



## THE APPLICATION OF MULTIMEDIA CONTENT IN EDUCATION

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**Abstract:** *The Internet and computers have become reality within teaching processes, but they are actually used even during extracurricular activities. Apart from using multimedia during classes, other elements such as voice, video, various animations and simulations are used as well. A teaching process and education without using computers and multimedia content is almost impossible to imagine. Therefore, this paper presents a survey of using multimedia in the teaching process describing different teaching methods and the possibilities of using technology and multimedia within the educational process.*

**Keywords:** *multimedia, teaching methods, knowledge*

### 1. INTRODUCTION

The role of computers within the education process has been changing dramatically over a few previous decades. The increased power, accessibility and graphical performances have affected growing success of computers.[1,2]

Multimedia denotes composing text, sound and video. Multimedia is a medium that uses various forms of information content and processes in order to inform or entertain a user: *multi* meaning multiple (lat. *multum*) and *media* meaning a medium-intermediary (lat. *medium*: 'a channel or a system of communication, information or entertainment').

Fuda defines multimedia in a similar way, pointing out that multimedia represents the consolidation of all elements of technology as it combines sound, image, video, drawing and text with high quality in an interactive environment [3]. However, Sacher explains multimedia as communication forms that include learning software, hypertext, videoconference, interactive satellite television, online libraries and data banks that are supported by different media [4].

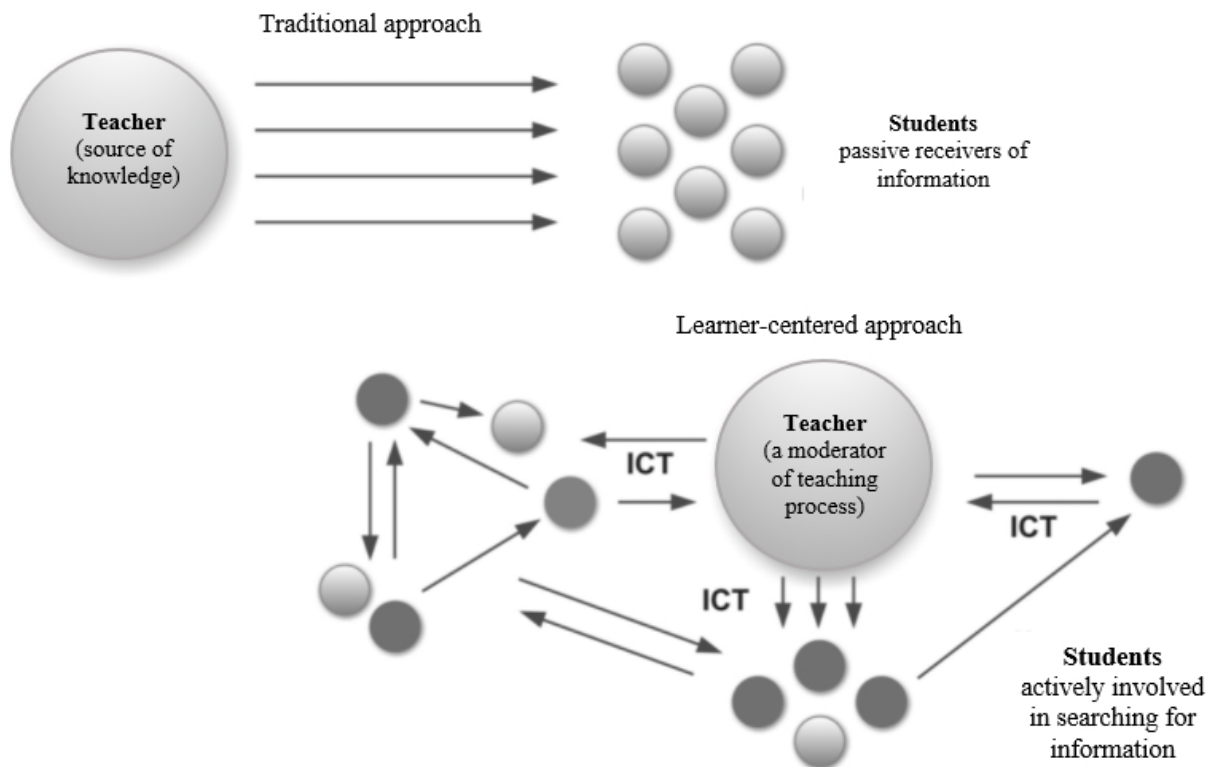
The development of online technologies provides unlimited possibilities for multimedia. Text, sound, images, interactive elements and animations are used on the Internet. Such contents provide rich possibilities for delivering presentations, using advanced technological solutions.

