ABSTRACTS

of Assoc. Prof. PhD Marina Petrova Mladenova

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B3. HABILITATION WORK – MONOGRAPHY (1)

B3-1. Mladenova, M. (2019). *Influence of information and communication technologies on the workplaces. Part 2: The work of tomorrow (in Bulgarian).* Sofia, Intel Entrance, ISBN: 978-954-2910-95-4, p. 258.
Reviewers: Prof. PhD Boyanka Dimitrova Zhelyazova, Assoc. Prof. PhD Galin Iliev Milchev

ABSTRACT

The labor market is constantly changing and changes are coming faster and faster. Today it is very different from 10 years ago only. The professions that existed then may not be sought or may not even exist today.

The only sure thing is that the labor market will change even more rapidly as technology advances, and in particular information and communication technologies (ICTs), increase. Some jobs that will be in high demand for future generations do not even exist today. Digital technologies are becoming a leading thread across all workplaces in all areas of work. This is the challenge and at the same time the opportunity of our time.

By 2030, 800 million jobs will disappear due to automation, according to a study by the McKinsey Global Institute, cited by BBC. However, there will be new jobs that are mostly related to knowledge creation and innovation. This raises many questions such as: *Which ICTs have the greatest impact on the labor market? What are the jobs of the future? What skills are needed for new jobs? Will technology replace people? Is technology good or bad?*

The search for the answer to these questions provokes me to do this research. Its highlights are:

- Today's digital landscape is presented and analyzed;
- The ITs that have the strongest impact on transforming the labor market are identified and discussed - *Big Data, Robotics, Information Security, Virtualization, Mobile Technologies, Programming, Cloud Computing, Cognitive Computing, Artificial Intelligence AI.* Each technology is considered in the following structure*: Definitions and characteristics; Technologies used; Advantages of its use in business; Areas of application; Professions and Conclusion.*
- The responsibilities, obligations and requirements for new jobs arising from the technological revolution have been synthesized;
- The necessary skills for new jobs are outlined;
- The most promising jobs in the future and what is the right education for them are highlighted;
- The current state of the labor market related to the new jobs emerged as a result of the rapid development of ICT, in Bulgaria, in the EU and globally have been analysed.

In conclusion: *There is complex feedback between new technologies, jobs and skills.* New technologies can stimulate business growth, job creation and the search for specialized skills, but can also shift entire careers when certain tasks become outdated or automated. Skills gaps, both among employees and in the leadership of organizations, can accelerate the trend toward automation in some cases, but can also create barriers to the adoption of new technologies and therefore impede business growth.

Digital technologies are fundamentally transforming organizations, with the pace of technological change increasing the challenges. Organizations must have a consistent strategy that includes a plan for re-training workers. While previous technological revolutions (especially the industrial revolution) have evolved over a relatively long period of time, the speed of digital

transformation is such that organizations need to be very dynamic and flexible if they do not want to fall behind.

There is an urgent need for a comprehensive development strategy, an approach whereby organizations seek to leverage the automation of some work tasks to complement and enhance the strengths of their employees and enable them to reach their full potential. Instead of focusing solely on automation-based cost savings, the development strategy should take into account the broader aspects of value creation activities that people can perform, often in addition to technology when they are released from the need to perform routine, repetitive tasks and be able to make better use of their talents and human abilities. Let's not forget to see the forest, not just the tree.

However, in order to achieve this positive scenario, workers will need to have the appropriate skills to enable them to be confident in their workplace in the future, as well as the ability to continue learning and retraining throughout their lives. Thus, establishing a lifelong learning system, investing in human capital and working with other stakeholders on a workforce development strategy should be a key business imperative, crucial to the medium and long-term growth of companies, and important contribution to society, social development and stability.

Politicians, regulators and educators also have a key role to play in implementing this positive scenario by making improvements in education and training systems, as well as updating labor law and developing labor market policies that are in line with the realities of the Fourth industrial revolution.

The digital revolution has created new professions (such as search engine optimization and social media account managers), new types of organizations (cloud providers and social media agencies) and even new sectors of the economy (digital security and data science). *Today, however, the question of whether new technologies are creating or destroying jobs* is increasingly debated. The truth is, we actually know quite a bit about what exactly is going to happen. *What will be the economic impact of ICT development in the future? How will people interact with machines and algorithms? What skills will be needed and how to learn them? How will all this affect the labor markets?*

In this context, the analysis made in this paper suggests that the digital transformation associated with the development of ICT has the potential to create a significant number of jobs. But it is clear that there will be winners as well as losers, while the net impact on jobs in some industries may be positive, many sectors will suffer job losses.

We live in a time where we are trying to unite physical, digital and biological systems and do the impossible. In my opinion, technology is not here to replace us, but to help us and enable us to do more. So technology is not really bad, though some may argue that we are losing connection and there is a lot of negative social impact. *Technology is what we do with it, it all depends on how we use the technology, but with that comes the huge responsibility of each of us*. The world is becoming more digital, everything is changing. According to some future projections for humans, the natural concept will change, our bodies will be so high-tech that it will be difficult to distinguish between what is real and what is not, and so we must accept and be aware of this change

Does this mean we will be super humans? Time will tell…

G5. A MONOGRAPHY PUBLISHED NOT SUBMITTED AS A MAIN HABILITATION WORK (1)

G5-1. Mladenova, M. (2019). *Influence of information and communication technologies on workplaces. Part 1: development of the digital competence concept. European framework relating to digital competence (in Bulgarian).* Sofia, Intel Entrance, ISBN: 978-954-2910-94-7, p. 218

Reviewer: Prof. PhD Boyanka Dimitrova Zhelyazova

ABSTRACT

Today, organizations have the opportunity to use new technologies and automation to increase economic value through new activities, improve the quality of jobs in traditional and emerging professions. They need to enhance the skills of their employees so that they can reach their full potential to accomplish new high value-added jobs, some of which have never been done by humans before.

Active labour market policies, lifelong learning and more responsible education systems are more critical than ever in the digital economy. Today, there is an urgent need to pay attention to the impact of new technologies on the labour markets and to introduce modernized education policies aimed at rapidly increasing the skills levels of people of all ages, especially in science, technology, engineering and non-cognitive skills that allow people to use their unique human abilities.

In order to be able to meet all the challenges associated with the demand for higher and new skills both in the labour market and in everyday life, it is important to know the related terms and concepts before proceeding to consider the impact of ICT on jobs.

The development and nature of the concept of digital competence and related concepts are examined: Information literacy; Computer literacy; Digital skills; Digital divide; 21st Century literacy; Electronic Skills (E-Skills); Digital literacy; Digital competence.

The development of the European frameworks related to digital competence is presented: European Digital Competence Framework (DigComp) - Digital competences 1.0, Digital competences 2.0, Digital competences 2.1, a comparative analysis of changes is made; Electronic Competence Framework (e-CF) version 3.0; Europass; Entrepreneurship Competence Framework (EntreComp); European Digital Competence Framework for Educational Organizations (DigCompOrg); Initiatives in the field of education and training; Competence Framework for Digital Consumer Technology (DigCompConsumers); Digital Competence Development System (DCDS) and regulations and frameworks initiatives in 2019.

The place of Bulgaria in the context of the development of digital competences, economy and market vis-à-vis other countries in the EU and worldwide is presented and analysed.

The concept of "digital competitiveness" has become a key concept for countries, their politicians, businesses and indeed for their citizens, for whom digital platforms are the "ticket" for inclusion in the global market. Competitiveness in a country's digital economy is a function of two factors: its current state of digitalization and the pace of digitalization over time.

