Holistic strategic marketing approach. Strategic marketing planning based on consumer behavior. Implementation od marketing strategies. New ways of communications with target groups. Tendences in strategic marketing planning. Defining of companies vision, mision, goals and values. Defining of corporative goals and strategies. Defining os marketing goals and strategies. Analysis of different marketing strategies. Market oriented strategic palnning. Development of strategic marketing planning. Planning of instruments of marketing mix. Strategies of improving new products. Strategies of positioning products. Strategies of forming products and services prices. Strategies of promotion and sales. Promotional strategies. Global market place and global marketing strategies. Alternative marketing strategies. Branding strategies. Implementation of strategic of concurents market place. Organization of strategic marketing planning. Elements of strategic marketing control. Evaluation of strategic marketing planning.

Practical instruction: Work on the real case studies from practice. Comparative analysis of casestudies.

# Literature/Readings

Filipović V., Janičić R., Strateški marketing, FON, Beograd, 2010.

Kotler Ph., Keller L., Marketing menadžment, 12. Izdanje, DataStatus, Beograd, 2009.

Gilligan M., Coli	n R., Wilson R.	, Strategic Marketin	ag Planning, Data Status, Beo	grad, 2009.
The number of	Other classes:			
Lectures: 2	Labs: 2	Workshops:	Research study:	
Teaching metho	ds			
	Ev	aluation/Grading (	maximum 100 points)	
Pre-exam requir	rements	Points	Final exam	Points
Participation in c	lass	30	Written exam	
Participation in la	abs	30	40	100

Degree level: Undergraduate studies

Course:

### Strategic management

Teacher: Mihić M. Marko, Milićević K. Vesna

Course status: Compulsory

**ECTS points**: 6

Prerequisites: /

# Course objective:

- Acquisition of the latest knowledge in strategic management as a specialized management discipline.
- Understanding and mastering processes, methods and techniques used in strategic management

# Learning outcomes

Students are qualified to apply the methods and techniques of strategic management in the process of organization management.

### **Course structure and content**

### Theoretical instruction:

Definition of strategic management. Strategic analysis. Future predictions. Definition of the mission, vision and strategic goals. Identification and selection of strategies. Definition of possible strategies. Portfolio strategy. Competitive strategies. The selection and implementation of the strategy in our companies. Strategy implementation. Realization plan of the strategy. Implementation of strategies through strategic change. Strategic control. Strategic management and change management. Strategic management and project management.

# Practical instruction:

Methods and techniques of strategic analysis. Analysis of the company and the environment. Future predictions - methods. Methods and techniques for strategiy selection and application. Selection of strategies - examples. Implementation of strategies - examples. Balanced Scorecard method. Strategy maps. Case studies. Simulation of strategic business management.

# Literature/Readings

- 1. GG Dess, GT Lumpkin, Eisner BA, Strategic Management, Data Status, Belgrade, 2007.
- 2. P Jovanović., Strategic Management, College of Project Management, Belgrade, 2007.

The number of	Other classes:			
Lectures:	Labs:	Workshops:	Research study:	
2	2			

Teaching methods			
E	valuation/Grading (ma	eximum 100 points)	
Pre-exam requirements	Points	Final exam	Points
Participation in class	20	Written exam	20
Test/s	50		
Participation in labs	10		

Degree level: BSc

**Course:** 

# **Probability Theory**

Teacher: Bulajić V. Milica, Radojičić A. Zoran, Jeremić M. Veljko

Course status: Compulsory

**ECTS points**: 6

**Prerequisites:** 

# Course objective:

Introduction to basic concepts of probability theory and its application in solving practical problems.

### Learning outcomes

The content of the course prepares students for solving practical problems and is gives foundation for understanding methods and models of statistical analysis.

### Course structure and content

### Theoretical instruction:

T01: Descriptive statistics. T02: Parameters in descriptive statistics. T03: Random events and its' features. Operations and relations with random events. Probability (definitions). T04: Conditional probability features. Formulae of total probability, Bayes formulae. T05:One-dimensional discrete random variables. T06: One-dimensional continuous random variables. T07: Parameters of random variables. Moment generating function. Chebyshev's inequality. T08: Models of discrete distributions. T09: Models of continuous distributions. T10: Limit theorems in probability. T11: Two-dimensional discrete random variables. T12: Two-dimensional continuous random variables. T13: Moments of two-dimensional distributions. T14: Marginal distributions. Conditional distributions. T15: Regression analysis.

# Practical instruction:

P01: Permutation, combinations, variations. P02: Statistical features. P03: Measures of central tendency. P04: Measures of variability. Random events. P05: Probability, conditional probability. P06: Total probability, Bayes formulae. P07: One-dimensional discrete random variables. P08: One-dimensional continuous random variables. P09: Parameters of random variables. P10: Models of discrete distributions. P11: Models of continuous distributions. P12: Two-dimensional discrete random variables. P13: Two-dimensional continuous random variables. P14: Marginal distributions. Conditional distributions. P15: Regression analysis.

# Literature/Readings

- 1. Vuković N., Osnove verovatnoće, FON, Beograd, 2012.
- 2. Bulajić M., Vukmirović D., Radojičić Z., Đoković A., Totić S., Dobrota M., *Teorija* verovatnoće zbirka zadataka, FON, 2013.
- 4. Vuković N., PC statistika i verovatnoća, FON, 2005.

4. VUKO	ovic N., PC statis	tika i verovatnoca, FC	JIN, 2005.	
The number	Other classes:			
Lectures: 2	Labs: 2	Workshops:	Research study:	
Teaching met	thods: Tradition	al with the use of wh	iteboard and computer	
	F	Evaluation/Grading (	(maximum 100 points)	
Pre-exam req	uirements	Points	Final exam	Points
Participation i	n class	5	Written exam	25
Participation i	n labs	5	Oral exam	25
Colloquium		20		
Seminar		20		

Degree level: Under graduate academic studies

Course:

### **Decision support systems**

Teachers: Suknović M. Milija, Delibašić V. Boris

Course status: Elective

ECTS points: 5

Prerequisites: /

# Course objective

Getting knowledge of multiattribute decision making methods and analysis with the emphesize on real world examples and problems.

# Learning outcomes

Student should be able to work with representative decision making methods as well as to develop new decision making models. Students should get theoretical as well as practical skills for working in modern software for decision making.

### **Course structure and content**

Theoretical instruction

01: Introduction to decision making. 02: Multi-attribute decision making methods with case studies. 03: IKOR method with case studies. 04: Promethee and Electre methods with case studies. 05: AHP method with case studies. 06: Group decision making. 07: Group decision making case studies. 08: Decision making software 1. 09: v 2. 10: Invited lecture 1. 11: Invited lecture 2. 12: Multi-criteria decision making methods with case studies. 13: Utility theory with case studies. 14: Integrated decision making systems. 15: Group consultations (preparation for the exam).

### Practical instruction

01: Basic multi-attribute decision making methods. 02: LDR and IKOR methods. 03: Summarizing of lectures 1. 04: Методе Promethee и Electre. 05: Метода АХП. 06: Модели групног одлучивања. 07: Summarizing of lectures 2. 08: Implementation of decision making methods in Microsoft Excel. 09: Examples of modeling of real world business decision making problems and assignment of students projects. 10: Preparation for project presentation. 11: Presentation of projects 1. 12: Modeling of real world decision making problems in software package. 13: Modeling of multi-attribute utility theory in software package. 14: Modeling of group decision making problems in software. 15: Project presentation 2.

### Literature/readings

- Suknović M, Delibašić B. (2010) Decision Making (in Serbian), Faculty of Organizational Sciences, Belgrade, Serbia.
- 2. Ishizaka A, Nemery P (2013) Multi-Criteria Decision Analysis: Methods and Software, Wiley.
- 3. Presentations and materials from web site www.odlucivanje.fon.bg.ac.rs

The number	Other classes:			
Lectures: 2	Labs: 2	Workshops:	Research studies:	
-	alized by the c		ectures, case studies and invited lecture assignments as well as presentation of s	•
decision maki	ng.	Evaluation/Grad	ing (maximum 100 points)	
Pre-exa	Points			
			Project proposal	50

Oral exam

Degree level: Undergraduate studies

Course:

# Technology strategy of an enterprise

# Teacher: Levi-Jakšić I. Maja, Marinković P. Sanja

Course status: Elective

ECTS points: 4

Prerequisites: /

### Course objective

The aim of this course is to provide knowledge in the field of strategic technology management: analysis, creating, defining and establishing technology strategy, and its implementation in the company. This program involves the acquisition of knowledge in the field of measuring results related to the monitoring and review of technology strategy as a continuous activity, in order to achieve the objectives of technology and business strategy to improve the competitiveness of enterprises.

### **Learning outcomes:**

Students acquire theoretical and practical knowledge and skills in the assessment and evaluation of technology application, creating a technology strategy, as well as to its implementation. They are able to distinguish and closely identify strategic business dimensions of technology in order to assess alternative technology strategies and selection in accordance with the established business objectives.

### Course structure and content

Theoretical instruction: Technology policy and strategy; Technological factors of business strategy; Change Management; Strategic Technology Analysis - Strategic technological diagnosis; Strategic technological responsiveness; The structure of the technology portfolio; The strategy of technological competitiveness - competency models, life cycle, benchmarking; Multi-business strategy and multi-technology company; Technology portfolio diversification; Technology portfolio management - implementation of technology strategy; Vertical and horizontal technological cooperation; Globalization and technology alliances; Assessment and evaluation of technologies; Indicators for monitoring implementation performance of technology strategy - models and applications.

**Practical instruction:** Evaluation of technological development potential of enterprises, strategic technology resources, environment's turbulence - quantitative models; Determining technology responsiveness - technology strategy evaluation; Matrix objectives for assessing the efficiency and effectiveness of the technology; Business dimensions and methods for the assessment and evaluation of technology; Qualitative and quantitative methods as a support for the formulation of alternatives and selection of technology strategy, Measuring technology strategy performance: innovative competence and potential.