In contemporary circumstances, only a small number of students are interested in teaching processes of any subject content due to the fact they are surrounded by much more interesting issues, such as television, sports, music, computers, the Internet, mobile telephony, etc. In this paper, we are trying to suggest new teaching tools that would raise the interest of the students.

### 2. FROM THE TRADITIONAL TO THE CONTEMPORARY TEACHING APPROACHES

The traditional teaching approaches were applied in schools for a long period of time.

Together with the development of the new teaching and learning media, other strategies have been developed and applied as well. This has led to the constant improvement of teaching and learning approaches.



**Picture 1:** Traditional and contemporary teaching approaches

Contemporary teaching strategies regard a student as a central point within the teaching process. Various forms of interactive learning are included in teaching:

- learning environment is adjusted to suit the learners,
- teaching process is learner-centered,
- students are encouraged not only to receive information but to do research as much as possible, think critically about the content of the subjects, work either individually or participate in teamwork,
- teachers and students are simultaneously encouraged to continually collaborate during teaching and learning processes.

Following the technological changes around us, a teacher, in addition to the traditional role which comprises expert and competent interpretation of the curriculum, should also take part in modern teaching by:

1. creating and organizing the teaching process (planning and preparation of the teaching/learning process and their coordination),
2. guiding and directing the learning process (discusses, supports and motivates students, directs their activities, etc.),
3. evaluating learning efficiency and adjusting learning towards specific needs and competences of the students (evaluation and self-evaluation).

Nowadays, the following contemporary teaching processes can be recognized as:

- Computer-based Learning,
- Internet-based Learning,
- Online Learning,
- Social E-learning and
- Mobile Learning.

### 3. THE USE OF MULTIMEDIA CONTENT IN THE TEACHING PROCESS

Today's generations of students are different from the previous ones. These students are so-called "digital natives". These are the generations that have grown up with technology and are certainly different from those that have later got used to technology.



Knowledge acquisition is more efficient by using multimedia content. Richard E. Mayer offers 8 principles that characterise multimedia use within the learning process:

1. Multimedia principle: students learn better if teaching content is explained using pictures and words;
2. Spatial proximity principle: students learn better if the pictures and words are closer to each other during the study process;
3. Time proximity principle: students learn better if they are exposed to pictures and words presentations simultaneously rather than alternately;
4. Adjustment principle: students learn better when unknown concepts are not pointed out as such but introduced to the students by associating with already familiar issues;
5. Modality principle: students learn better from content presented by using animation and narration than from animations and text written on the screen;
6. Redundancy principle: students learn better from animation and narration than from animation, narration and text on the screen;
7. The principle of individual differences: the design effects in teaching content are more stimulating for the students with lower intellectual abilities;
8. The principle of direct manipulation: as the complexity of the material increases, the impact of direct handling of materials (animation, pace) also increases. [5]

The use of audiovisual aids in learning creates clearer and richer representations and improves the knowledge acquisition and understanding of the content [6]. This is exactly what makes this way of knowledge acquisition as multimedia learning.

Digital information can be memorised more easily if it is supported by image, animation or sound, stimulating multiple senses at the same time, thus providing input as complex information [7]. Cheng et al., point out that the content obtains the possibilities to improve the learning performances promoting the user's pleasure and engagement [8]. Multimedia content provides better presentation of concepts, which is not possible with the use of conventional forms.

The main purpose of multimedia content is to motivate students to work, primarily by its design, to create an internal need for knowledge acquisition and enable real thinking process, which involves problem-solving and conscious knowledge application in different and unexpected situations [9]. The curriculum presented with the support of multimedia electronic form is far more accessible to each student.

A great variety of didactic material, which includes e-books, hypertexts, image galleries, databases, animations, video clips, presentations, etc. enables the student to observe, listen, think and perform certain actions simultaneously [10].

The advantages of multimedia include:

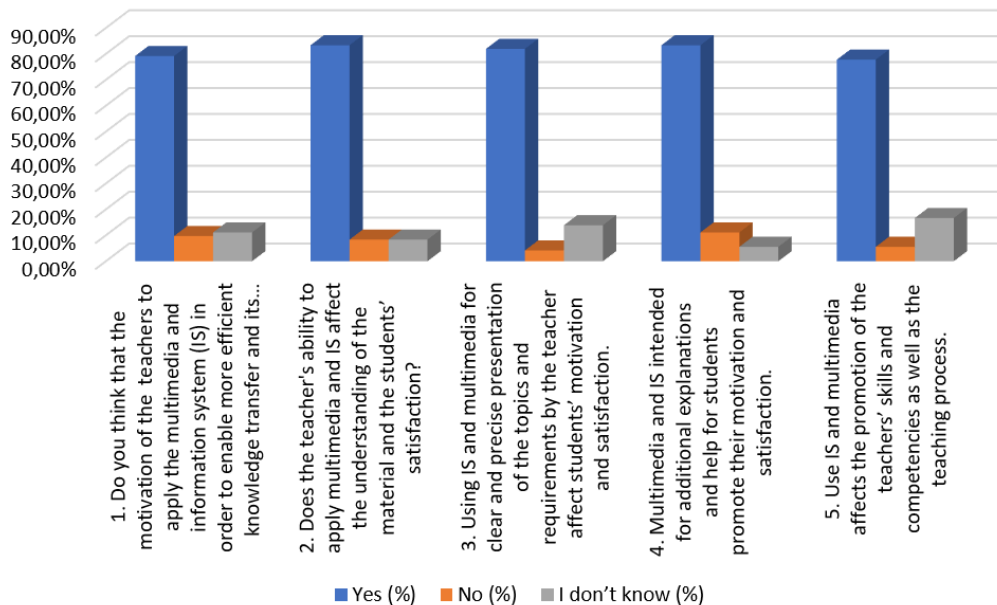
- attracting students' attention,
- greater interest, motivation and pleasure,
- easier explanation of complex issues and principles,
- deeper understanding of the content,
- better retention of the content and the possibilities of knowledge application in new and unexpected situations.

### **3.1 The use of multimedia and IS at Faculty of Technical Sciences (FTS) Čačak, the University of Kragujevac**

The research was realised within IT (Information Technology) subjects with first-year and second-year students of FTS in Čačak. It was conducted during the summer term of the 2021/2022 school year (May-June 2022) and 72 students participated as the respondents.

The questionnaire is used to collect the data necessary for the research. It was organized to identify the level of knowledge about the application of IS (Information System) [11] when teaching students of the Information Technology study programme at the academic and vocational studies at FTS in Čačak, the University of Kragujevac.

The results are presented in Picture 2:



**Picture 2:** Graphic presentation of research results - application of multimedia and IS in the teaching process

The research shows that the use multimedia and IS promotes the following:

- more efficient knowledge transfer and acquisition;
- students' satisfaction and motivation in the teaching process;
- improvement of the teachers' competences and motivation as well as the teaching process improvement.

#### 4. TOOLS FOR CREATING AND APPLICATION OF MULTIMEDIA CONTENT FOR LEARNING

There is a great variety of tools that are used for creating multimedia content. The innovative tools have been constantly appearing.

Some of the most popular digital education tools for teachers and learners [12]:

- Edmodo is an educational tool that connects teachers and students, and is assimilated into a social network. Teachers can create online collaborative groups, administer and provide educational materials, measure student performance and other functions,
- Socrative is a system that allows teachers to create exercises or educational games which students can solve using mobile devices, whether smartphones, laptops, or tablets,
- Projqt is a tool that allows you to create multimedia presentations, with dynamic slides. Teachers can share with students presentations which are visually adapted to different devices,
- Thinglink – tools for creating interactive images with music, sounds, texts, photographs and other multimedia resources
- TED-Ed is an educational platform that allows creating educational lessons with the collaboration of teachers, students, animators - generally people who want to expand knowledge and good ideas. People can have an active participation in the learning process of others.

Picture 3 shows the tools that were used more frequently in 2022. The top ten tools are presented together with a description of their application [13].





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+/-	TOP 300	TOOL	BRIEF DESCRIPTION	PPL	WPL	EDU
0	1	YouTube	video hosting and sharing platform	✓	✓	✓
+3	2	PowerPoint	presentation software	✓	✓	✓
0	3	Google Search	search engine	✓	✓	✓
0	4	Microsoft Teams	enterprise collaboration platform	✓	✓	
-3	5	Zoom	video meeting platform	✓	✓	✓
0	6	Google Docs & Drive	office suite/file sharing platform	✓	✓	✓
0	7	LinkedIn	professional social network	✓	✓	
+4	8	Word	document tool	✓	✓	✓
+4	9	Canva	graphics tool	✓		✓
-1	10	Wikipedia	online encyclopaedia	✓	✓	✓

Picture 3: Top 10 tools most frequently used in 2022



Picture 4: Top 100 tools for learning

Picture 4, on the other hand, shows the top 100 tools in 2022 together with a description that explains where they can be applied [14].

## 5. CONCLUSION

Multimedia applications within the teaching process can be efficient tools due to their interactivity, flexibility and possibility for integration with various media that are used for promoting learning and motivation.