In recent years, we have witnessed the unprecedented development of ICT worldwide and the great transformation that society has. Young people are at the forefront of today's digital economy - 70% of the world's young people are online. One of the reasons for the upward trend is to make ICT access and use more affordable, with a global decline in mobile service prices. However, in order for people to use ICT effectively, there is an increased need for soft skills beyond technical skills, which are essential for achieving positive results.

As technology evolves, there is also an element of increasing end-user transparency about the reliability of what's happening behind the scenes, how increasing digital players use information, and whether confidentiality, security and accuracy are maintained, as consumer dependence on digital technology increases.

As ICTs will continue to be a key driver for economic and social development, global efforts are needed to overcome the digital divide and promote an inclusive digital economy. More and better digital skills policies are needed to reduce the division of the labor market and fears of increasing social inequalities.

All of the above outlines several key themes:

- the level of digital competence of each person;
- the role of digital systems in redefining competitive advantage;
- the role of consumer confidence in digital systems.

In conclusion: **Shortages and discrepancies in digital skills lead to the digital divide between people and the labor market and have a negative impact on growth, competitiveness, innovation, employment and social cohesion.**

G6. PUBLISHED BOOK ON THE BASIS OF DISSERTATION WORK FOR PhD (1)

G6-1. **Mladenova, M.** (2019). *Economic evaluation of the results of the use of information technologies in the management and organization of production in furniture enterprises (in Bulgarian).* Sofia, Intel Entrance, ISBN: 978-954-2910-79-4, p. 254
Reviewers: Prof. DSc Moyno Valkov Moynov, Prof. PhD Boyanka Dimitrova Zhelyazova

ABSTRACT

Enterprises today are strongly dependant on information technologies. Their capabilities for optimization of the management continuously expand and provide its improvement, stability and continuity in time.

There is an increasing dependence between the business strategy, rules and procedures, from one side, and information technologies, used within the enterprise from other side. Though the significance of the information technologies is well realized, the mechanisms for evaluation of their influence and effect from usage are not completely developed.

The purpose of the present research work is Creation of methodology and model for research of enterprises for hull furniture and system of indices for economical evaluation of the results from usage of informational technologies in the management and organization of production. Main research subject is implementation of the informational technologies in the management and organization of production.

Information technologies are being reviewed not as a separate field of knowledge but as interdisciplinary knowledge and by means of systematic approach is explained, that for providing financial resources from IT implementation, an active approach from the owner is required along with continuous monitoring, evaluation and management of the assets. The thesis for necessity of economical evaluation of the results from using the IT in the management and organization of the production is being defended.

As a result of analysis and reasoning, the following output is available:

- A method is proposed, for evaluation of the production structure in the hull furniture enterprises, through defining a technological level and estimation of the production automation stage.

- A map is developed, for the required IT in the hull furniture enterprises, through structuring of their inner and outer space, based on complex evaluation of the requirements.
- Author methodology and model are developed for research of the hull furniture enterprises along with algorithm for implementation.
- A system of indices is developed for economical evaluation of the results from usage of informational technologies in the management and organization of production in the hull furniture enterprises, through combining the methods of balanced system of indices and economically added value, and inclusion of integral criteria, considering the influence of the implemented improvement.
- Based on performed empirical researches, the strong influence of the modern IT in different aspects of management of companies for hull furniture is well proven.

G7. ARTICLES AND REPORTS PUBLISHED IN SCIENTIFIC EDITIONS, REFERENCES AND INDEXED IN WORLD-RESEARCH DATABASES (2)

G7-1. Diana Kirkova, **Marina Mladenova**. (2015). *Development of "Alumni Network" as a mechanism for monitoring and analysis of indicators Group 5. Prestige and Group 6. Implementation and relation to the labor market by University Ranking system, developed and maintained by the Ministry of Education.* Proc. of the Second Intl. Conf. on Advances in Management, Economics and Social Science -MES 2015, Copyright © Institute of Research Engineers and Doctors, USA. ISBN: 978-1-63248-046-0 doi: 10.15224/ 978-1-63248-046-0-50; pp. 16-21

ABSTRACT

The implementation of mechanisms of the university ranking system developed and maintained by The Ministry of Education and Science creates real prerequisites for assessing the efforts of higher education institutions in terms of their educational and scientific product.

In the University ranking system developed by Ministry of Education and Science all possible rankings are divided by professional fields.

This article introduces the use of the „Alumni Network“ system at the University of Forestry. as a mechanism for monitoring and analysis of indicators of the Group 5. Prestige and Group 6. Professional and career realization from University ranking system developed and maintained by Ministry of Education. All results achieved during the analysis conducted will allow to take timely action to improve sustainability and the values of these indicators and thus increase the rating of the University of Forestry. Although the differences obtained in the comparative analysis between estimates in the Ranking System and the results of the studies, the analyzes are adequate to the actual situation and based on them may be proposed measures and initiatives ensuring sustainability and improving the performance of the University of Forestry.

Measures for ensuring sustainability activities or improving results:

- •Enhance training in the field of information technology, languages, economic studies and entrepreneurship;
- Increasing the quality of the received theoretical knowledge;
- Increasing the quality of the received practical knowledge and skills in UF;
- Regular reporting of the indicators of University Ranking System;
- Determining the cost of activities; evaluation of their efficiency; measurable and achieved level of compliance with the criteria in Ranking System for universities in Bulgaria;

- Attracting foreign students;
- Attracting Bulgarian students;
- Providing mobility for students and professors;
- Modernization of the training courses and accreditation of distance learning;
- Establish the University of Forestry as a center for lifelong learning.

All this would increase the value of the organization by improving the quality of the educational product offered.

G7-2. M. Mladenova, Kirkova D. (2014). *Role of Student Interaction Interface in Web-Based Distance Learning,* ACHI 2014: The Seventh International Conference on Advances in Computer-Human Interactions, Barcelona, Spain, Dates: from March 23, 2014 to March 27, 2014, pp. 307-312, Copyright: IARIA, 2014, ISSN: 2308-4138, ISBN: 978-1-61208-325-4

ABSTRACT

This article presents a subject to debate the question of the role of learner-interface interaction in distance education. This role is considered in the aspect of possibilities of distance learning in the three main areas of human perception: cognitive, psychophysical and emotional. The results are of the first phase of a study conducted by the authors on the impact of learner-interface interaction in web-based training on the result achieved, including training courses in ICT students at the University of Forestry - Sofia.

The results allow the following conclusions:

- Students in degree "Master" encountered significantly less difficulty in learner-interface interaction, regardless of the type of learning resources. This allowed them to concentrate on learning of content and to achieve the final result with less time working in the system;
- Both target groups haven't encountered serious difficulties in customizing their system accounts, the system in general, the access to the learning content type - file, URL, video, receiving news and updated information for the scores;
- Significant differences for the difficulties encountered when working with assessment tools and interaction with other users;
- The reason for the difficulties encountered and the two target groups mainly indicate the platform interface, only then insufficient skills to work with ICT;
- Both target groups assess the impact of the use of the platform on the end result of the training and the knowledge obtained as a very strong and highly.

In conclusion

In deciding on which technology to use for the realization of distance web-based training, must be given to the ease of use of this technology, i.e., whether users will be able to deal with it.

Time of use of the platform for web-based education is not proportional to the achieved learning outcomes.