# Literature/Readings:

Burton, G., White, M.A., Strategic management of technology and innovation, South-Western Cengage Learning, 2011.

Shilling, M. A., Strategic Management of Technological Innovation, McGraw-Hill, New York, 2005

Levi Jakšić, M., Strateški menadţment tehnologije-inovacije, menadţment i preduzetništvo, FON, Beograd, 2001 Levi Jakšić, M., Marinković, S., Petković, J., Menadţment inovacija i tehnološkog razvoja, FON, Beograd, 2011

The number of class hours per week				Other classes:
Lectures: 2	Exercises: 2	Workshops:	Research study:	

**Teaching methods:** Presentation of material in form of lectures, workshops and group work, case studies, active involvement of students through research in practice, seminar papers and deepening of theoretical knowledge through literature review.

# Evaluation/Grading (maximum 100 points) Pre-exam requirements Points Final exam Points Continuous assessment during semester - seminars, attendance, student participation, activities and tests 70 Exam 30

Degree level: Osnovne akademske studije

Course:

**Training and development** 

Teacher: Gordana D. Milosavljević

Course status: Elective

**ECTS points**: 4

**Prerequisites:** 

# Course objective

Knowledge and skills development necessary for employees' training and development in an organisation.

# Learning outcomes

The acquisition of basic knowledge and skills in order to qualify students for its practical application.

### **Course structure and content**

### Theoretical instruction:

Social development and education. Training and Development. Strategic approach to education and development. Educational processes in human resource management. Conceptually definition of development. Learning and Human Resources Development. The definition of learning. Conceptual definition of training. Human resource management and training design. Human resource management and training management. The first phase in training design: training needs analysis. Designing training programs. The classification of training programs in terms of content. Designing training implementation. Designing training evaluation. Case studies of a good practice.

# Practical instruction:

The exercises follow the units provided in lectures, with special emphasis on the development of managerial skills necessary to organize training programs in an organization.

# Literature/Readings

- 1. Milosavljević Gordana: Trening i razvoj, FON, 2008.
- 2. Raymond A. Noe: Employee Training and Development, McGraw Hill, 2010.

The number of	Other classes:			
Lectures:	Labs:	Workshops:	Research study:	
2	2			

# Teaching methods

Lectures, exercises, interactive teaching: workshops, group discussions, case studies, mentoring and teamwork trough out the essays preparation on the chosen topic, method of presentation.

Pre-exam requirements	Points	Final exam	Points
Participation in class	10	Written exam	40
Participation in labs	50		

Degree level: Undergraduate studies

Course:

# **Introduction to Information Systems**

Teacher: Pantelić S. Ognjen, Vučković Đ. Milica, Babarogić S. SlaĎan

Course status: mandatory

**ECTS points**: 6

**Prerequisites:** 

### Course objective

The course is designed to introduce students to the core concepts of information systems and the important aspects of information system development process. Students learn how organizations acquire and process complex information in clear and compelling ways. The course provides a general overview on the implications of information systems on quality of organization processes and competitiveness of the organization itself.

# Learning outcomes

Students learn the basic theory of information systems development, its life-cycle processes and phases. Student acquire knowledge related to the understanding of different types of information systems in an organization and their role in today's competitive business environment. The student learns the techniques of business process analysis and data modeling.

### **Course structure and content**

### Theoretical instruction:

Basic concepts of information systems, Information systems architectures, Information systems development models, System analysis techniques, Data modeling, Software and systems engineering standards, CASE tools, IS Implementation, Maintainance of IS, Analytical processing- Decision Support Systems, Artificial Intelligence and Expert Systems, Introduction to e-business, Security of IS, Ethical and social issues in IS, Preparing for exam.

# Practical instruction:

Structured system analysis, Structured system analysis- practical examples, Data Dictionary fundamentals- structure and content, Introduction to data modeling, Logical design of relational database-practical examples, Logical design of relational database- more complex practical examples, Transformation of entity-relationship model into tables- practical examples, Introduction to MS Access tool, Creating tables in MS Access, SQL query language- practical examples, Working with forms in MS

Access, Creating reports in MS Access, Preparing for practical tests.

# Literature/Readings

- 1. Rainer, Turban: Introduction to Information systems, DataStatus, 2009
- Dragana Bečejski- Vujaklija, Introduction to Information systems, 2007
   Ognjen Pantelić, MS Access tool guide, FON, 2007
   Vladimir Zwass, Fondations of information systems, McGraw-Hill, 1998

The number o	Other classes:			
Lectures:	Labs:	Workshops:	Research study:	
2	1	2		

# **Teaching methods**

Theoretical lectures, Practical lectures in laboratory, Practical project work in small groups.

Evaluation/Grading (maximum 100 points)					
Pre-exam requirements	Points	Final exam	Points		
Practical paperwork	16	Written exam	60		
Test	24				

# Study program / study programs: Management and organization Type and level of studies: Undergraduate Course: **Introduction to Corporate Finance** Teacher: Bogojević-Arsić T. Vesna Module status: Optional ESPB: 4 Pre-requisites: Financial Management Aims Providing knowledge about major financial decisions made by managers within a firm, regarding investments, capital structure, and dividend policy. Learning outcome The module seeks students to develop quantitative problem solving skills and propose informed decisions related to the complex issues in investment decisions making, capital structure issues, and decisions regarding dividend policy. Content Lectures Concept, goals, and tools of corporate finance tools. Nature of capital budgeting. Different approaches to capital budgeting. Nature of different types of projects. Investment decision criteria. Cash flow projections. Decisionmaking under uncertainty. Working capital management. Financing of working capital management. Capital structure. Factors of capital structure. Cost of capital. Different approaches to the capital structure analysis. Capital structure changes. Corporate financial strategies. Dividend payout decisions. Determinants of dividend policy. Different types of dividend policies. Analysis of dividend policy. Other aspects of corporate finance. Practical teaching techniques: Exercises, Other forms of delivery, Research work Corporate finance tools. Different approaches to capital budgeting. Investment decision criteria. Cash flow projections. Decision-making under uncertainty. Working capital management. Financing of working capital management. Capital structure. Factors of capital structure. Cost of capital. Different approaches to the capital structure analysis. Capital structure changes. Corporate financing strategies. Dividend payout decisions. Different types of dividend policies. Analysis of dividend policy. Other aspects of corporate finance. Literature Bogojevic Arsic Vesna: Korporativne finansije, Fakultet organizacionh nauka, Beograd, 2005. **Delivery (Teaching techniques)** Other classes Lectures: Exercises: Other forms of delivery: Research work:

2	2		

# Methods of delivery

The module is delivered through lectures, exercises, and consultations. Students are actively involved inteaching process through interactive discussions, exercises, coursework, case studies, and workshops.

# Assessment (maximum number of points 100)

Pre-exam commitments	Points	Final exam	Points
Seminar/s	30	Oral examination	70

Degree level: Undergraduate studies

**Course:** 

Introduction to electronic business management

Teacher: Marković M. Aleksandar

Course status: elective

**ECTS points**: 4

Prerequisites: none

## Course objective

The primary objective is to identify and discuss the basic concepts of e-business management and characteristics of business systems that operate over the Internet. The aim is also to define the basic processes of e-business, as well as micro-and macro-environmental factors for e-business organization. To define and explain the decisions important for the organizations going towared the e-business and discuss activities in which such decisions are made.

### Learning outcomes

To enable students to learn the basic concepts of e-business management. To set the essential theoretical and practical foundation for the further upgrading of knowledge in this area. To provide knowledge and enable students to learn the basic skills needed to manage organizations in the area of electronic business/commerce. To provide answers to the basic questions to be considered in the e-businesss organizations: What is the connection between tradicional and e-business? What are the main characteristics of the organizations in the fields of e-business? Which approach in e-business strategy selection should be adopted? How to invest in e-business? What processes should be a priority for our organization in terms of e-business? Whether to adopt new business models and new revenue models? What changes should be made in the organization to get started with e-business?

### **Course structure and content**

Theoretical instruction: The historical development of management concepts. Basic concepts and definitions of management. Phases of management and management levels: strategic, tactical and operational. Changes in management caused by using the Internet. Impact of the Internet on the stages of the process control and management levels. Introduction to e-business and e-commerce. Basics of e-commerce. Infrastructure of e-business and e-business infrastructure management. E-business environment: micro-and macro-environment and key environmental factors. E-business strategy. Intranet and Extranet and its use in business functions.

## Practical instruction:

Discussions with students. Examples, case studies, analysis.

# Literature/Readings

- 1. Chaffey, Dave, *E-Business and E-Commerce Management*, (Part I), Pearson Education Limited, Essex, UK 2009.
- 2. Marković, Aleksandar, E-business management-teaching materials (e-format), http://mep.fon.bg.ac.rs, FOS, Belgrade, 2013.