The possibility of interaction is one of the main advantages of using multimedia content, as it enables teamwork and providing feedback, which is very important for motivation and efficient knowledge acquisition. Teaching approaches should be designed so as to incorporate multimedia applications with the appropriate coursebooks. Integrating multimedia content into teaching material can improve the teaching process and enable knowledge acquisition. Study units that are represented through the ICT application can promote and activate the students to think creatively and effectively. That way, they can understand the subject content more easily.



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- [14] <https://www.toptools4learning.com/wp-content/uploads/2022/08/TT4L2022.pdf> (accessed: 05.03.2023.), Here are the results of the Top 100 Tools for Learning 2022 (from the 16th annual survey). This graphic shows where most votes were cast; it doesn't mean that these tools aren't or can't be used in other contexts, by Jane Hart



## **PAPER ACCEPTANCE CONFIRMATION**

**Western Serbia Academy of Applied Studies**, as the organiser of 13<sup>th</sup> International Scientific Conference 'Science and Higher Education in Function of Sustainable Development – SED 2023', which will be held in Vrnjačka Banja, Serbia, from 5<sup>th</sup> to 8<sup>th</sup> June 2023, hereby confirms that the

paper titled

### **THE APPLICATION OF MULTIMEDIA CONTENT IN EDUCATION**

submitted by

**Marija Nikolić, Vesna Ružičić, Nataša Gojgić**

IS ACCEPTED for publication in the Conference Proceedings.

Thank you for your contribution to the success of the upcoming conference!

Užice,  
23.05.2023.



Chair of SED 2023 Organizing Committee  
Ljubica Diković, PhD, President of Western  
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*Ljubica Diković*



13<sup>th</sup> INTERNATIONAL SCIENTIFIC CONFERENCE

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SCIENCE AND HIGHER EDUCATION IN FUNCTION OF SUSTAINABLE DEVELOPMENT

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Vrnjačka Banja, Serbia  
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Having successfully organised previous conferences, and having recognised the importance of the synergy between higher education, science and industry, we are cordially inviting you to take part in the 13th International Scientific Conference 'Science and Higher Education in Function of Sustainable Development – SED 2023', which will be organised by Western Serbia Academy of Applied Studies – Užice Department, at the 'Slatina' Hotel in Vrnjačka Banja, Serbia, from 5th to 8th June 2023.

We believe that the 13th International Scientific Conference 'Science and Higher Education in Function of Sustainable Development – SED 2023' will manage to gather relevant scientists and experts, as well as representatives of business organisations in different industrial sectors, and provide them with an opportunity to exchange experiences and knowledge about the latest achievements, trends, and innovations in the abovementioned research areas.

Western Serbia Academy of Applied Studies – Užice Department wishes you a warm welcome to the 13<sup>th</sup> international conference SED 2023!

Ljubica Diković, PhD,  
President of Western Serbia Academy of Applied Studies  
Chairman of SED 2023 Conference

## **GENERAL INFORMATION**

Language: The official languages of the Conference will be English.

Conference venue: The Conference will be held at the the 'Slatina' Hotel in Vrnjačka Banja, Serbia, from 5th to 8th June 2023.

Conference website: <https://sed.akademijazs.edu.rs/>

## **Science and Higher Education in Function of Sustainable Development – SED 2023**

The conference will gather the representatives of science, our country, society, economy, media, and others involved in the development of science and higher education through various activities, especially through the promotion of higher education in Zlatibor district.

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The 13th International Scientific Conference 'Science and Higher Education in Function of Sustainable Development – SED 2023' will be devoted to the latest scientific and professional achievements, trends, and inventions in the following research areas:

- (1) Information Technology,**
- (2) Civil Engineering and Architecture,**
- (3) Mechanical Engineering and Occupational Safety and Health,**
- (4) Business Economics, Management and Tourism, and**
- (5) Medicine and Health Care.**

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13<sup>th</sup> International Scientific Conference  
 'SCIENCE AND HIGHER EDUCATION IN FUNCTION OF  
 SUSTAINABLE DEVELOPMENT– SED 2023'