The lack of difficulty in learner-interface interaction plays an important role in improving personal achievements in teaching individual learners. Achieved learning outcomes in this case affected only by the personal characteristics of the learner.

When properly structured and built, web-based learning content interaction learner-interface strongly influences the outcome of the training and quality of education.

G8. ARTICLES AND REPORTS PUBLISHED IN NON-REFERENCED SCIENTIFIC LITERATURE OR PUBLISHED IN EDITORIAL COLLECTIVE VOLUMES (17)

G8-1. *Zhelyazova* B., **M. Mladenova.** (2011). *VIRTUAL ENVIRONMENT FOR TRAINING AND DEVELOPMENT OF RESEARCH INVESTIGATIONS (in Bulgarian).* Proceedings of the International Scientific Conference "Application of Information Technologies in Economics and Education", UNWE pp. 400-407, ISBN: 978-954-92247-3-3

ABSTRACT

This report represents results from the work of the newly created laboratory for new information technologies for development of information and technological structure of the university as a complete virtual environment for training and research in priority interdisciplinary areas: sustainable use and development of biological resources in forestry, use of GIS technologies and modern methods for protection, remote monitoring and reproduction of the environment.

G8-2. Kirkova D., M**. Mladenova** (2012). *System capabilities of "Alumni network" in University of Forestry for monitoring and evaluation of the indicators of Groups 5 and 6 of University Ranking System.* „Management and Sustainable Development", 2/2012 (33), pp. 123-125. ISSN: 1311-4506

ABSTRACT

This article presents the system "Alumni Network" of the University of Forestry, the technologies used for its implementation, the modules implemented in it and the used functions. It gives a view of the possibility for development as a mechanism for monitoring and analysis of indicators of the Group 5. Prestige and Group 6. Professional and career realization from University ranking system developed and maintained by Ministry of Education, Youth and Science.

The system "Alumni Network" has the potential to be developed to become a tool for regular feedback from current and former students of the University, allowing monitoring of indicators of Group 6 and Group 5 of University ranking system, developed and maintained by MEYS.

This can be achieved through:

- adding fields for additional information including indicators of both groups;
- development of corresponding modules for extraction and statistical processing of this data;
- developing and carrying out regular surveys of registered members.

The obtained results of this analysis will help taking timely measures for improvement and sustainability of the values of these indicators and this way increase the rating of University of Forestry.

G8-3. V. Brezin, B Zhelyazova, R. Milchev, **M. Mladenova**, E. Tsvetkova (2013). *An innovative approach in education.* „Innovation in Woodworking Industry and Engineering Design", 1/2013(3), vol. II, pp. 5-9. ISSN 1314-6149

ABSTRACT

Strengthening the links between education systems, in order to develop the potential of young people is at the core of European cooperation process. Leading institutions are there to introduce and provide better teaching and learning through use of new information and communication technologies (ICT). One of the priority areas of the Strategic framework for education and training („ET 2020") is

to promote and develop creativity and innovation through new instruments, which use modern ICT and by training teachers to use ICT.

Information and communication technologies provide a variety of methods and tools that open up new opportunities in distance learning students from the University of Forestry. They allow supporting the educational process by organizing it in a way, that takes into account the individual needs of students and allow building up of important digital competencies needed to achieve "knowledge-based" economy.

G8-4. **Mladenova M**., B. Brezin. (2013). *Increasing the work productivity by creating work programmes for CNC woodworking centre using macros*. Innovation in Woodworking Industry and Engineering Design, 1/2013(3), vol. II, pp. 79-85. ISSN 1314-6149

ABSTRACT

In this article, we present the results of research done by three different approaches of creating work programs for universal woodworking machine center with computer control (CNC woodworking centre) witch effect the efficiency of operation - operations through the introduction of software CNC, import from CAD software created using macros.

The analysis of the results proves that the programming and the use of macros greatly increases the efficiency of work in creating work programs for CNC woodworking centre. This fact logically leads to higher productivity and competitive advantage.

Based on the study and analysis of the results obtained can be made the following conclusions:

- The approach used to create the work programs has had a strong impact on efficiency, productivity and satisfaction of employees;
- The achievement of high levels of automation of production and quality of manufactured production gives the possibility of obtaining highly competitive advantage;
- The use of the full functionality of the software management of CNC woodworking centre will lead to a more rapid return on your small investment not;
- The promotion of approaches for the use of macros in establishing the work programs is a prerequisite for the creation and dissemination of good practices for working with CNC woodworking centre in the woodworking and furniture industry.

G8-5. **Mladenova M**., B. Brezin. (2013). *Challenges to implementation of ICT in education of generation "Social networking" (in Bulgarian).* „Management and Sustainable Development“ 4/2013 (41), pp. 108-112. ISSN: 1311-4506

ABSTRACT

Web 2.0 Information and Communication Technologies (ICTs) applicable to training are presented in the aspect of a new learning culture, which is a culture of learning, teaching and mentoring among peers, through social software, to promote social interaction and to support flexible learning. .

The purpose of this development is to outline the opportunities, benefits and problems of implementing Web 2.0 ICT, as well as the necessary prerequisites for integrating them into learning.

It must be remembered that the integration of ICT into training cannot happen in a day, but also the fact that any investment in "outdated" technology can be virtually a waste. This leads to the dilemma – on the one hand, the application of ICT for training is a long-term project, on the other

hand, the ICT sector is very dynamic and does not allow for a long process of review and decision-making.

The application of ICT in training requires a comprehensive and carefully planned approach, supported by up-to-date information that takes into account factors such as pedagogy, quality of training, accessibility, existing infrastructure and resources, staff capacity, course content development, and more.

For a successful use of ICT, it is first and foremost important for the organization to have a vision with clear goals and strategies based on an understanding of the strengths and weaknesses and key competencies of the training organization.

G8-6. Mladenova, M. and D. Kirkova. (2013). *Reporting of the indicators for implementation and relation to the labor market of the University ranking system at the University of Forestry.* „Management and Sustainable Development“, Vol 39/2(2013), pp. 53-57, ISSN: 1311-4506

ABSTRACT

The article presents a web-based questionnaire for reporting of the indicators for implementation and relation to the labor market of the University ranking system in the University of Forestry, developed by the authors. Subject of the discussion is the question of the ability the system “Alumni Network” to be developed as a mechanism for regular feedback from former and current students of the University, allowing monitoring, retrieval and statistical analysis of these indicators.

The high percentage of those who participated allows us to make a conclusion that the system "Alumni Network" can be developed as a mechanism for regular feedback from former students of the University. The system will allow us to make monitoring, retrieving and statistical analysis of multiple indicators of the quality of education to achieve sustainable levels of these indicators and develop effective strategies for improving them.

The incorporation of the current students of the University can enlarge the scope of the study. In this case direct feedback during the process of training would allow taking timely appropriate measures to address its weaknesses. This will meet the expectations and requirements of learners for a quality and applicable training in line with the requirements of the labor market.

This would certainly help to enhance the reputation of University of Forestry as an educational institution meeting the current requirements of the knowledge economy.

G8-7. Mladenova, M. (2013). *Analysis of ICT skills in Bulgaria in the aspect of the adopted new priorities for the digital economy (in Bulgarian).* „Management and Sustainable Development“ 4/2013 (41), c. 102-107. ISSN: 1311-4506

ABSTRACT

Information and communication technologies (ICT) are highly significant factor productivity and growth in the EU. Undoubtedly fact is they transforming the economy and society. Monitoring and analysis of the use of ICT are necessary for an informed understanding of the consequences of these transformations.