The number o	The number of class hours per week				
Lectures: 2	Labs: 2	Workshops:	Research study:		

# **Teaching methods**

Lectures, discussions, case studies, exercises, analysis of specific examples from practice

Pre-exam requirements	Points	Final exam	Points
Participation in class	5	Essays/projects	15
Colloquia	30	Oral exam	50

Study program	/ study prog	rams:Management and organ	nization	
Type and level or	f studies: Und	lergraduate		
Course:				
Introduction to	Financial M	arkets		
Teacher:Bogoje	vić-Arsić T.	Vesna, Țarkić-Joksimović A. 1	Nevenka,Barjaktarović-Rakočev	ić M. SlaĎana
Module status: C	ompulsory			
ESPB: 6				
Pre-requisites:				
Aims				
To instil familiar	ity with and ı	understanding of financial mark	tets, with special emphasis on secur	rities markets.
Learning outcom	ne			
	•	owledge and understanding odels, and concepts of financia	regarding implementation, analys l markets.	is and critical
Content				
Lectures				
foreign exchang importance, goal nature. Different	ge market. (description) types of final states.	Goals, characteristics, and participants in the securities marked ancial instruments and its usage	gnificance. Goals, participants, and articipants in the bond markets ets. Classification of securities make. Trading on the primary and securities indices. Derivative markets.	. Characteristics, arkets. Securities
Practical teachin	ig techniques	: Exercises, Other forms of dela	ivery, Researchwork	
exchanges: exam	ples. Securit	ies valuation. Equity valuation	ortance. Brokerage houses. Wor in Use of fixed-income securities: intals for investment decision-makin	examples. Use of
Literature				
Bogojevic Arsic,	V., Trziste h	artija od vrednosti, Fakultet org	ganizacionih nauka, Beograd, 2011	
Delivery (Teach	ing techniqu	es)		Other classes
Lectures:	Exercises:	Other forms of delivery:	Research work:	
2	2			

# Methods of delivery

The module is delivered through lectures, exercises, and consultations. Students are actively involved inteaching

process through interactive discussions, exercises, coursework, case studies, and workshops.				
Assessment (maximum number of points 100)				
Pre-exam commitments	Points	Final exam	Points	
Seminar/s	30	Oral examination	70	

Degree level: Undergraduate studies

**Course:** 

**Document Management** 

Teacher: Lazarević D. Saša

Course status: Required

**ECTS** points: 5

Prerequisite: Fundamentals of Quality

**Course objectives:** Understanding the principles, rules and methods of document management. Training in the design of business processes and supporting documentation. Application of appropriate software solutions for document management in the business system.

**Learning outcome:** Competence of students to analyze, design and implement a document management system and managing documents.

## Course structure and content (Syllabus):

Lectures: Introduction: objectives, lecturing units, mode, method of examinations, literature; Basic concepts: data, information, business process, activity, quality of the document; kinds and types of documents; Document activities: regulation, procedures, specifications, form, record; Scientific and technical documents, business documents, administrative documents. Processes in the processing of documents: create, review, processing, approval, publication, distribution, archiving, searching. Document lifecycle: prepare, birth, growth and disappearance. Business processes and documentation I: identification and classification process, processes, and organizational structure. Business processes and documentation II: processes and data classes, methods for modeling and analyzing business processes and data classes (BPM, UML, SSA). SSA technique: data flow diagram (DFD), the decomposition of DFD; Data Dictionary; specification of primitive processes logic. Methods SSA; case study; defining the form and content of documents based on the data dictionary. Checking the acquired knowledge: Test no. 1. Post-test observations: Analysis of the questions and answers. Standardization documents: standardization of forms, standardization of content, standard document flow (workflow). Ways of archiving documents: classic archiving with no computer records, microfilm, scanning, hybrid approach. XML concept, development, elements; life cycle of an XML document, XML technology. The technology of document management: objectives, activities, problems, results, people results, database, way of adoption documents, method of adjustment documents. System documentation quality: system quality handbook, quality policy (the policy of quality in the business system, basic policy document, quality assurance), the basics of quality plan, basic management procedures, technology management of products/services. Administrative documentation: adm. brief, document, item, object, file, folder, archive material, administrative offices, archives. Content management and electronic document management: CMS and DMS; basic functions, architecture, implementation. Checking the acquired knowledge: Test no. 2. Post-test observations: Analysis of the questions and answers.

Labs: The order of labs exercises and labs exercise content is fully compliant with lecturing units.

### **Literature/Readings:**

- 1. \*\*\*: How to introduce a quality system, Yupik, Belgrade, 1996 (in Serbian)
- 2. Ţ. Mitrović: Quality and Management, IIPS, Belgrade, 1996 (in Serbian)

- 3. S. D. Lazarević: *Document Management*, scripts, FON, Belgrade, 2012 (in Serbian)
- 4. R. J. Glushko, T. McGrath: *Document Engineering Analyzing And Designing Documents for Business Informatics & Web Services*, The MIT Press, 2005

5. M. M. Radović, S. Z. Karapandţić: *Process Engineering*, FON, Belgrade, 2005 (in Serbian)

	Other classes:			
Lectures: 2	Labs: 2	Workshops: /	Research study: /	/

# Teaching methods:

*Lectures*: Lectures ex cathedra, and with the use of multimedia resources; explanation of the case study; lectures by experts from practice.

Labs: process modeling and documentation; demonstration exercises; application of DMS software.

Pre-exam requirements	Points	Final exam	Points
Project (required)	30	Written exam	20
Tests (optional)	30	Oral exam	20

Degree level: Undergraduate studies

**Course:** 

**Project Appraisal** 

Teacher:Petrović Č. Dejan

Course status: Compulsory

**ECTS points**: 5

Prerequisites: /

## Course objective

• Acquiring the latest knowledge in the field of managing investment process and mastering the basic methodologies, methods and techniques used in the field of investment issues.

## Learning outcomes

Improving abilities of students in terms of applying knowledge concerning the preparation as wellas evaluation of a variety of investment and business projects.

### Course structure and content

### Theoretical instruction:

General notions of investments. The process of the company development. Managing the investment process. Pre-investment studies. Development of the investment program. Cost-benefit analysis. Technical documentation. Capital construction. Investment Financing. Organization of investment department. Content of Pre-feasibility and feasibility studies. Business plan. UNIDO methodology. Evaluation of investment projects by the International Bank for Reconstruction and Development. The application of quantitative methods in solving investment problems.

## Practical instruction:

Static criteria. The unit cost. Repayment of investment - static. Dynamic criteria. Net present value and net present value of the unit. Internal rate of return. Repayment of investment - dynamically. Annuity Criteria. Discounted investment Criteria. Discounted costscriteria. National (social) scores criteria. Methods for evaluation of investment under conditions of uncertainty. Methods of Cost Benefit Analysis. Review of software package Business Plan Pro. The use of a spreadsheet program to calculate the criteria for investment decision making process.

# Literature/Readings

- 1. Jovanović P, Investment Management, FON, Belgrade 2006
- 2. Jovanović P, Investment decision making, Grafoslog, Belgrade 2000
- 3. Jovanović P, Development management company, agency Viktor, Belgrade, 1998

The number	Other classes:			
Lectures:	Labs:	Workshops:	Research study:	
2	2			
Teaching me	ustrative and Dem		Textual, Practical Methods	
	]	Evaluation/Grading (	maximum 100 points)	
Pre-exam re	quirements	Points	Final exam	Points
Participation	in class	20	Written exam	30
Participation	in labs	50		

Degree level: Undergraduate studies

Course:

**Quality control** 

Teacher: Ţivković D. Nedeljko

Status of course: compulsory

**ECTS points**: 5

**Prerequisites:** 

## Course objective

Understanding the basis, principles and levels of quality management process. Overcoming the approaches and methods of quality management in organizational systems.

#### Learning outcomes

A student is capable to implement in practice the principles and approaches of quality management in specific organizational systems.

### **Course structure and content**

Theoretical instruction: P-01: About course (Syllabus, obligations of student, method of study, mode of application of knowledge, the method of assessment). P-02: Quality - concept, role and importance; P-03, P-04: Fundamentals for quality management; P-05: Quality management; P-06: Processes, principles and levels of quality management. P-07: Policies, objectives and quality plans; P-08: Case studies; P-09: Development of quality management; P-10: The processes of defining quality; P-11: The processes of determining quality; P-12: Quality management system; P-13: Models and standards of quality management system; P-14: Integrated Management Systems; P-15: Final considerations

Practical instruction: V-01: Explanation of operating modes, making the project task and relationship with their performance in other courses. Definition content of seminar paper. The division into groups. An explanation of the principles and rules of work in group; V-02: The definition and categorization of outputs of organizational system; V-03: The identification of processes of specialized subsystem in organizational system. The definition and categorization of inputs of organizational system; V-04: Defining the global organizational structure of organization. The choice of type of the organizational system; V-05: The anatomical structure of the organizational system. Identification of support processes for universal subsystems in organization; V-06: Defining the mission, vision, quality policy and quality objectives; V-07: Case studies related to V-02, V-03, V-04, V-05 i V-06; V-08: Identification of users and their needs. Defining the required quality; V-09: Defining the projected quality. Defining an integrated quality; V-10: Defining the actual quality. Defining the earned quality; V-11: QFD method; V-12: Analysis of the impact of the subsystems processes on the quality of product/service; V-13: Analysis of quality management standards and processes of organizational systems on quality; V-14 i V-15: Case studies related to V-10, V-11, V-12 i V-13;

### Literature/Readings

		•	ol", electronic edi dbook", MCGraw	tion, 2013. y-Hill Professional, 2010.	
The number of class hours per week				Other classe	
Lectures: 2	Labs:2	Worksho	ps:	Research study:	
Teaching met					
		Evalu	nation/Grading (	maximum 100 points)	
Pre-exam req	uirements		Points	Final exam	Points
Seminar paper			30	Written exam	40
				Oral exam	30

Degree level: Undergraduate studies

Course:

## **Supply Chain Management 1**

# Teacher: Vasiljević V. Dragan, Stanojević J. Milan

Course status: Elective

ECTS points: 4

Prerequisites: Logistics or some of the courses of management science

**Course objective:** To introduce the students with the role of supply chains in contemporary business, and with the basic methods of demand planning and management in supply chains.

**Learning outcomes:** Basic theoretical and practical knowledge and skills for management of processes and flows in supply chains.

# **Course structure and content**

Theoretical instruction:

T-01: Course introduction.

T-02: Traditional and JIT sourcing.

T-03: Logistics and supply chain integration.

T-04: Definition and basic features of SCM concept.

T-05: Collaboration in supply chains: definition, role and levels.