**FIRST DAY - Monday, 5<sup>th</sup> June 2023**

**(15:00 – 16:00) Entrance hall – Registration of participants**

**(16:00 – 18:00) Conference Hall, Slatina Hotel - Opening ceremony, welcome speeches**

**PLENARY SESSION**

		CHAIR	Ljubica Diković, PhD
		VICE-CHAIRS	Ljiljana Trumbulović, PhD Slobodanka Stankov, PhD
No	Title of paper	Author(s)	Institution
1.	EXPLORING THE APPLICATION OF GENETIC ALGORITHMS AND ARTIFICIAL NEURAL NETWORKS WITHIN COMPANIES IN WESTERN SERBIA	Milovan Milivojevic, Ph.D.	Western Serbia Academy of Applied Studies
2.	OPEN-X AND NEO-INDUSTRIALIZATION 2.0: AN INTRODUCTION	Goran D. Putnik <sup>1</sup> , PhD; Hélio Castro <sup>2</sup> , PhD; Pedro Pinheiro <sup>1</sup> , MSc; Cátia Alves <sup>1,3,4</sup> , PhD.	<sup>1</sup> Department of Production and Systems Engineering, ALGORITMI Research Centre/LASI, University of Minho, Guimarães, PORTUGAL, <sup>2</sup> ISEP, Polytechnic of Porto and INESC TEC, Porto, PORTUGAL <sup>3</sup> 2Ai - Applied Artificial Intelligence Lab, School of Technology, IPCA, Barcelos, PORTUGAL <sup>4</sup> LASI – Associate Laboratory of Intelligent Systems, Guimarães, PORTUGAL
3.	A NETWORK ANALYSIS OF THE COMMUNITY OF INQUIRY FRAMEWORK IMPACT ON STUDENTS' GRIT – A COMPLEMENTARY SEQUENTIAL MEDIATION ANALYSIS APPROACH	Dana Rad, Ph.D.	Faculty of Educational Sciences, Psychology and Social Sciences at Aurel Vlaicu University of Arad, Romania.

**(18:00) – Conference cocktail**

**SECOND DAY - TUESDAY , 6<sup>th</sup> JUNE 2023**

**(10:00-12:00) CONFERENCE HALL**

		CHAIRS	MILOVAN MILIVOJEVIĆ, Ph.D. MIROSLAVA JORDOVIĆ PAVLOVIĆ. Ph.D.
<b>SESSION: INFORMATION TECHNOLOGY</b>			
No	Title of paper	Author(s)	Institution
1.	MOBILE APPLICATION FOR EXAM REGISTRATION FOR MASTER'S STUDIES	Milorad Murić, spec.; Dragana Knežević, MSc; Aleksandar Milovanović, PhD;	Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA
2.	EFFECT OF SOCIAL MEDIA ON EDU WEBSITE TRAFFIC	Dragana Knežević, MSc; Srđan Obradović, MSc; Milorad Murić, spec;	Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA
3.	THE INTERNET OF THINGS IN HEALTHCARE: ADVANTAGES, APPLICATIONS, AND FUTURE	Dragana Knežević, MSc; Ljubica Diković, PhD;	Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA
4.	THE ROLE OF THE ENGLISH LANGUAGE IN THE DIGITAL COMPETENCIES OF STUDENTS OF THE ACADEMY	Jelena Rajović, PhD(1); Nenad Marković, PhD(1); Sanja Marković, PhD(2); Aleksandar Milovanović, PhD(3);	(1)Academy of Applied Studies of Kosovo and Metohija, Department Uroševac – Leposavić, SERBIA (2)Academy of Applied Studies of Kosovo and Metohija, Department Zvečan, SERBIA (3)Western Serbia Academy of Applied Studie, Department Užice, SERBIA
5.	IMPLEMENTATION OF THE MICRO LEARNING CONCEPT IN THE TEACHING OF HIGHER MATHEMATICS USING THE EDAPP SOFTWARE	Branko Gavrilović, MSc; Ljubica Diković, PhD;	Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA
6.	SERBIAN TREASURY'S ELECTRONIC SERVICE FOR PAYMENT OPERATIONS (eSPP): TECHNICAL AND SECURITY ASPECTS AND PROPOSED IMPROVEMENT MEASURES	Predrag Radovanović, PhD; Marija Miljković, MSc; Marija Krstić, MSc; Lazar Krstić, MSc;	Academy of Vocational Studies Southern Serbia, Leskovac, SERBIA