On 18.12.2012, the European Commission (EC) has adopted seven new priorities for the digital economy and society. Priority 3 is: Launch Grand Coalition on Digital Skills and Jobs. A coalition is needed to take practical steps to avoid one million ICT jobs going unfilled by 2015 because of lack of skilled personnel.

In the present paper analyses the results of a major survey conducted in 2012 in the digital economy, indicating that ICT skills Bulgaria ranks last or next to last in the EU countries. There are possible approaches and measures to improve these results.

On the basis of the conducted research and analysis of the obtained results, the following conclusions can be drawn:

1. In ICT skills, our country is far behind in the EU.
2. The educational qualification of individuals in Bulgaria is low.
3. Lifelong learning is not a recognized need.
4. Adult education and training in Bulgaria is not yet a widespread and popular form of skill acquisition.
5. The quality of ICT skills training in formal education institutions is not at the required level required by today's information society and a globalized knowledge-based economy.

Unless timely and effective measures are taken to reduce the number of school leavers, improve the quality of education and promote adult learning in Bulgaria, the negative trends will continue. In the foreseeable future, the quality, productivity and competitiveness of the workforce in Bulgaria will be significantly lower than in other EU countries. This is very likely to lead to an overall deterioration of the economic situation in the country.

G8-8. B. Zhelyazova, **M. Mladenova** (2013). *Analysis of virtual environment form for innovations in research and teaching at the University of Forestry.* International Symposium : Socio-economic Analyses of Sustainable Forest Management, Prague, 15-17 May 2013, ISBN: 978-80-213-2377-3, pp. 151-155

ABSTRACT

Within the University of Forestry was established a laboratory for new information technology. The laboratory will be used to support the development of information and technological structure of the University as a complete virtual environment for research and training in priority interdisciplinary areas.

The task is to analyse the possibilities of virtual reality (VR technology) and simulation modelling to support the training and research in the field of biological resources, product modelling, interior space, exterior environment, monitoring and reproduction of the environment in order to develop a comprehensive system for interdisciplinary research and education, including virtual and remote experimental elements, interconnections between courses, seminars and testing systems.

Forestry is an area where the accuracy of scientific predictions and performance management strategy are essential for success. It increases the need of tools that can model future forest resources and visualize the dynamics of forest ecosystems and processes over time. This explains the increased attention to VR in decision-making processes, concerning forestry.

G8-9. Mladenova, M. (2013). *Balanced scorecard for economizing and assessment of the effectiveness of the activities inherent in the University of Forestry*. Sofia. Skoupý, Alois, ed. Forest and Wood technology and the Environment: Proceedings of the 4th international scientific conference FORTECHENVI. Brno: Mendel University in Brno, 2013. pp. 270-277. ISBN 978-80-02-02467-5

ABSTRACT

The present paper presents the proposal for BSC economizing and assessment of the effectiveness of the activities inherent at the University of Forestry – Sofia.

The development of a BSC allows strategic factors for the success of the University to be presented in different dimensions by means of indicators, including determining the interdependence between them. It allows the integration of the entire process of management at the University, including the continuous analysis of the actual and target performance indicators on the basis of different parameters for the evaluation, development and implementation of the concept of modernization and restructuring of the Organization on the basis of internationally accepted principles. Included are indicators of achievements in several main categories:

- Teaching / Learning;
- Services / Realization;
- Scholarships / Researches;
- Satisfaction in the workplace;
- Financial indicators.

These indicators complement the traditional key performance indicators (percentage of successfully defended doctoral and graduate students, graduates and the ratio of staff/students, etc.).

The approach creates favorable prerequisites for improvement of management of the University, and improving the quality of University activities and products in accordance with the criteria in the Ranking system for higher education in Bulgarian, guiding the long-term development of the organization in the interests of all its groups of influence, providing feedback and balance between current financial results and objectives of the strategic development.

Development of a balanced scorecard allows the strategic success factors for universities to be represented in different dimensions through indicators, including the determined correlations between them. It allows the integration of the whole process of management in UF, including continuous analysis of actual and target parameters on the basis of various parameters for the assessment, development and implementation of a concept for the modernization and restructuring of the organization based on the following principles:

- Change management is guided by the management by encouraging the participation of all categories of employees in the process of formulating initiatives to change.
- The strategy is presented in the operational parameters.
- The organization is transformed in accordance with the strategy - it is a link between all departments of the organization.
- The strategy is seen as the responsibility of each employee in the organization.
- The strategic process turns into constant, the results of the development and implementation of the strategy are monitored in real time.

Thus favorable conditions to better management of future activities of UF will be created. At the same time, it will guide long-term development of the organization in the interests of all its groups of influence by providing feedback and balance between the current financial performance and strategic development purposes.

Using the Balanced Scorecard into management will help building a system of quality management in UF and implementing and maintaining ISO management systems.

G8-10. Mladenova, M. (2013). *Introducing distance learning training course for management software universal woodworking machines center with computer control at University of Forestry – Sofia.* Skoupý, Alois, ed. Forest and Wood technology and the Environment: Proceedings of the 4th international scientific conference FORTECHENVI. Brno: Mendel University in Brno, 2013. pp. 114-117. ISBN 978-80-02-02467-5

ABSTRACT

This report examines the possibility of introducing remote training for software management universal woodworking machines center with computer control (CNC) at the University of Forestry – Sofia. Provide didactic training in aspects of three fundamental questions: Why should I learn? What to teach? How to study?

In the woodworking and furniture industry in Bulgaria CNC no longer a luxury but a necessity for firms in highly competitive globalized market and global economic crisis. Their high grade of automation allows obtaining a strong competitive advantage in the use of software, and mathematical optimization capabilities of software management. The introduction of remote training for their management software would allow for obtaining greater knowledge and the specialized knowledge and skills according to the specifics of a particular proceeding. This course will put into practice adopted in 2010 by the European Council strategy „Europe 2020“, which focuses on active and effective use of the capabilities of modern information and communication technologies for the realization of the idea of widely available, tailored to individual needs lifelong quality education, which all are given equal opportunities to acquire the knowledge and skills necessary for successful social and employment.

From all said here permits the following conclusions to be made:

- At the University of Forestry – Sofia there are the necessary prerequisites for the introduction of a distance course of study for the software for management of the CNC Woodworking Centre;
- Through the introduction of such a course, the necessities of the production branch for furniture production in Bulgaria will be answered from educated, highly qualified specialists for work with modern wood-processing machines;
- Such a course will increase the quality of the offered by the University of Forestry educational product and will respond to the modern tendency of a practically applicable education synchronized with the requirements of the business environment and the labour market;
- This course will apply in practice the accepted by the European council „Europe 2020” for active and effective usage of the possibilities of the modern information and communication technologies for the realization of the idea for widely – accessible, adapted to individual needs, continuing all life quality education, with which to give equal opportunities to all for the acquisition of the knowledge and skills, necessary for the full social and labour realization.

G8-11. Krasimir Savchev, **Mladenova, M.** (2014). *Application of information technologies in interior design (in Bulgarian).* Journal: Woodworking and Furniture Manufacturing 1/2014, pp. 48-56, ISSN: 1311-4972

ABSTRACT

In last few years, the application of information technologies in almost all scientific and professional areas was increased significantly. Their use increases working skills of every specialist. Thanks to information technologies the accuracy of presentation of interior is higher, the drawing and manufacturing process are accelerated and minimize of error in the final version, compared with manual drawing and sketching.