T-06: Evolution of SCM.

T-07: The bullwhip effect: definition and causes.

T-08: Theoretical foundations of location problems in supply chains.

T-09: Demand and inventory management in supply chain.

T-10: Optimization in supply chain.

T-11: Basics of performance measurement in supply chains.

T-12: Resource planning in supply chains.

T-13: Distribution strategies.

T-14: Control test.

T-15: Presentation of term papers. Practical instruction: P-01: Supply chain manager. P-02: Types of supply chains and their demonstrations. P-03: Methods of transportation management in supply chains. P-04: The Quick Response (QR) concept. P-05: The Efficient Consumer Response (ECR) concept. P-06: Test 1. P-07: Simulation of bullwhip effect in supply network.

# **Literature/Readings:**

- 1. Vasiljevic D., Jovanovic B., Logistics and Supply Chain Management, ISBN 978-86-7680-150-3, FOS, Belgrade, 2008. (in Serbian)
- 2. Chopra, S., Meindl, P., Supply Chain Management: Strategy, Planning, and Operations, Pearson Education, New Jersey, 2004.
- 3. Drezner Z., Hamacher H., Facility Location Applications and Theory, Springer-Verlag, Berlin-Heidelberg, 2002.

The number of	class hours	per week		Other classes
Lectures: 2	Labs: 2	Workshops:	Research study:	

Teaching methods: Ex cathedra teaching, interactive teaching methods (creative workshops and case studies), practical and lab exercises.

# **Evaluation/Grading (maximum 100 points)**

Pre-exam requirements	Points	Final exam	Points
Participation in class	10	Oral exam	30
Participation in labs	15		
Tests	30		
Term paper	15		

Method of knowledge evaluation:

G	Grades	5	6	7	8	9	10
I	Points	[0-55]	[56-65]	[66-75]	[76-85]	[86-95]	[96-100]

Degree level: Undergraduate academic studies

Course:

### **Management of Small and Medium Enterprises**

Teacher: Omerbegović-Bijelović K. Jasmina

Course status: Elective

ECTS points: 6

Prerequisites:

### Course objective:

To introduce students to the concept, significance and functioning of small and medium-sized enterprises (SMEs), as well as to generating a business idea and its assessment (through business plans) and implementation across the ventures, in practice/firms (enterprises of SMEs type). The theory and practice of establishment, governance/management of functioning, and management of development of SMEs are being studied.

## **Course outcome:**

Competence for management (planning, organisation, realization and control) in SMEs - from establishment, across performing and development of SME to its shutdown; it is pointed to the evaluation of values/ potential of entrepreneurial ideas (through business plans).

### **Course structure and content**

#### Theoretical instruction:

Manage one's own career and affinity for Entrepreneurship (E); entrepreneur; women and youth in E. The purpose of E. Entrepreneurial process and E resources. Detection of entrepreneurial opportunities. Entrepreneurial ideas. Business Plan (BP) and assessment of the value of a business idea (and opportunity). Environment and logistics of business venture. SMEs: characteristics, roles, importance, types. Establishment of SMEs: forms of entry into the business; legal basis for companies (corporate entities). Business partners and other stakeholders of SMEs; family business; home company. The functioning of a SME: The entries and exits of SMEs; design and development of products and services; business connections. Management (planning, organization, implementation and control of) SMEs. Management of resources and processes of SMEs. Management of SME development: growth, development and networking of SMEs; The quality and standards in SMEs; IS of SMEs. Consulting of E and management of SMEs; Support for SMEs (technology parks, incubators, business centers, consulting agencies, associations). Research and trends in the development of business ventures and management of SMEs.

### Labs:

Identifying the preferences and needs for E. Defining entrepreneurial idea - EI (and its development). Business Plan (BP) and modelling of business venture. BP: Determination of market potential of EI. Making parts of BP: marketing plan. BP: Choice of technology and location. BP: Determination of the needs for material resources and ways of meeting these needs (part 1). BP: Determination of the needs for (other) resources and ways of meeting these needs (part 2). BP: The needs for human resources; organization of SMEs; management of SMEs. Making the part of BP on economic and financial indicators. BP: Determination of funding sources and contracting elements. BP: Identification and analysis of risks and responses to them. BP: Development of implementation plan of business venture and its inclusion in regular operations. Preparing for BP presentation. Designing the development of entrepreneurial career.

### Literature/Readings

- 1. Moore C.W., Petty W.J., Palich L.E., Longenecker J.G. (2008), Managing Small Business: An Entrepreneurial Emphasis, 14th edition, South-Western Cengage Learning.
- 2. Hodgetts R.M., Kuratko D.F. (2001), Effective Small Business Management (7th ed.), Harcourt College Publishers
- 3. Walters J.S. (2002), Big Vision Small Business, Berrett-Koehler Publishers, Inc., San Francisco

The number of	Other classes:					
Lectures: Labs: Workshops: Research study:						
3	2		·			
Teaching methods						

Tutorial work with teacher; team and/or individual students' work; Introducing practices (SME, entrepreneurs) and work in practice and for it (making BP); Processing of professional and scientific literature and writing papers: professional and scientific (by students' choice).

Evaluation/Grading (maximum 100 points)					
Pre-exam requirements	Points	Final exam	Points		
Participation in class	10	Defence of BP	30		
Practical instructions (BP project)	30	Oral exam	30		

Degree level: Undergraduate studies

Course:

## **Maintenance Management**

# Teacher: Vasiljević V. Dragan

Course status: Elective

ECTS points: 4

Prerequisites: Logistics

**Course objective:** To introduce students with the basic approaches and models of maintenance, methods for planning maintenance, as well as the methods for keeping track of the quality of maintenance.

**Learning outcomes:** Basic theoretical and practical knowledge regarding the management of maintenance processes for the technical and installed technological equipment.

## **Course structure and content**

Theoretical instruction:

T-01: Course introduction.

T-02: Corrective and preventive maintenance.

T-03: Genesis of the maintenance of technical systems.

T-04: Maintenance models of the technical systems.

T-05: Maintenance in a lean environment: TPM.

T-06: Theoretical basics of fault analysis.

T-07: Maintenance quality.

T-08: Inventory managment of spare parts.

T-09: Maintenance information system.

T-10: Basics of CMMS.

T-11: Defining a maintenance strategy.

T-12: Organization of the maintenance process.

T-13: Recommendations of good practice for maintenance.

T-14: Control test.

T-15: Presentation of term papers.

**Practical instruction:** 

P-01: Maintenance parameters of technical systems.

P-02: Life-cycle cost analysis LCC.

P-03: Management simulation of total maintenance costs.

P-04: Reliability allocation methods.

P-05: Design of maintenance plans.

P-06: Fault tree analysis FTA: part 1/2.

P-07: Fault tree analysis FTA: pat 2/2.

P-08: Failure mode, effects and criticality analysis *FMECA*.

## Literature/Readings:

- 1. Vasiljevic D., Jovanovic B., *Logistics and Supply Chain Management*, ISBN 978-86-7680-150-3, FPS, Belgrade, 2008. (in Serbian)
- 2. Handbook of maintenance management and engineering, (edited by Ben-Daya M., Duffuaa S., Raouf A., Knezevic J., Kadi D.), Springer, London, 2009.
- 3. Mishra, R. C., Pathak, K., *Maintenance Engineering and Management*, PHI Learning, New Delhi, India, 2012.

The number of class hours per week				
Lectures: 2	Labs: 2	Workshops:	Research study:	

**Teaching methods:** Ex cathedra teaching along with interactive communication with the students, labs and practical exercises with the use of simulations.

# **Evaluation/Grading (maximum 100 points)**

Pre-exam requirements	Points	Final exam	Points
Participation in class	10	Control test	15
Participation in labs (lab exercises)	15	Oral exam	30
Test	15		
Term paper	15		

Method of knowledge evaluation:

Grades	5	6	7	8	9	10
Points	[0-55]	[56-65]	[66-75]	[76-85]	[86-95]	[96-100]

Teachers: Damnjanovic Vesna

Course:

### **Key Account Management**

Teacher: Damnjanović Ţ. Vesna

Prerequisites: Marketing

**Course objective:** Course objectives are to acquire knowledge and skills necessary for a complete understanding of the field of sales management: formulation of a strategic sales program, implementation of sales programs and evaluation and control of the results achieved sales program.

**Learning outcomes:** Improved knowledge, skills and abilities of students to work in teams to solve problems, through the acquisition of knowledge of sales management

### **Course structure and content:**

Theoretical Part: The Basics of Selling and Sales Management. The term sales. Forms, methods and types of sales. The concept of sales management. Main tasks and responsibilities of a sales manager. Trends in sales management. Consumer behavior in sales. Research conduct the final customer. Behavior of industrial customers. The concept of customer involvement. Planning sales activities. The influence of environment on the formulation of the sale. Strategic planning of marketing and sales. Definition of sales plans. Organizing sales service. Models organizing the sales offices. Training sales staff. Training program. Training methods reseller. Motivation seller. Reward systems and sales quotas. Time management and sales territories. Objectives, criteria and selection phase of sales territories. Method of determining sales territories. Time Management seller. The concept and importance of time management. Management methods vremnom seller. Vremenksog planning work schedules sellers. Manage the movement of the seller. Evaluation of sales teams. Measuring the effect of retail services. Quantitative performance standards. Qualitative standards of performance or sellers. Techniques of evaluating performance sales service. Practical teaching: Exercises, Research: Analysis of case studies

### Literature/Readings:

- 1. Lovreta Dr. Stipe, Janičijević Nebojsa, Dr. Goran Petković, sale and sold about ing, Belgrade, Modern Administration, 2001
- 2. V.Filipović; V.Damnjanović, Sales Management enabled, FON, 2006th
- 3. Charles M. Futrell, Sales Management, The Dryden Press, Philadelphia, 1998
- 4. Dalrymmpple, Cron, DeCarlo Sales Management, Hoboken, Wiley, Eight Edition. 2004
- 5. Jobber, D. and Lancaster, G., Selling and Sales Management, London, Pearson Education 2003.
- 6. Joihnson, Marshall, Relationship Selling and Sales Management, McGraw Hill, 2005th
- 7. Gašović Dr M., Sales Management, Institute of Economic Sciences, 2001

The number of class hours	Lectures: 2	Research study:2	
per week:4			

<b>Teaching methods:</b> monologue method, interviews, demonstration method, case studies, learning to work
together to solve practical problems, self study students and troubleshooting on the basis of the task, consultation
in the preparation of terms of reference and the independent work of students through the learning and
development of the project task

Pre-exam requirements	Points	Final exam	Points
Activity during lecture	20	Oral examination	30
Preparation and presentation of project work	20		
Midterm exam	30		

Degree level: Bachelors study

**Course:** 

### **Project Management**

Teacher: Obradović LJ. Vladimir, Martić M. Milan

Course status: Elective

**ECTS points**: 5

**Prerequisites:** 

## Course objective

The acquisition of scientific theoretical and practical knowledge of Project Management, necessary for successful application and implementation on various projects and programs.