7.	PREDICTING THE NUMBER OF NEWBORNS IN THE REGION OF WESTERN SERBIA AND SUMADIJA USING THE REGRESSION METHOD	Andrijana Gaborović, MSc; Katarina Karić, MSc; Jelena Plašić, MSc; Nikola Stanić MSc;	University of Kragujevac, Faculty of Technical Sciences, Čačak, SERBIA
8.	DEXI – MULTI-PARAMETER DECISION-MAKING	Sašo Bizant, MSc;	ŠC Kranj, Kranj, SLOVENIA
9.	THE EFFECTS OF DISTANCE LEARNING IN WESTERN SERBIA ACADEMY OF APPLIED STUDIES VALJEVO DEPARTMENT	Ilja Stanišević, PhD; Miloš Živković, Mr; Čebić Branko, MSc; Beljić Dejan, MSc;	Western Serbia Academy of Applied Studies – Valjevo Department, Užice, SERBIA
10.	OPTIMIZATION OF THE FORMULA-1 RACE CALENDAR USING GENETIC ALGORITHM	Gabriela Poljak, MSc(1); Miklos Pot, Mr(1); Milovan Milivojević, PhD(2);	(1)Subotica Tech - College of Applied Sciences, Subotica, SERBIA (2)Western Serbia Academy of Applied Studies, Užice, SERBIA
11.	PROBABILISTIC ANALYSIS OF ONE MODEL OF THE HIRING PROBLEM USING EXTREME VALUE THEORY	Tatjana Bajić, MSc;	Academy of Applied Studies Šabac, Šabac, SERBIA
12.	DIGITALIZATION OF CULTURAL HERITAGE – PROJECT DIGITAL MULTIMEDIA GUIDE OF UŽICE OLD TOWN	Miroslava Jordović Pavlović, PhD; Slobodanka Stankov, PhD; Milomir Maksimović, MSc;	(1)Western Serbia Academy of Applied Studies, Department Užice, SERBIA (2)Faculty of Philosophy, University of Belgrade, Belgrade, SERBIA
13.	MATHEMATICAL MODELING AND SIMULATION OF A HYBRID COMPOUND MECHANICAL SYSTEM	Milica Tufegdžić, PhD; Zvonko Petrović, MSc; Violeta Đorđević, MSc;	Academy of professional studies Šumadija, Trstenik, SERBIA
14.	AUTOMATIC PROCESSING OF ELECTRONIC INVOICES IN ACCOUNTING SYSTEMS	Živković Miloš, Mr; Stanišević Ilja, PhD; Branko Čebić, MSc;	Western Serbia Academy of Applied Studies – Valjevo Department, Užice, SERBIA
15.	USING DBMS AND SHINY WEB FRAMEWORK TO DEVELOP SOFTWARE FOR STUDENT SURVEY DATA COLLECTION AND ANALYSIS	Dragana Knežević, MSc; Srđan Obradović, MSc; Milovan Milivojević, PhD;	Western Serbia Academy of Applied Studies – Valjevo Department, Užice, SERBIA

16.	AN EARLY PREDICTION MODEL OF LEARNING OUTCOMES AND IT COMPETENCES BASED ON ARTIFICIAL NEURAL NETWORKS	Milovan Milivojevic, PhD(1); Tamara Komlenovic, BSc(1); Srdjan Obradovic, MSc(1); Miklos Pot, Mr(2);	(1)Western Serbia Academy of Applied Studies – Valjevo Department, Užice, SERBIA (2)Subotica Tech - College of Applied Sciences, Subotica, SERBIA
17.	VIRTUAL GALLERY AND ITS SIGNIFICANCE IN CULTURE AND EDUCATION	Milena Savić, MA; Dragana Frfulanović, Mr;	Academy of Vocational Studies South Serbia, Department of Technological Art Studies, Leskovac, SERBIA
18.	DIGITAL COMPETENCIES OF TEACHERS IN THE FUNCTION OF ICT APPLICATION IN THE TEACHING PROCESS	Jelena Stojanović, PhD(1); Nebojša Denić, PhD(2); Kostadinka Stojanović, BSc(1);	(1)Faculty of Mathematics and Computer Sciences, Alfa BK University, Belgrade, SERBIA (2)Faculty of Sciences and Mathematics, University of Pristina in Kosovska Mitrovica, City, SERBIA
19.	AN OVERVIEW OF THE DEVELOPMENT OF ARTIFICIAL INTELLIGENCE TECHNOLOGY IN e-LEARNING DURING COVID-	Dragan Zlatkovic, PhD(1); Nebojša Denic, PhD(2); Kostadinka Stojanović, BSc(3);	(1)Faculty of Information Technologies and Engineering, University „UNION – Nikola Tesla“ Belgrade, SERBIA (2)Faculty of Sciences and Mathematics, University of Pristina, Kosovska Mitrovica, SERBIA (3)Faculty of Mathematics and Computer Science, ALFA BK University, Belgrade, SERBIA
20.	ELECTRONIC BUSINESS AND E-COMMERCE. OVERVIEW OF THE STATE OF ELECTRONIC COMMERCE IN SERBIA	Branko Gavrilović, MSc;	Secondary School of Economic, Užice, SERBIA
21.	MACHINE LEARNING MODELS IN THE CLASSIFICATION AND EVALUATION OF TRAFFIC INSPECTION JOBS IN ROAD TRAFFIC AND TRANSPORT	Milorad K. Banjanin, PhD(1,2); Aleksandar Đukić, MSc(3); Mirko Stojčić, PhD(3); Milan Vasiljević, MSc(2);	(1)University of Novi Sad, Faculty of Technical Sciences Novi Sad, SERBIA (2)University of East Sarajevo, Faculty of Philosophy Pale, BOSNIA AND HERZEGOVINA (3)University of East Sarajevo, Faculty of transport and traffic engineering Doboj, BOSNIA AND HERZEGOVINA
22.	RECOLORING ISHIHARA TEST IMAGE FOR DEUTAN CVD PERSONS	Zoran Milivojević, PhD(1); Bojan Prlinčević, PhD(2); Milan Cekić, BSc(3);	(1)Academy of Applied Technical and Preschool Studies, Niš, SERBIA (2)Kosovo and Metohija Academy of Appl. Studies, Leposavić, SERBIA (3)Mikkelsen Electronics, Niš, SERBIA
23.	THE APPLICATION OF MULTIMEDIA CONTENT IN EDUCATION	Marija Nikolić, Mr; Vesna Ružičić, PhD; Nataša Gojgić, PhD;	University of Kragujevac, Faculty of Technical Sciences Čačak, SERBIA