The report is presented and analyzed information technologies, used in each one of the stages of the design of interior and made of constructive and technological documentation for manufacturing the products.

In conclusion:

1. Information technology today could be involved and describe the process of interior design and production and realization of the final version of interior space.

2. The use of a combination of different software products in the various stages of interior design depends on the needs, goals and capabilities of the designer who designs it, unless otherwise stated.

3. The workflow for interior design could be accelerated through the acquisition and use of information technology, the improvement of working skills in information technology, the use of combined CAD/CAM systems, allowing the integration of major activities in the design of interior design.

4. The greatest acceleration of the processes in the use of information technologies is due to the possibilities for quick editing of the already created materials, in comparison with the paper media.

5. The disadvantage of information technology is that all professional products require a relatively large financial resource.

6. In the near future, information technology will allow the work to be done entirely in the virtual space.

The process of interior design is complex, which requires a clear separation of its stages. Each interior assignment depends on many subjective factors, which necessitates the creation and operation of an individual, action-oriented plan. The participation of information technologies in interior design can facilitate its creation and implementation, allowing detailed planning of the process, detailed drawing and presentation of conceptual options, shorten the time of production, increase the accuracy of the elements produced.

G8-12. **Mladenova, M.**, Brezin, B. (2014). *Influence of modern e-learning system on motivation to make young people learning for a lifelong activity*. Innovation in Woodworking Industry and Engineering Design. 1/2014, ISSN 1314-6149

ABSTRACT

The traditional forms of education used to answer the needs of the young people at a time when it was possible with a relative certainty to foresee the knowledge and skills from which they are going to need in the years of their mature life. Today it is not like this. The young people cannot expect already to spend their whole life in one and the same sphere of activity and even at one and the same place; their professional way is about to change in a way could not be foreseen, and they need a broad

circle of common skills, which will let them adapt. In a more complex and globalized world the creative skills, the ability to think in a multifunctional way, the skills in different fields, and their adaptability as a tendency are valued more than the specialized knowledge.

To answer these needs, it is necessary as part of the syllabuses on the disciplines, apart from the knowledge, which should be taught, to be given the results (the skills and the habits which are expected to be developed from the educated at different stages of their education).

In the present research a theoretical framework for electronic education is introduced and the issue for discussion is: Could the modern systems for electronic education provide the young people with skills and motivation for the turning of education into a whole life activity?

In conclusion we will give answer to the question *"Could modern technologies for electronic education provide the young people with skills and motivation for the turning of education into a lifelong activity?"*-YES, but on a definite condition if the interactions are well-structured and used:

- Student-contents
- Student-lecturer
- Student-student
- Student-interface

Most important according to us is the interaction student-lecturer.

Several issues arise which are interesting for further research: If the lecturers have the necessary qualification and skills, to change the syllabuses and methods of study, in order to respond to the specificity of the electronic education? Are the students really interested in interaction with other students, enrolled in the same course? What personal skills have the students who have passed a course in electronic education developed? What is their assessment for the application of these skills in their future development as specialists?

The research of these issues will allow an improvement of the quality of electronic education and turn it into a factor motivating the young people to turn education into a lifelong activity.

G8-13. Milchev G., Zhelyazova, B., **Mladenova, M.** (2014). *Approach for evaluation of developed programs and training modules in the pilot implementation of the e-distance training platform at UF. (in Bulgarian).* Jubilee Scientific Conference "125 Years of Mathematics and Natural Sciences at Sofia University "St. Kliment Ohridski", Sofia, December 5-7, 2014, pp. 55-57, ISSN 1313-9045

ABSTRACT

The process of active use of information and communication technologies in the creation, management and provision of online access to learning resources and activities is largely driven by several major factors, including: the development of electronic systems (platforms) training, and in particular their capacity to manage and provide educational content and access; the development of the regulatory framework in the Republic of Bulgaria governing the use of distance and electronic methods of training and their connection with traditional forms of training; the accumulation of useful practical experience and know-how by university professors and staff in the administration and use of information systems to manage and provide access to online learning resources and activities.

Г8-14. Kirkova D., **M. Mladenova**, K. Kolev. (2015). *Improving the quality of university activities and products according to the criteria of the university ranking system – result of conducted interview with stakeholders (in Bulgarian).* Management and Sustainable Development“ 5/2015 (54), pp. 65-80, ISSN: 1311-4506

ABSTRACT

Presented and analysed are the results of a survey among the four main groups of users of the educational product of the University of Forestry – current students, respectively degree "Bachelor" and "Master"; alumni and employers in UF.

In this study, the generic questionnaires were developed at accordance with the indicators in group 5 and 6 of the University Ranking system in Bulgaria, 2012 (second edition). The indicators included in Group 5. Prestige are: average grade of the diploma of secondary education; prestige among students, first choice and foreign students. They how at what level the high school has a good reputation among students and what is the demand of education offered by its. The indicators included in Group 6. Implementation and connection with the labor market: Social Security income of graduates; unemployment among graduates; application of a higher education qualification; I gained confidence that I will succeed in life; created important friendships and contacts; contribution to the social security system; regional significance. They characterize the ability of graduates to establish successful integrate into the labor market. To a large extent indicators of the two groups represent a realistic assessment by consumers of the quality of education of the University and its adoption as an educational and research institution in society.

Questionnaires for students are divided into four groups: "Bachelor", I grade; Degree "Bachelor" final year; Degree "Master" I grade ", Master" last year. This detail of the study is aimed at three things: first, to assess the expectations of freshmen who have not yet accumulated enough personal experience and impressions of the advantages and disadvantages of the University; second, to uncover the weaknesses of the University, with students last course who have met during their training; third, based on the previous two to take action to improve the university policy relating to management systems.

Based on differentiated four main groups of users of the product of the University of Forestry are made four SWOT analysis. The first relates to the degree "Bachelor" the second degree "Master", the third is for alumni and fourth is for employers in the labor market. For alumni of the University of Forestry are prepared another 6 SWOT analysis - each department separately, which explores the dynamics of indicators for the period 1965 to 2013. All SWOT analysis are developed based on the results of 6 questionnaires for the above stakeholders. They filled out questionnaires on their own will, online on the site of the University of Forestry - Sofia.

G8-15. Zhelyazova B., **M. Mladenova**. (2016). *Technological solution for support and realization of e-learning at the University of Forestry (in Bulgarian).* 6th National Conference on E-Learning in Higher Schools - Kiten, 2016, pp. 158-165. ISBN: 978-954-07-4114-7

ABSTRACT

An analysis is made for assessment of students and teachers in the University of Forestry from the work with e-learning platform Blackboard Learn and its influence on the results.

The conducted research generates unexpected positive results, some of the more important ones being: Systematization and improvement of the work of the departments involved in the

educational process at the University, incl. department, faculties, Distance Learning Center and others.

Through the use of one of the leading European and global electronic platforms, UF will provide learners with knowledge and skills that can help improve the quality of the university's educational process and, subsequently, its competitiveness.

G8-16. Mladenova M., B. Zhelyazova. (2016). U-*Learning - Training of Qualified Specialists in the Field of Life Sciences* International Conference on e-Learning'16 Proceedings, editor/s: Daniela Chuda, Leon Rothkranz, Angel Smrikarov, Tzvetomir Vassilev, Stoyanka Smrikarova, Yuksel Aliev, pp. 120-128, ISSN (print):2367-6698, ISSN (online):2367-6787

ABSTRACT

In the report are presented the generations of e-Learning and their applicability. Examined are the main problems of the educational market in Bulgaria, approaches and solutions in the University of Forestry, in order to implement smart education and intelligent learning environments.