Introduction as well as utilization of modern methods and techniques of Project Management.

### **Learning outcomes**

Improving students' competences of practical application of technical knowledge concerning: time management, cost management, resources management, quality and risk management, as well as communications and contract management in the process of preparation and implementation of projects.

### **Course structure and content**

### Theoretical instruction:

Concept and types of projects. The concept of project management. Organization of project management. Human resource management in the field of project management. Contracting management. Quality management in the field of project. Project risk management. Managing communications in the project. Managing change in the project. Project planning. Monitoring and control of the project. Reporting system concerning the implementation of the project. Standard computer programs for project management. Managing by projects. Project organizations. Program management. Multi-project Management.

## Practical instruction:

Structural diagrams - WBS and OBS. Structural diagrams - RACI matrix. Method of key events. Gantt chart. Priority method. Analysis of the structure of a network diagram. Time analysis method CPM. Time analysis method PERT. Method of resource leveling. Cost Analysis. Actual values method. Method PRINCE 2. Microsoft Project.

## Literature/Readings 1. P Jovanović., Project Management, FON, Belgrade, 2006 2. H Kerzner, "Project Management", VIII edition, John Wiley & Sons, New Jersey 2003 The number of class hours per week Other classes: Lectures: Labs: Workshops: Research study: 2 2 Teaching methods Auditory, illustrative and demonstrative, verbal and textual, practical methods. **Evaluation/Grading (maximum 100 points)** Pre-exam requirements **Points** Final exam **Points** Participation in class <mark>20</mark> Written exam 20 Participation in labs **60**

Degree level: Undergraduate studies

Course:

### **Change Management**

Teacher: Petrović Č. Dejan, Jaško O. Ondrej, Mihić M. Marko, Čudanov J. Mladen, Obradović LJ. Vladimir, Jevtić V. Miloš

Course status: Elective

**ECTS points**: 5

Prerequisites: /

### Course objective

Acquiring the latest knowledge in the field of change management as a specialized management discipline. Exploring and mastering processes, methods and techniques used in change management.

## Learning outcomes

Students' ability to apply the knowledge from change management in the process of managing the organization.

## **Course structure and content**

### Theoretical instruction:

The types of changes. Concepts and models of change management. Planning changes. The introduction of changes. Control of the change introduction and development. Process of change management in the organization. Leadership and Change Management. The concept and definition of organizational changes. Types of organizational change. Levels of organizational change. The concepts of organizational change.

# Practical instruction:

Introduction of program and organizational changes in our companies. Change management and organizational culture. Change management and business development. Change Management and Project Management. Change Management and other management disciplines. Case studies.

# Literature/Readings

- 1. Jovanović, P. (2006). Change Management. Belgrade, Serbia: YUPMA.
- 2. Cotter, J. P. (1998). Keeping changes. Belgrade, Serbia: Ţelnid.

The number	Other classes:			
Lectures:	Labs:	Workshops:	Research study:	
2	2			

# Teaching methods

Auditory, Illustrative and Demonstrative, Verbal and Textual, Practical Methods

Pre-exam requirements	Points	Final exam	Points
Participation in class	20	Written exam	30
Participation in labs	50		

Degree level: undergraduate

Course:

### **Cost Management**

Teacher:Ilić J. Bojan

Course status: compulsory

**ECTS points**: 6

Prerequisites: none

## Course objective

Mastering processes and methods of cost management, managerial decision making criteria on costs and how to activate reserves in costs in order to increase company profits.

### **Learning outcomes**

Competencies related to successful managerial cost management organization.

### **Course structure and content**

### Theoretical instruction:

The process of enterprise cost management. Strategic approach to cost management. Real, planned and standard costs. The process of planning costs. Standardization of direct and indirect costs - a flexible cost plan. Methods for delimitation of step costs. Managerial decision-making based on marginal costs. Selling prices in different market conditions. Calculation of costs and prices. Assessment of costs through the break-even chart - algebraic and diagrammatic break-even point setting. Cost control - preventive and corrective cost control. Identification and activation of reserves in costs. The new concept and practice of managerial activity based costing. Applying the method of simulation in the planning and cost control. Information system support to cost planning and cost control.

## Practical instruction:

Class exercises follow the content and structure of lectures and include: case study analysis, the application of methods for delimitation of step costs, cost calculations, creative workshops.

### Literature/Readings

Ilić B., Milićević V., *Menadžment troškova – strategijski okvir*, Fakultet organizacionih nauka, Beograd, 2009.

Ilić B., Strategije formiranja cena u uslovima diskontinuiteta, Zadutbina Andrejević, Beograd, 2001.

Markovski S., Troškovi u poslovnom odlučivanju, Naučna knjiga, Beograd, 1991.

The number of	Other classes:			
Lectures:	Exercises:	Workshops:	Research study:	
2	2			

# Teaching methods

Lectures with the participation of students in interactive teaching, presentation of practical examples, case studies, creative workshops, exercises to solve specific management problems in the process of cost management, consultations in the preparation of seminar papers.

Pre-exam requirements	Points	Final exam	Points
Participation in class	10	Written exam	
Participation in labs		Oral exam	55
Test	20		
Seminar paper	15		

Degree level: Undergraduate studies

**Course:** 

**Control systems** 

Teacher: Omerbegović-Bijelović K. Jasmina

Course status: Obligatory

**ECTS points:** 7

Prerequisites:

## Course objective

Obtaining fundamentals in: modelling of business processes dynamics as discrete control systems (flows of resources, raw materials, employees, subjects, finished goods and cash); creating mathematical models of discrete control systems and interpretation of mathematical models in spreadsheets as «What-if-Analysis» simulation models; analyzes of different scenarios of material and nonmaterial flows in spreadsheet models, using «What-if-Analysis» methods, in order to control flows and obtain control process as better as possible, using heuristics searching methods of permissible control space. During this course students should learn to design simulation models and to use spreadsheets and MS Solvertools.

# Learning outcomes

Students capable to create spreadsheet simulation models for material and nonmaterial flows to control these flows in the enterprise. Students are capable to use «What-if-analysis» method for analyzing different possible scenarios in numerous business situations. Spreadsheet knowledge enables creation of many decision models.

### **Course structure and content**

### Theoretical instruction:

Control systems-operations management in enterprise, business events forecasting; system dynamics modelling; time-series methods; discrete systems control (DSC); DSC based on minimization or maximization of objective function; identification of elements in models, material and nonmaterial flows modelling; dynamic of accumulation (flow state); cash flow modelling; spreadsheet simulation; computer optimization methods; optimization methods in mathematics; optimization models in spreadsheets;

### Practical instruction:

Development of MS Excel spreadsheet skills and techniques: time series forecasting (tabular and graphic representation of forecasting methods); design of formulas and functions; development of spreadsheet layout for simulation models; model improvements techniques for spreadsheet presentation; simulation procedure for business process control; scenarios; solver; simulation results presentation; case study (minimizing procurement costs of raw materials; minimization of storage space in the production; minimization of production costs; transportation route optimization; transport cost minimization; optimal moment for vehicles replacement; vehicle fleet renewing problem; minimizing costs of the energy system, optimal dynamics of power system enlargement; problem of excessive number of employees; production dynamics optimization; business in the conditions of limited financial resources; business in

the conditions of limited storage space; business in terms of delay on the goods procurement flow; financial aspects of business management; investment funds allocation).

# Literature/Readings

- 1. Kostić K., Izrada i korišćenje poslovnih modela, FON, Beograd, 2012.
- 2. Kostić K., Simulacija biznis situacija, FON, Beograd, 2008.
- 3. Kostić K., Antić S., ĐorĎević L., Upravljački sistemi Praktikum, FON, 2011.

The number of	Other classes:			
Lectures:	Labs:	Workshops:	Research study:	1
2	2			

# **Teaching methods**

Demonstration of lectures and labs on computers are conducted step-by-step with projector and PPT-presentation, while students create their own projects on computers. Case study is performed through design of spreadsheet model of discrete control object in a form of seminar project.

Pre-exam requirements	Points	Final exam	Points
Participation in class and labs	10	Written exam-test	25
Seminar project	15	Oral exam-model accuracy	25
		Oral exam- problem understanding level	15
		Oral exam-model completeness	10

Degree level: Undergraduate studies

**Course:** 

### Managerial accounting

Teacher: Țarkić-Joksimović A. Nevenka, Benković S. SlaĎana, Barjaktarović-Rakočević M. SlaĎana

Course status: Mandatory

**ECTS points**: 6

Prerequisites:

## Course objective

Acquisition of basic knowledge in the field of management accounting, analysis of financial statements and making relevant financial decisions.