24.	APPLICATION OF INFORMATION SYSTEMS AND DATA PROCESSING TOOLS IN COMPANIES	Momir Milić(1); Nebojša Denić, PhD(2); Kostadinka Stojanović(1); Jelena Stojanović(1);	(1)ALFA BK University, Belgrade, SERBIA (2)Faculty of natural sciences, Kosovska Mitrovica, SERBIA
25.	DEVELOPMENT OF A WEB APPLICATION FOR OPEN DATA ANALYSIS USING THE STREAMLIT LIBRARY	Branko Gavrilović, MSc;	Secondary School of Economic, Užice, SERBIA
26.	ELECTRONIC HEALTHCARE. THE POSSIBILITY OF APPLYING BLOCKCHAIN TECHNOLOGY FOR THE CREATION OF EMR	Branko Gavrilović, MSc;	Secondary School of Economic, Užice, SERBIA
27.	COLLABORATIVE LEARNING OF MATHEMATICS SUPPORTED BY BLOCKCHAIN TECHNOLOGY IN THE CONTEXT OF MANDELBROT AND JULIA SETS	Soley Ersoy, PhD(1); Ana Savić, PhD(2); Goran Bjelobaba, MSc(3); Hana Stefanović, PhD(4);	(1)Sakarya University, Faculty of Arts and Sciences, Department of Mathematics, Sakarya, TURKEY (2)Academy of Technical and Art Applied Studies, School of Electrical and Computer Engineering, Belgrade, SERBIA (3)University of Belgrade, Faculty of organizational sciences, Belgrade, SERBIA (4)Comtrade Information Technology School of Applied Studies, Belgrade, SERBIA
28.	DETERMINING THE OPTIMAL PATH IN THE STRATEGIC MAP OF PUBLIC COMPANIES	Predrag Pravdic, PhD(1); Marija Mojsilovic, MSc(2); Snezana Gavrilovic, PhD(2); Kostadinka Stojanovic, MSc(3);	(1)Academy of Educational and Medical Vocational Studies, College in Krusevac, SERBIA (2)Academy of Professional Studies Sumadija, College in Trstenik, SERBIA (3)Alfa BK University Belgrade, Faculty of mathematics and computer sciences, SERBIA
29.	ELECTRONIC BANKING, CHALLENGES AND DEVELOPMENT TRENDS	Miodrag Milićević, PhD; Blagodar Lovčević, PhD; Danijel Čabarkapa, MSc;	Academy of Professional Studies Sabac, Sabac, SERBIA
30.	DIMENSIONS MODELLING OF PM PARTS USING NEURAL NETWORKS	Dragoljub Drndarević, PhD; Milovan Milivojević, PhD;	Western Serbia Academy of Applied Studies, Department Užice, SERBIA
31.	PRINCIPAL COMPONENT ANALYSIS IN PROCESSING PHOTOACOUSTIC MEASUREMENT DATA	Miroslava Jordović Pavlović, PhD(1); Kristina Milojević, BSc(1); Dragana Markušev, PhD(2); Dragan Markušev, PhD(2);	(1)Western Serbia Academy of Applied Studies, department Užice, SERBIA (2)Institute of Physics, Laboratory for Photoacoustic, Belgrade, SERBIA