In smart education and intelligent learning environments, students can study flexibly and work together and thus will encourage the development of personal and collective intelligence. Moreover, it can provide better personalized assistance in training and achieve better results. All this will lead to flexible and efficient training in dynamically changing environment and requirements of the labor market.

To summarize paradigms for training:

- E-Learning - Learning in the right time.
- M-Learning - Learning in the right place and time.
- U-Learning - Learning the correct thing at the right place and time in the right way.

We think in this summary is hiding the answer to the question why U-Learning is the choice for training qualified specialists for profession that is still unknown and this is the future development of the educational environment.

G8-17. Mladenova, M. (2017). *Evaluation of the influence of using of the Blackboard learn e-platform on the quality of educational process in the University of Forestry (in Bulgarian).* ”Management and Sustainable Development” 4/2017(65), pp. 72-78, ISSN: 1311-4506

ABSTRACT

The aim of paper is to evaluate results and influence of using of the Blackboard e-learning platform on the quality of teaching process in University of Forestry. The current situation of using of Blackboard is analysed. The dynamics of students’ results is analysed and it is evaluated the influence of using of Blackboard on the quality of teaching process in University of Forestry.

It can be summarized that the use of the Blackboard Learn online platform at the University of Forestry is becoming more and more widespread among teachers and students. The results of the questionnaire prove that it has a strong influence on the quality of the educational process in the UF in a positive direction.

G9. REVIEWED STUDIES WITH ISBN (2)

G9-1. **Mladenova, M.** (2011). *Cloud Computing: essence, advantages, disadvantages and risks, situation and outlook (in Bulgarian).* Sofia, Intel Entrance, ISBN: 978-954-2910-07-7, p. 92,

Reviewers: Prof. DSc Valentin Kisimov, Assoc. Prof. DSc Rumen Varbanov

ABSTRACT

The idea for this release was born after my purely practical encounter with the problems associated with the use of cloud computing in the preparation and implementation of a database export project in a hybrid cloud, incorporating a community cloud.

Driven by the enthusiasm generated by my belief in new technologies, I thought this project could be realized in a short period of time. But what it turned out to be – I was confronted with a lack of knowledge of cloud computing, a great deal of mistrust and conservatism in thinking. The problem was serious because they were part of the investors. The principle helped me to overcome them: Introduce the investor to the new technologies, point out their advantages, but do not save the disadvantages and the risks.

This edition is the result of this first battle. It is targeted at end users who are not interested in the technical and technological implementation of cloud computing. It is not intended to exhaust the issues related to this information technology, but rather to orient users in the services and categories of cloud computing offered, to familiarize them with their characteristics, current status and prospects, opportunities, risks, advantages and disadvantages of their use.

The benefits and risks of cloud computing are viewed from the perspective of the modern management paradigm for the trinity of economic, social and environmental aspects (which is, to some extent, a new higher level of the concept of balancing different indicators).

As a summary:

1. Cloud computing can be seen as a potential fifth utility.
2. The potential of cloud computing is enormous. They can change the perception of IT, which until their appearance was perceived as an asset, to the perception of it as a service. In practice, they are changing their approach to IT from locally based to on-demand services and hence their perception of outsourcing.
3. A pressing challenge for cloud providers is to evolve their offerings such as outsourcing, system integration, development and integrate the best of traditional information technology and cloud computing.
4. There is still a great deal of work to be done to familiarize a wider audience with the capabilities and benefits of cloud computing. Although cloud computing is increasingly accepted, not all users are convinced that it is right for them.
5. The development of cloud computing reliability and security systems is a key moment for adoption by a wider audience.
6. The shift to cloud computing, though indirect, is highly dependent on economic development in a country.
7. Despite the many problems and obstacles to using cloud computing in Bulgaria, they are the inevitable future. Infrastructure is important (there is nothing wrong with investing in highway construction), but information infrastructure and the use of modern IT are just as important, and in my opinion more important, because they could bring much greater economic benefits. The sooner the government realizes this and becomes a state policy to support the development and use of modern IT (such as cloud computing), the greater our

country's chance of alienating itself from the current productivity gaps of labour and economic development.

Getting to know all the stakeholders with cloud computing, however, is just the first step. The bottom line is the detailed development of a cloud computing project that is highly specific to each organization, although common formulations can also be found. It has to be very well reasoned on the basis of analysis, technological, technical and financial side.

G9-2. Kirkova D., **Mladenova, M.** (2019). *Using the Alumni network of the University of Forestry as a mechanism for monitoring and evaluation of groups indicators of Rating system for universities (in Bulgarian).* Sofia, Intel Entrance, ISBN: 978-954-2910-92-3, p. 420,

Reviewers: Prof. DSc Moyno Valkov Moynov, Prof. PhD Rumyana Nikolaeva Neykova

ABSTRACT

Today the higher education system in Bulgaria is facing a double challenge: on the one hand, to accelerate and complete the ongoing process of structural reforms, overcome the gap with the leading European countries; on the other hand - to successfully implement the process of strategic transformation of higher education: from complementary service area into a factor for gaining advantage in European and global race for knowledge, material prosperity and spiritual progress. In this aspect - Ranking system clearly outlines the processes in higher education. Largely reflects the actuality of demand in the labor market for qualified specialists in certain professional fields. Increasingly important becomes evaluation of employers about the quality of professionals coming out of the universities. Directly affected by the quality of the education service are students, employers and universities.

The presence of alumni network in a university adds value to the conditions for learning and professional development of students, diversity and actuality of the programs, research activities, incubation of business ideas. Efficiency in the management of alumni clubs is key to improving the quality of education and economic competitiveness in the long term of the country.

The purpose of the research is analysis and approbation of the possibility of using the system "Alumni Network" of the University of Forestry for monitoring and assessment of Groups indicators of Ranking system for universities. The object of the study is analysis and coverage of Ranking systems for evaluation of universities in Bulgaria and abroad and Alumni systems and their importance for improving the quality of educational product in universities.

As a result of the analyzes and considerations are present following results:

- Conducted a comprehensive analysis and in-depth study of the scientific concepts and theoretical views of assessing the quality of educational and scientific product created by universities, trends in world rating systems and alumni organizations of universities.
- In University of Forestry have been developed tools and procedures to build a system for monitoring of indicators from the ranking system of universities, developed and maintained by the Minis-try of Education, through survey of interested parties in the system "Alumni Network".
- After a thorough comparative analysis of the ranking systems and Alumni networks worldwide are drawn strengths and weaknesses of the respective systems.
- Summarized are the possibilities to improve the ranking system used in Bulgaria through change, dropping and adding new indicators in Group 6.

- It is made methodological tool and it is made independently research by survey, for monitoring, maintenance and sustainable development indicators from ranking system for higher education institutions in Bulgaria by using the system Alumni of the University of Forestry.
- The applicability of the developed tools is demonstrated by his approbation and comparative analysis taking into account the results of the of Ranking system and received in the survey conducted by the university.
- Justified is that the system "Alumni Network" in University of Forestry can be used as a mechanism for monitoring and analysis of indicators from ranking system of universities, developed and maintained by the Ministry of Education and the results of the experimental study are a reliable tool to take timely actions for improvement and sustainability of the values of these indicators and thus increase the ranking of the University of Forestry.
- Approbation of the survey on the project BG051PO001-3.1.08-0033: "Improvement of the management systems at the University of Forestry" Operational Programme "Human Resources Development 2007-2013" and use the results to improve the management system of UF and proposing measures and initiatives ensuring sustainability and improving the performance of UF.
- Thus, the results obtained in the research are used in the accreditation of the Faculty Business Management in University of Forestry.