### **Learning outcomes**

Ability to analyze financial statements and create managerial accounting reports.

### **Course structure and content**

### Theoretical instruction:

The concept and content of management accounting. Planning, budgeting and control. Standard costs. Marginal costs and "CVP" analysis. Investing and risk analysis. Making business decisions. Liquidity and cash flows. Reports of management accounting. Management Accounting for Strategic Planning.

### Practical instruction:

Exercise, Other forms of teaching, study research work

The preparation of the income statement based on the total and variable costs. The calculation of liquidity, activities, capital structure and profitability ratios. Operating, financial and total leverage. Example of effects of financial leverage. Financial indifference point and breakeven point of of cash receipts and payments. Creating a report on the of total assets, net working capital flows and cash flow statement. Planning the necessary working capital. The optimum size of the order and the optimal production series. Cash turnover, cash cycle and the minimum cash required. Examples ofcustomers' policies.

## Literature

- 1. ŢarkićJoksimović N, Upravljačkoračunovodstvo, Faculty of Organizational Sciences, Belgrade, 2008.
- 2. ȚarkićJoksimović N.and BogojevićArsić V, Upravljačkoračunovodstvo praktikum, Faculty of Organizational Sciences, Belgrade, 2008.
- 3. KaplanR., Atkinson: A.: Advanced Management Accounting, 3<sup>rd</sup> ed., Pearson Education Ltd, 2013.
- 4. Warren C.: Financial & Managerial Accounting, 12th ed., Cengage Learning, 2013.

- 5. Hartgraves A., Morse W.: *Managerial Accounting*, 6<sup>th</sup>ed., Cambridge, 2012.
- 6. Garrison R., Noreen E., Brewer P.: Managerial Accounting, 14th ed., McGraw-Hill/Irwin, 2011.
- 7. Maher M., Stickney C., Weil R.: *Managerial Accounting: An Introduction to Concepts: An Introduction to Concepts, Methods and Uses*, Cengage Learning, 2011.

The number of class hours per week			Other classes:	
Lectures:	Labs:	Workshops:	Research study:	
2	2			

# Teaching methods

Teaching is conducted through lectures, exercises and consultations. Students are actively involved in the learning process through interactive discussions, exercises, homework assignments, case studies and workshops.

Evaluation/Grading (maximum 100 points)			
Pre-exam requirements	Points	Final exam	Points
participation during class	5	written exam (if colloquiums are not passed)	55
colloquiums	55	oral exam	25
seminar works	15		

Degree level: Undergraduate studies

Course:

**Performance Measurement and Evaluation** 

Teacher: Slović D. Dragoslav, Radović M. Milić

Course status: Alternative course on Operational Management program

**ECTS points**: 5

Prerequisites: /

# Course objective

The objective of this cource is to introduce students to work measurement concepts, job evaluation and performance management systems. Students will learn how to create and evaluate solutions for problems of work measurement, job evaluation and performance management systems by using specific engineering and management methods.

# Learning outcomes

Procedural knowledge to apply specific engineering and management methods and techniques for solving problems of work measurement, job evaluation and performance management systems.

### Course structure and content

Theoretical instruction: Explanation of basic terms: job, workplace or position, assignment, procedure, operation, performance, compensation. Job analysis and Design. Standardization of procedure, operation and work method. Parameter identification for performance measurement evaluation. Determination of standard performance by measurement, evaluation, data analysis, expert evaluation. Performance measurement and evaluation system design. Design and update of standard performance catalogue – time and work normative. Performance monitoring and calculation system design. Work performance management. Work and time normative application for planning, calculation and control of production and service processes. Compensation calculation based on achieved performance.

**Practical instruction:** Measuring performance system design based on multi parameter evaluation. Application of empirical normative method and expert time evaluation. Time study. Method Time Measurement (MTM 2, MOST). Work sampling. Determination of time and work normative. Time catalogue design, process flow design and division of labour plan. Wage incentives model design based on achieved performance. Project assignment preparation and assessment.

### Literature/Readings

Petrović B., Proučavanje rada, FON, Beograd, 1996

Hendersen R.I.: Compensation Management in a Knowledge – Based World, Prentice Hall, New jersex, 2003

The number of class hours per week				Other classes:
Lectures:	Labs:	Workshops:	Research study:	
2	2			

# **Teaching methods**

Ex catedra, interview method, demonstrative method, case study, PowerPoint presentations; Practical examples; Individual student research and problem solving based on exercises; Consultation in preparation of project assignment and individual student work through projects;

Pre-exam requirements	Points	Final exam	Points
Participation in class		Written exam	48
Participation in labs	52		

Degree level: Undergraduate studies

Course:

### **Financial Management and Accounting**

Teacher: Țarkić-Joksimović A. Nevenka, Benković S. SlaĎana, Barjaktarović-Rakočević M. SlaĎana, Knetević P. Snetana

Course status: Obligatory

**ECTS points**: 6

# Prerequisites:

### Course objective

Instructing students to basic concepts and methods of financial management such as place of financial function in organization, system of financial management in organization, financial markets, financial planning, financial analysis, investment policy and investment decisions, as well the concept and content of accounting, specifics of double bookkeeping, bookkeeping of costs and expenditures, bookkeeping and inclusion of income, methods for calculating periodic results, distribution of periodic results. The stress will be on basic financial and accounting concepts and categories in order of understanding the financial and accountant manager's role in organization.

### Learning outcomes

Content of this course qualifies students for making financial and accounting decisions, due to of understanding key financial and accounting problems in organization, which is the basis for solving the practical management problems throughout applying of financial and accounting management concepts and methods.

### **Course structure and content**

### Theoretical instruction:

Financial function in enterprise. Financial management system in enterprise. Institutional and business environment. Financial markets. Financial planning. Financial analysis. Investment policy. Risk and investment decisions. Current asset management. Liquid asset management. Short-term financing. Long-term financing. Financing policy. Dividend policy.

### Practical instruction:

Term and scope of financial accounting. Bookkeeping records. Assets, equity and liabilities bookkeeping. Costs and expenses bookkeeping. Revenues bookkeeping. Pre-closing entries and closingentries.

# Literature/Readings

- 1. Țarkić Joksimović Nevenka, SlaĎana Benković, Miloš Milosavljević: *Finansijski menadžment*, Fakultet organizacionih nauka , Beograd, 2013.
- 2. Țarkić Joksimović Nevenka, Bogojević Arsić Vesna: *Računovodstvo*, Fakultet organizacionih nauka, Beograd, 2013.
- 3. Țarkić Joksimović Nevenka, Bogojević Arsić Vesna, Benković SlaĎana, Šikanjić Branko, *Zbirka zadataka iz računovodstva*, Fakultet organizacionih nauka, Beograd, 2010.
- 4. Brigham E: Financial Management: Theory & Practice, Cengage Learning, 2013.

- 5. Brigham E, Houston J: Fundamentals of Financial Management, Cengage Learning, 2009.
- 6. Titman S, Martin J, Keown A: *Financial Management: Principles and Applications*, 11<sup>th</sup> ed., Prentice Hall, 2010.

The number of class hours per week			Other classes:	
Lectures: 2	Labs: 2	Workshops:	Research study:	

# **Teaching methods**

Teaching is conducted through lectures, exercises and consultations. Students are actively involved in the learning process through interactive discussions, exercises, homework, case studies and workshops.

Evaluation/Grading (maximum 100 points)			
Pre-exam requirements	Points	Final exam	Points
		Written exam	80
		Oral exam	20

Type and level of studies: Undergraduate

## Course:

### Financial restructuring

# Teacher: Bogojević-Arsić T. Vesna, Đuričin Dragan

Module status: Optional

ESPB: 4

Pre-requisites: Financial Management

## Aims

To provide an understanding of financial restructuring process

### Learning outcome

The module seeks to develop the ability to understand and apply financial restructuring strategies to business problems and phenomena.

### Content

#### Lectures

Corporate restructuring – nature, goals, and antecedent. Types of corporate restructuring. Financial restructuring. Key participants in financial restructuring process. Key financial restructuring strategies (leverage buyout, management buyout, leverage recapitalization, employee stock ownership plan, and stock repurchases).

Practical teaching techniques: Exercises, Other forms of delivery, Research work

Cases of successful and unsuccessful financial restructurings. Leverage and management buyout – case studies. Leverage recapitalization – case studies. Employee stock ownership plan – case studies. Stock repurchases – case studies.

### Literature

Bogojevic Arsic, V., Korporativne finansije (chapter 7), Fakultet organizacionh nauka, Beograd, 2005.

Enrique R. Arzac, Valuation: Mergers, Buyotus and Restructuring, Wiley&Sons., 2nd Edition, 2007.

Delivery (Teaching techniques)				Other classes
Lectures:	Exercises:	Other forms of delivery:	Research work:	
2	2			

## Methods of delivery

The module is delivered through lectures, exercises, and consultations. Students are actively involved in teaching

process through interactive discussions, exercises, coursework, case studies, and workshops.						
Assessment (maximum number of points 100)						
Pre-exam commitments Points Final exam Points						
Seminar/s 50 Oral examination 50						

Degree level: Undergraduate studies

Course:

# Flexible Services and Manufacturing

Teacher:Ilić R. Oliver

Course status: Elective

ECTS points: 4

Prerequisites: Computer Integrated Manufacturing

**Course objective:** Gaining knowledge and experience to manage a flexible service and manufacturing (S/M) systems.

**Learning outcomes:** Acquired knowledge, abilities and skills in the design, analysis and control of flexible S/M systems using quantitative analysis and software tools.

#### **Course structure and content**

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Sheoretical instruction:	Practical instruction.

P-01: Operations management in industries.

P-02: Production planning and control. V-01: S/M systems.

P-03: Monitoring and control of manufacturing systems. V-02: Case study 1.

P-04: Operations management in service organizations. V-03: Classic and new divisions of S/M.

P-05: Operations strategy and development. V-04: Flexible S/M - goals, definition.

P-06: Design of S/M facilities. V-05: Case study 2.

P-07: Performance evaluation and productivity analysis

of S/M systems.

V-07: Flexible S/M - Japanese model.

V-06: Flexible S/M process.

P-08: Supply chain management. V-08: Case study 3.

P-09: Logistics, transportation and warehousing.

V-09: Optimization of flexible S/M.

P-10: Intermodal transportation and traffic systems.

V-10: Simulation of flexible S/M.

P-11: Computer-based planning systems.

V-11: Case study 4.

P-12: Health care systems.

V-12: Flexibility and automation.

P-13: Modelling and simulation in S/M industries.

V-13: Flexible factories and robots.

P-14: Manufacturing-based service and service-

embedded manufacturing.

V-14: Case study 5.

P-15: Decision r procedures for S	-	business dev	elopment V	7-15: Reviews and surveys.	
Literature/Rea	dings				
1. Ilić, Oliver, 2. Chase, R. B ed., McGrav 3. Maleki, R. A Englewood 4. Tolio, T. (E	Fleksibilne, F. R. Jaco w-Hill, New A., Flexible Cliffs, New d.), Design	bbs and N. J. York, 2007 Manufacture Jersey, 1992 of Flexible F	Aquilano, <i>Operation</i>	ograd, predavanja u e-formi. ons Management for Competitive Acceptation of the competitive of	ee Hall, er, Berlin, 2009.
The number of	class hours	per week			Other classes:
Lectures: 2	Labs: 2	Workshop	es:	Research study:	
Teaching metho	ods: Lecture	es, creative v	vorkshops, and labo	pratory experiments.	
		Evalua	ation/Grading (ma	ximum 100 points)	
Pre-exam requi	irements		Points	Final exam	Points
Participation in	class		11-20	Written exam	16-30
Participation in	labs		16-30	Oral exam	16-30
Project/Case Stu	ıdy		11-20		

Degree level: Undergraduate studies

Course:

French for specific purposes 1

Teacher: Cakeljić R. Vesna

Course status: elective

**ECTS points**: 2

Prerequisites: B1 level of French language competencies (CECRL).

# Course objective

Internalizing the basics of Business French as well as the vocabulary related to the fields of Management and Organization, Information systems and Technologies. Developing language competencies and communication skills in French. Consolidation of major elements of grammar (uses of the subjunctive, the present participle and its uses, direct and indirect object pronouns, etc.). This course will focus on understanding French social and economic issues to enable students to engage with native speakers in the business context.

# Learning outcomes

Students are given input to enable them to engage in basic types of communicative situations in French within the domain of their respective future professions (the corporate world) as well as for creating functional tools necessary for employment (CV and motivation letter). Students have gained insight into the common business practices of French companies and internalized the specific business vocabulary. They are able to participate in basic professional conversations on topics related to employment, marketing, management, advertising, description of companies, products or services relevant to their specific career, as well as travelling for business. They have also consolidated and expanded grammatical and syntactical competence. By the end of the module, students should be able to perform at Level B2 of the Common European Framework.

#### Course structure and content

#### Theoretical instruction:

Semester 1: Acteurs économiques. T-01: Types de travailleurs. T-02: Une journée de travail. T-03: Types et rôles de l'entreprise. T-04: Fiche d'identité d'une entreprise. T-05: Services bancaires. T-06: Lettre commerciale. T-07: Droits du consommateur. T-08: Types de revenus. T-09: Rôle de l'Etat. Créateurs d'entreprises. T-10: Profil du créateur. T-11: Recherche de capitaux. T-12: Lieu d'implantation; écrire efficacement. T-13: Choix de société. T-14: Formalités de création d'une entreprise; T-15: Contenu d'un e-mail. Semester 2: Ressources humaines. T-1: Contrat de travail. T-2: Profil de manager; Offre d'emploi. T-3: CV, Lettre de motivation. T-4: Entretien d'embauche. T-5: Méthodes d'organisation du travail. T-6: Réunion de travail. T-7: Compte rendu. T-8: Droits de salariés. Marketing. T-09: Étude du marché. T-10: Questionnaire d'enquête. T-11: Définition du produit, prix, marque, conditionnement. T-12: Méthodes et formes de distribution, de vente. T-13: Moyens de communication. T-14: Rôle du vendeur. T-15: Techniques de vente.

#### Practical instruction:

Semester 1: P-01: Interrogation directe. P-02: Diverses manières de poser une question. P-3: Article indéfini des, préposition de. P-4: Jeu de rôles. P-05: Pronoms compléments le, la lui, pronoms relatifs simples. P-6: Mise en page d'une lettre d'affaires. P-07: Pronoms relatifs simples, mots de liaison. P-8: Réclamation. P-09: Forme passive. Bilan de compétences. P-10: Passé composé/imparfait. P-11: Articles définis, indéfinis, partitifs. P-12: Indicateurs de temps; courriel. P-13: Pronoms y et en; jeu de rôles. P-14: Orthographes de certains verbes au présent. P-15: Rédaction d'un e-mail. Bilan de compétences.

Semester 2: P-1: Pronoms relatifs composés. P-2: Hypothèse; e-mail. P-3: CV et lettre de motivation. P-4:

Simulateur d'entretiens d'embauche en D3. P-5: Futur simple; futur antérieur; discussion. P-6: Pronoms et adjectifs indéfinis. P-7 Jeu de rôles. P-8: Subjonctif. *Bilan de compétences*. P-09: Place des pronoms compléménts; impératif. P-10: Réaliser un questionnaire d'enquête. P-11: Comparaison; rédiger un rapport; e-mail. P-12: Prépositions et adverbes de lieu; rédiger un compte rendu. P-13: Discours rapporté (au présent). P-14: Infinitif, complément du verbe. P-15: Jeu de rôle. *Bilan de compétences*.

# Literature/Readings

- Jean-Luc Penfornis: Affaires.com, Paris, CLE International, 2012.
- Vesna Cakeljić: Lexique des affaires, Ključne reči menadžmenta i informatike, Beograd, FON, 2013.
- Vesna Cakeljić: *Management.com*, Prosveta, Beograd, 2008.

The number of	Other classes:			
Lectures:	Labs:	Workshops:	Research study:	
1	1			

# **Teaching methods**

Interactive and communicative approach, encouraging students to participate in group discussions and exercises; case studies and presentations; the use of audio/video/web material.

Evaluation/Grading (maximum 100 points)				
Pre-exam requirements	Points	Final exam	Points	
Participation in class	10	Written exam	40	
Participation in labs	10	Oral exam	20	
Colloquium	20			

Degree level: Undergraduate studies

Course:

French for specific purposes 2

Teacher: Cakeljić R. Vesna

Course status: elective

**ECTS points**: 2

Prerequisites: completion of the course and final exam in French for specific purposes 1

#### Course objective

The further consolidation and extension of existing language skills (acquired during the course in French for specific purposes 1) as well as specific vocabulary used in leading business in a French/Francophone context. Further reinforcement of students' knowledge about the world of French companies and new technologies. Providing insight into the French culture and business ethics with the aim of developing students' intercultural communicative competence.

# Learning outcomes

Students are given input to enable them to participate in interactive communication within the French business environment, in situations ranging from informal conversation to formal interviews, negotiations or presentations, especially for professional correspondence (mails, letters, reports, etc.). By the end of the module, students will have: consolidated and expand grammatical and syntactical competence (hypotheses, passive form, etc.), developed competence in a broad range of complex language tasks across a wide variety of business contexts, and acquired the specific terminology used in the business world. They should be able to perform at Level C1 of the Common European Framework.

#### Course structure and content

#### Theoretical instruction:

Semester 1: Correspondance professionnelle. T-01: Prise de contact, partenaires de l'entreprise. T-02: Voyage d'affaire. T-03: Commande en ligne. T-04: Service clientèle: livraison. T-05: Réclamations. T-06: Règlement de facture. T-7: Mécanisemes d'assurance. T-8: Déclaration de sinistre. Résultats et tendances. T-9: Secteur d'activité. T-10: Rapport sur l'évolution des ventes. T-11: Analyser les résultats de l'entreprise. T-12: Bilan d'entreprise; rôle de la comptabilité. T-13: Comptes de la nation: données chiffrées d'une ville, d'un pays. T-14: Commerce extérieur. T-15: Libre échange et protectionisme. Semester 2: T1 – T15 : Gros plan sur : acteurs économiques, créateurs d'entreprises, ressources humaines, marketing, etc. Aktuelne teme iz sveta poslovanja i novih tehnologija obraĎuju se uz pomoć video zapisa i intervjua: génération numérique, emploi des jeunes, télétravail, commerce en ligne, technologies numériques mobiles, etc.

#### Practical instruction:

Semester 1: P-01: Différents façons de demander. P-02: correspondance par e-mails. P-03: Exprimer la condition. P-04: Exprimer la cause. P-05: Jeu de rôles. P-06: Exprimer la conséquence; écrire une lettre. P-7: Exprimer le but. P-8: Bilan de compétences. P-9: Discours rapporté (au passé). P-10: concordance des temps. P-11: Adverbes de quantité; concession. P-12: Exprimer la concession. P-13: Exprimer l'opposition. P-14: Indicatif ou subjonctif. P-15: Bilan de compétences. Semester 2: P1 – P15: Entraînement: Diplôme de Français professionnel B2/C1 (CCIP) et DELF Pro B2. Compréhension écrite et connaissance du monde des affaires; compréhension orale et expressionécrite.

# Literature/Readings

- Jean-Luc Penfornis: Affaires.com, Paris, CLE International, 2012.
- Vesna Cakeljić: Lexique des affaires, Ključne reči menadžmenta i informatike, Beograd, FON, 2013.
- Vesna Cakeljić: Management.com, Prosveta, Beograd, 2008.