E20. UNIVERSITY TEXTBOOK OR TEXTBOOK USED ON THE SCHOOL NETWORK (3)

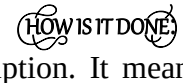
E20-1. Mladenova, M. (2012). *Information technology Part I. Work with MS Office 2010 (Word, Excel, PowerPoint) (in Bulgarian)*. Sofia, Intel Entrance, p. 493, ISBN: 978-954-2910-18-3. *Reviewer: Prof. PhD Boyanka Dimitrova Zhelyazova*

ABSTRACT

This edition is consistent with the syllabus in the course "Information Technology - Part I" for undergraduate students, first year students, majoring in "Wood Technology" and Engineering Design "at the University of Forestry - Sofia.

It is designed to support training in working with programs in the MS OFFICE 2010. The edition is hands-on and can be useful to anyone who wants to work effectively with Word, Excel and PowerPoint, making the most of their functionality.

The purpose of the publication is not only to familiarize you with the capabilities of the programs, but most of all how they are actually used.



In the edition, after the presentation of each functionality, you will encounter this inscription. It means following a practical example describing the steps to use it, as well as an illustration of the end result.

It is structured in 14 topics covering the main practical tasks of working with MS Office 2010.

TOPIC 1: Overview and Work with MS Office 2010

TEXT PROCESSING WITH MS WORD 2010

TOPIC 2: Word 2010. Overview Setting Page Parameters. Font and paragraph formatting.

TOPIC 3: Formatting and Filling, Arranged Lists and Tabs. Formatting styles. Sections and specific elements. Structuring a document.

TOPIC 4: Tables.
TOPIC 5: Inserted Objects, Content Controls, Templates, Document Review and Security (Template).
TOPIC 6: Additional Options.

MS EXCEL 2010 TABLES
TOPIC 7: An Overview of Excel 2010. Working with Spreadsheets.
TOPIC 8: Formatting and Protecting Tabular Documents.
TOPIC 9: Editing, Verifying, and Organizing Data.
TOPIC 10: Formulas.
TOPIC 11: Presentation and analysis of chart data, summary table report and summary chart.
TOPIC 12: Additional Options.

PRESENTATION WITH MS POWRPOINT 2010
TOPIC 13: PowerPoint Overview 2010. Creating a Presentation.
TOPIC 14: Additional Options.

Contains 5 APPENDICES.
• For those who prefer using the keyboard:
- Appendix 1: Shortcut keys in MS OFFICE.
- Appendix 2: Shortcuts in WORD.
- Appendix 3: Shortcuts in EXCEL.
- Appendix 4: Shortcuts in POWERPOINT
• For those who want to find information about a specific term:
- Annex 5: Terminological index.

E20-2. Zhelyazova B., **M. Mladenova** (2017) *Informatics for Students of Veterinary medicine (with CD)*. Sofia, Intel Entrance, p. 166, ISBN 978-954-2910-69-5.
Reviewer: Prof. PhD Emil Sapundzhiev

ABSTRACT

This textbook explains the basic concepts of a database system and how to communicate with a database system. The main focus in this textbook is on relational databases and Microsoft SQL Server.

The textbook in the discipline Informatics is designed for students majoring in "Veterinary Medicine" – "Master degree". The main goal of this course is to acquaint the students with the basic theoretical and practical aspects of information technology for creation and use of information systems, in particular examining the basic principles and functions of databases as a software instrument for organized storage, search, analysis and representative output information from data, registered during the activity of medical institutions, administrative organizations and companies.

The knowledge and practical skills how to use modern information technologies, acquired in the process of training, will help the students in their future realization as specialists in the clinical practice, administrators or researchers in the field of veterinary medicine.

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Databases; 1.6. Database Management Systems; 1.7. MDAC; 1.7.1. ODBC; 1.7.2. OLE DB; 1.7.3. ADO (ActiveX Data Objects).

2. RELATIONAL DATABASES: 2.1. Tables; 2.2. Unique Keys and Primary Key; 2.3. Foreign Key; 2.4. Views; 2.5. Functions; 2.6. Stored Procedures; 2.7. Triggers.

3. STRUCTURED QUERY LANGUAGE (SQL): 3.1. Queries; 3.2. Data Manipulation; 3.3. Data Definition; 3.4. Data Types.

4. DATABASE MODELLING: 4.1. ER Diagram; 4.2. Microsoft Visio; 4.3. Erwin.

5. MICROSOFT OFFICE ACCESS: 5.1. Introduction; 5.2. Create an Access database; 5.3. Add tables; 5.4. Create queries for a new Database; 5.5. Create forms; 5.6. Create reports; 5.7. Protect Database

6. EXERCISES DATABASE MS ACCESS 2016

EXERCISE 1: Introduction to MS Access purpose, opportunities, basic concepts. Starting and exit from the system. Working views and types of objects.

EXERCISE 2: Create tables. Modify tables by design view. Change the properties of the field. Data types. Import and export data.

EXERCISE 3: Relation between tables (Relationships). Indexing fields in the table. Defining of primary keys. Defining of relations. Types of relations. Changing the type of relation. Adjustment of the properties of the relations.

EXERCISE 4: Manage data with Queries. Create queries. Types of queries. Edit queries in design view. Use an expression as an output field.

EXERCISE 5: Working with forms. Adding control. Modification the properties. Formatting controls.

EXERCISE 6: Working with report. Creating a wizard report. Formatting a report. Adding controls. Use of calculation control in the report. Overview and print reporting.

CD Includes: All topics, Presentation, Video tutorials for each exercise and Self-assessment tests are based on the Blackboard Learn Platform at the University of Forestry.

E20-3. Mladenova, M. (2019). *Database lecture course (in Bulgarian)*, Sofia, Intel Entrance, e-pub, p. 132, ISBN 978-954-2910-87-9.
Reviewers: Prof. PhD Boyanka Dimitrova Zhelyazova, Assoc. Prof. PhD Galin Iliev Milchev

ABSTRACT

This edition is in accordance with the curriculum of the subject "Informatics" for the students of the Master's degree program, specialty EEP, at the University of Forestry - Sofia and is intended to support their theoretical preparation in the discipline.

TABLE OF CONTENTS

TOPIC 6: Overview of popular DBMS: DBMS dBase; Microsoft Visual FoxPro; Oracle; Microsoft Access.

TOPIC 7: Prospects for DBMS development.

E21. UNIVERSITY HANDBOOK OR HANDBOOK USED ON THE SCHOOL NETWORK (5)

E21-1. Mladenova, M. (2013). *Handbook MS Office 2010 (Word, Excel, PowerPoint) (in Bulgarian). Sofia, Intel Entrance*, p. 135, ISBN: 978-954-2910-31-2,
Reviewer: Assoc. Prof. PhD Boyanka Dimitrova Zhelyazova

ABSTRACT

The publication is hands-on and can be useful for anyone who wants to work effectively with Word, Excel and PowerPoint.

It is consistent with the syllabus in the courses "Information Technology - Part I" for undergraduate students, first year, specialties "Wood Technology", Engineering Design", the discipline "Informatics" for the students majoring in "Ecology", "Agronomy" and "Plant Protection", at the University of Forestry - Sofia.