The number of	Other classes:			
Lectures:	Labs:	Workshops:	Research study:	
1	1			

# **Teaching methods**

Interactive and communicative approach, encouraging students to participate in group discussions and exercises; case studies, *jeu de rôles*; the use of audio/video/web material.

# **Evaluation/Grading (maximum 100 points)**

Pre-exam requirements	Points	Final exam	Points
Participation in class	10	Written exam	40
Participation in labs	10	Oral exam	20
Colloquium	20		

Degree level: Undergraduate studies

Course:

French for specific purposes 3

Teacher: Cakeljić R. Vesna

Course status: elective

**ECTS points**: 4

Prerequisites: completion of courses and final exams in French for specific purposes 1 and 2

#### Course objective

The main objective of French for academic purposes (Français sur objectifs universitaires) as a new university module, is to facilitate the linguistic integration and the academic success of foreign students in French higher education, whether in France or abroad, in the context of mobility in French-speaking countries, and reinforcement of the general knowledge pertaining to the French culture, the university system and student life in France. The goal of this course is to build on students' academic

# Learning outcomes

At the completion of the course, students will have developed the essential language skills necessary for integration into French communities of higher education (universities and Grandes écoles in France). They will be able to: identify the linguistic specificities inherent to French academic discourses, use academic listening strategies, speak with fluency using basic and complex sentence structures, make oral presentations, acquire and use new academic vocabulary in the field of their future professions. They are able to understand lectures given in French, to take notes, write reports, term papers and other academic papers. The students are familiarized with the structure of the French university system as well as the lives of students studying in France.

#### **Course structure and content**

#### Theoretical instruction:

T-01: Rechercher un emploi. T-02: Poser sa candidature. T-03: Se présenter pour un entretien. T-04: Travailler: s'informer sur le travail. T-05: Réussir sa carrière. T-06: Aménager le temps de travail. T-07: Découvrir l'entreprise. T-08: L'organisation de l'entreprise: présenter / analyser. T-09: Différentes formes juridiques des entreprises. T-10: Création d'entreprise: se mettre à son compte; implanter une entreprise. T-11: Diriger: être patron, chef; prendre des décisions. T-12: Organiser: un voyage d'affaire, un lieu de travail. T-13: Produire; espionner et contrefaire; informatiser et robotiser. T-14: Courir / couvrir des risques; connaître environnement / partenaires. T-15: Commerce extérieur / libre échange et protectionisme.

#### Practical instruction:

P-01: Organigramme; consulter des petites annonces; téléphoner. P-02: Rédiger un CV et une lettre de motivation. P-03: Simulation d'entretien de recrutement. P-04: Expression de la comparaison; remplir une questionnaire. P-05: Emploi des participes; participe présent. Bilan de compétences P-06: Expression du temps. P-07: Expression de l'opposition; bilan de compétences. P-08: Présenter sa faculté / une entreprise serbe. P-09: Emploi du subjonctif. P-10: Exprimer l'hypothèse. P-11: Étude de cas. P-12: Expression du lieu. P-13: Lexique de l'informatique. P-14: Bilan de compétences. P-15: Indicatif ou subjonctif. Bilan de compétences.

## Literature/Readings

- Jean-Luc Penfornis: Vocabulaire progressif des affaires, Paris, CLE International, 2004.
- Vesna Cakeljić: Lexique des affaires, Ključne reči menadžmenta i informatike, Beograd, FON, 2013.
- Vesna Cakeljić: *Management.com*, Prosveta, Beograd, 2008.

The number	Other classes:			
Lectures:	Labs:	Workshops:	Research study:	
1	1			

# **Teaching methods**

Interactive and communicative approach, encouraging students to participate in group discussions and exercises; case studies and presentations; the use of audio/video/web material.

Evaluation/Grading (maximum 100 points)				
Pre-exam requirements	Points	Final exam	Points	
Participation in class	10	Written exam	40	
Participation in labs	10	Oral exam	20	
Colloquium	20			

Degree level: Undergraduate

**Course:** 

#### Heuristic methods

Teacher: Mladenović M. Nenad, Čangalović M. Mirjana, Stanojević J. Milan

Course status: Elective

**ECTS points**: 6

Prerequisites: Operational research 1

# Course objective

The objective is to enable students to understand basic concepts and methods of operations research (linear, nonlinear and integer programming). The stress will be on modelling as one of basic methods of management science.

# Learning outcomes

Content of this course qualifies students for mathematical modelling of business and organizational systems and solving the practical management problems applying quantitative methods using modern software tools.

# Course structure and content

## Theoretical instruction:

Elements of computational complexity. The classes P and NP. Basic principles of heuristic approach for solving problems. The term heuristics. Examples of special heuristics. Basic principles of general heuristic methodology. The term environment. The principle of local search. Avoiding the pitfalls of local extremes. The general scheme of general heuristic methods. Simulated annealing. Tabu search. Variable Neighbourhood. Genetic algorithms. Some applications of general heuristics. Backpack problem. The traveling salesman problem. The problem of graphs coloring. The problem of continuous global optimization.

#### Practical instruction:

The use of existing software packages for heuristic problem solving combinatorial and continuous optimization.

#### Literature/Readings

- 1. Cvetković D., Čangalović M., Dugošija Đ., Kovačević-Vujčić V., Simić S., Vuleta J., Kombinatorna optimizacija, Matematička teorija i algoritmi, DOPIS, Beograd, 1996. (In serbian)
- 2. Gendreau M., Jean-Yves P. (Ed.), Handbook of Heuristics, Springer, 2010.
- 3. Günther Z., Roland B., Michael B., Metaheuristic Search Concepts, Springer, 2010.

The number of class hours per week				Other classes:				
Lectures: 2	Lectures: 2 Labs:2 Workshops: Research study:							
Teaching met	Teaching methods							
Mentoring and								
	I	Evaluation/Grading (	maximum 100 points)					
Pre-exam req	uirements	Points	Final exam	Points				
Participation i	n class	15	Written exam	25				
Participation i	n labs	35	Oral exam	25				

Study progran	n / study programs:	Information syste	ems and technologies	
Degree level: U	Indergraduate			
Course:				
Internship				
Teacher: All te	eachers on the subjec	t		
Course status:	Required			
ECTS points: 2	2			
Prerequisites:				
Course objecti	ve			
			sional work in identifying and sol and / or in research laboratories an	
Learning outco	omes			
			eepening and enriching acquired the issues and tasks that arise in the i	
Course structu	re and content			
of the basic pro realization of th foreseen empiri principles of a example the cor of the profession obligations of the form and conter	blem through the ela the project of professi- ical research; The b successful presentantents of a written do and practice for each the organization (if that of the final report.	aboration of key the onal practice - sel asic elements of tion and various ocument, oral, elect the student - the go the project is realize	d task of the research; Determinanteses; Basic methods, techniques ection of methods appropriate to the presentation of the results of forms and characteristics of instronic presentation; Defining the bals and tasks, the obligations of ed in a specific organization), the second control of the second control	and instruments for the project task and f the research - the dividual forms, for specific project task the student and the manner of work, the
The number of	class hours per wee	ek		Other classes:-
Lectures:	Labs:	Workshops:	Research study:20	

# Teaching methods

Application of different methods of research, consultations (individual and group). Application of different teaching methods with practical work.

# Evaluation/Grading (maximum 100 points) Pre-exam requirements Points Final exam Points seminary work 50 written exam 50

Study program / study programs: Information systems and technologies
Degree level: Undergraduate
Course:
Final Paper
<b>Teacher:</b> All teachers on the subject
Course status: Required
ECTS points: 7
Prerequisites:

## Course objective

The goal of designing and defending the final work is that the student shows the ability to independently effectively and efficiently solve the set of a more complex problem within the selected study program of the first cycle of academic education

# Learning outcomes

By elaborating and defending the final work, students who have completed their studies acquired the competences envisaged in the study program, i.e. the student has the necessary academic theoretical and practical knowledge and skills in the selected field, knows in the academic environment a widely accepted methodology for solving complex problems and is able to apply them independently and creatively in solving the problems that will arise in practice. The student is trained for further training while working in the profession by following appropriate professional literature, to cooperate with the team in solving complex problems, both locally and globally.

# **Course structure and content**

In general, the content studied in the final work depends on the selected study area and basically represents the integration of the knowledge and skills listed in the subjects that cover the selected study area. The first part of the Introduction describes the needs in the field of research interest, the most important results so far to meet these needs, the description of a specific problem and why it is worth exploring, the goals that are sought to be achieved by solving the problem. The second part of the Introduction contains a shorter review of the proposed approach to the solution of a specific problem, and the third contains a further description of the structure of the final work. The second chapter contains an overview of the situation in the field of special interest research.

The third chapter presents the part of the world that is the subject of study and finds a distorted problem in that world. The fourth chapter contains a methodology for solving the problem. Chapter 5 illustrates the solution to the problem, ie the results of the research and the discussion of specific issues. A special chapter contains the Conclusion, ie the summary on solving the problem, the main results that have occurred during the research and their discussion. Finally, Literature is the complete list of sources that are cited in the paper

The number of class hours per week				Other classes:-
Lectures:	Labs:	Workshops:	Research study:20	

# Teaching methods

Upon acceptance of the application of the final work, the candidate with the supervision of the mentor approaches the creation of the same. Preparation of the final work should be carried out in accordance with the plan of realization agreed with the mentor. The candidate in the laboratory and / or on the field independently works on the practical aspects of the problem being solved. In consultation with the mentor, he / she checks the work plan, as needed, in terms of the elements it contains, the dynamics of the realization or additional sources.

Evaluation/Grading (maximum 100 points)					
Pre-exam requirements	Points	Final exam	Points		
access work	50	Final paper	50		