Contains the tasks for the practical exercises in the disciplines. After each task, the necessary actions for its realization are described and illustrated, as well as the result of them.

Contains coursework assignments for:

- Word processing with MS WORD 2010;
- MS EXCEL 2010 spreadsheets;
- Presentation with MS POWRPOINT 2010.

You will also find additional self-study tasks, divided into groups according to the minimum required knowledge for the respective assessment.

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Exercise 11: Presenting and analysing chart data, a summary table report, and a summary chart.

Exercise 12: Additional Options

MS Excel2010 spreadsheet coursework assignment

MS Excel 2010 Spreadsheet Self-Preparation Tasks

PRESENTATION WITH MS POWERPOINT 2010

Exercise 13: An Overview of PowerPoint 2010. Creating a Presentation

Exercise 14: Additional Options

Presentation course assignment with MS PowerPoint 2010.

E21-2. Mladenova, M., B. Mladenov (2015). *AutoCAD practical guide. Part 1 2D drawing commands (in Bulgarian).* Sofia, Intel Entrance, p. 168, ISBN: 978-954-2910-49-7 *Reviewer: Assoc. Prof. PhD Boyanka Dimitrova Zhelyazova*

ABSTRACT

AutoCAD is a program with extremely wide application for the preparation of technical drawings and documentation, as well as for the visualization and presentation of projects. The consumer audience is very diverse in its application in different professional fields, which makes it difficult to write and publish any literature on the subject.

In addition, the program allows each user to create their own settings for its appearance and function, thus creating its own handwriting.

This edition targets a wider range of users whose professional focus requires daily work with AutoCAD. It is aimed at practically executing most of the commands and does not claim to be complete.

Many commands do not change their essence in different versions of AutoCAD, which means that this release will be useful for users with earlier versions (until 2010).

The general rules for operation and setup of AutoCAD 2016 are discussed and the 2D drawing commands are presented in detail and all their options are discussed and illustrated with examples.

CONTENTS

E21-3. Mladenova, M., B. Mladenov (2016). *AutoCAD practical guide. Part 2 2D editing commands (in Bulgarian)*. Sofia, Intel Entrance, p. 122, ISBN: 978-954-2910-60-2
Reviewer: Assoc. Prof. PhD Boyanka Dimitrova Zhelyazova

ABSTRACT

The 2D editing commands in AutoCAD 2016 are presented in detail and all of their options are discussed and illustrated with examples. This guide is practically aimed at implementing every command in it. Its purpose is to familiarize users with their functionality.

CONTENTS

EDITING COMMANDS
Move
Copy
Rotate
Mirror
Offset
Scale
Trim
Extend
Fillet
Chamfer
Blend Curves
Array
Align
Explode
Break
Break at Point
Join
Lengthen
Draw Order
Change Space
NCOPY
Overkill
Set By Layer

E21-4. Mladenova, M. (2019). *Innovative technologies for the presentation of scientific results (in Bulgaria)*. Sofia, Intel Entrance, Interactive CD and Blackboard at UF, ISBN 978-954-2910-82-4. *Reviewers: Prof. PhD Boyanka Dimitrova Zhelyazova, Assoc. Prof. PhD Galin Iliev Milchev*

ABSTRACT

The course is based on the use of e-learning and the Blackboard Learn platform of the University of Forestry.

In research, although the most important elements are their quality and the reliability of the results obtained, in order to gain popularity and wider applicability, it is equally important to present them appropriately to a scientific, more specialized audience and to a wide audience. hands-on audience. Much of the researchers still make little use of the great opportunities offered by current versions of MS Excel and MS PowerPoint for interactive presentation of scientific results containing different types of data. The main objective of the proposed course is to acquaint young researchers, as well as all other interested researchers in the field of research, with:

- MS Excel functionality for input processing, data analysis, interactive filtering and presentation;
- 19 innovative technologies for creating interactive presentations;
- MS PowerPoint functionalities for multimedia interactive presentation of scientific results;
- Rules for creating presentations;

- Prezi, as an innovative tool for creating Zoom presentations;

The course aims to provide in-depth theoretical knowledge of innovative technologies for creating interactive presentations, spreadsheets and presentations, practical skills for students to use Prezi, as an innovative tool for creating Zoom presentations, and the full functionality of MS Excel and MS PowerPoint; to understand the approaches and methods for increasing the efficiency of their work through their application; to acquire practical models for the application of MS Excel and MS PowerPoint in various fields of application, as well as the acquisition of skills to work with modern ICT, which will form the basis for independent future professional development in accordance with the lifelong learning system.

The course is on CD and on the Blackboard Learn platform of the University of Forestry. Each of the topics covered contains presentations on the topic, tasks for practical exercises, after each task are described and illustrated the necessary actions for its implementation, as well as the result, a video for each task and a self-assessment test.

As a supplementary materials are given a comprehensive test to assess the acquired knowledge of MS Excel and MS PowerPoint, discussion topics, collaboration topics (wiki), self-study tasks with MS Excel and MS PowerPoint. Electronic toolkit for working with MS Office 2013 (Excel, PowerPoint); Shortcuts in MS Office; Shortcuts in Excel; Shortcuts in PowerPoint.

There are two questionnaires for feedback from trainees: Quality of learning resources and Working with the system.

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E21-5. Mladenova, M. (2019). *Databases - practical exercises*. Sofia, Intel Entrance, Interactive CD and Blackboard at UF, ISBN 978-954-2910-83-1
Reviewer: Assoc. Prof. PhD Boyanka Dimitrova Zhelyazova

ABSTRACT

The textbook is based on the use of e-learning and the Blackboard Learn platform of the University of Forestry.

The main objective of this course is to acquaint students with the basic theoretical and practical aspects of information technology for the creation and use of information systems, discuss the basic principles and functions of databases as a software tool for organized storage, search, analysis and presentation of information from data.

The purpose of the course is to provide students with theoretical knowledge and practical skills to use the functionalities of MS Access 2016 as a DBMS.

On this basis, the aim is to acquire the skills to work with modern ICTs, which will form the basis for independent future professional development in accordance with the lifelong learning system.

The course is on CD and on the Blackboard Learn platform of the University of Forestry. Each of the topics covered contains presentations on the topic, tasks for practical exercises, after each task are described and illustrated the necessary actions for its implementation, as well as the result, a video for each task and a self-assessment test.

The coursework assignment, the comprehensive knowledge assessment test, discussion topics, collaboration topics (wikis), MS Access 2016 self-study tasks are given as additional materials.

There are two questionnaires for feedback from trainees: Quality of learning resources and Working with the system.

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Topic 1: Getting to know MS Access. Creating a database with Access.

Topic 2: Building Tables. Modifying tables using Design View. Change field properties. Data types. Import and export of data.

Topic 3: Relationships. Indexing fields from the table. Defining Primary Keys. Defining relationships. Types of relationships. Change the type of relationship. Setting Relation Properties.

Topic 4: Queries. Create Queries. Types of requests. Selection requests. Queries to create a table, to update a table, to add data to a table, to delete data. Modify requests using Design View. Create a computable field.

Topic 5: Working with Forms. Add controls. Modifying Control Formatting Properties. Using the calculation control on a form.

Topic 6: Reporting. Create a report with the Wizard. Format report. Add controls. Using the calculation control in a report. View and print a report.

Topic 7: Additional Options. Macros. Creating a Switchboard. Database backup and protection. Access rights. Database partitioning. Using Performance Analyzer to optimize the database. Database design documentation.

ADDITIONAL MATERIALS