32.	IMAGE PROCESSING AND INSURANCE DIGITALIZATION	Ana Savić, PhD(1); Marija Paunović, PhD(2,3);	(1)Academy of Technical and Art Applied Studies, School of Electrical and Computer Engineering, Belgrade, SERBIA (2)Faculty of Hotel Management and Tourism, University of Kragujevac, Vrnjaska Banja, SERBIA (3)Faculty of Business and Law, University "MB", Belgrade, SERBIA
33.	THE FUNDAMENTALS OF TEACHING C++ PROGRAMMING LANGUAGE: POINTERS VS. REFERENCES	Aleksandar Kupusinac, PhD;	University of Novi Sad, Faculty of Technical Sciences, Novi Sad, SERBIA
34.	APPLICATION OF BLOCKCHAIN IN E-COMMERCE PLATFORMS	Miroslav Avdalović	Faculty of Organizational Studies, Belgrade, SERBIA
35.	THE INFLUENCE OF DIGITAL MEDIA ON THE ACQUISITION OF GERMAN VOCABULARY AS A FOREIGN LANGUAGE	Sladjana Stanojevic Milinkovic, MA	Western Serbia Academy of Applied Studies, Department Užice, SERBIA

**(12:00-13:00) CONFERENCE HALL**

			CHAIRS	ĐORĐE ĐURIČIĆ, Ph.D. DEJAN MILIVOJEVIĆ, Ph.D.
<b>SESSION: Civil Engineering and Architecture</b>				
No	Title of paper	Author(s)	Institution	
1.	THE HISTORY AND ARCHITECTURE OF THE PALACE HOTEL IN UZICE	Gordana Lazić, PhD;	Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA	
2.	CONTEMPORARY TIMBER BUILDING AND ITS FUTURE: SOME FACTS AND EXAMPLES	Dejan Milivojević, PhD;	Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA	
3.	REDUCED AIR POLLUTION AS A RESULT OF SINGLE-FAMILY HOMES UTILIZING ENERGY-EFFICIENT TECHNIQUES	Jana Vasiljević, MSc; Aleksandar Pujović, MSc;	Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA	
4.	ORGANIZATIONAL STRUCTURES AND METHODOLOGIES OF LAND VALUATION IN LAND CONSOLIDATION AND THEIR IMPLEMENTATION IN THE REPUBLIC OF SRPSKA	Dragana Skorup, MSc(1); Goran Marinković, PhD(2); Marko Božić, BSc(3); Đorđe Đuričić, PhD(4);	(1)Faculty of Architecture, Civil Engineering, and Geodesy, Banja Luka, BOSNIA AND HERZEGOVINA (2)Faculty of Technical Sciences, Novi Sad, SERBIA (3)Meixner d.o.o., Zagreb, CROATIA (4)Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA	
5.	ELEMENTS OF THE FUTURE HOUSING IN SERBIA: ASPECTS OF SUSTAINABILITY – the OVCA settlement	Borislav Petrović;	University of Belgrade, Faculty of Architecture, Department of Architecture, Belgrade, SERBIA	
6.	PROFESSIONAL PRACTICE WITHIN THE GEODESY-GEOMATICS STUDY PROGRAM OF THE ATAAS BELGRADE	Stevan Radojčić, PhD;	Academy of Technical and Art Applied Studies – School of civil Engineering and Geodesy, Belgrade, SERBIA	
7.	SUSTAINABLE MANAGEMENT OF CITIES USING URBAN WETLANDS	Danijela Zlatković, PhD(1); Jelena Zlatković, MSc(2); Djordje Vasković, MSc(2);	(1)ATEVS department Niš, Niš, SERBIA (2)Institute for urban planning Niš, Niš, SERBIA	

**(13:00-15:00) CONFERENCE HALL**

		CHAIRS	ZORICA TANASKOVIĆ, Ph.D. SLOBODANKA STANKOV, Ph.D. ZORICA SAGIĆ, Ph.D.
<b>SESSION:</b>			
<b>Business Economics, Management and Tourism</b>			
No	Title of paper	Author(s)	Institution
1.	ETHER CRYPTOCURRENCY CASE STUDY	Marijana Milanovic, MSc; Milorad Muric, spec.; Srdjan Obradovic, MSc;	Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA
2.	THE INFLUENCE OF VOICE CHANGES ON WRITING OF IOTIFIED VOWELS IN THE RUSSIAN LANGUAGE	Nikola Jankovic, MSc;	Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA
3.	A BRIEF VIEW OF SOME DISTINCTIVE SPELLING OF HIEROMONK ROMAN MATYUSHIN	Nikola Jankovic, MSc;	Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA
4.	ACQUISITION OF VOCABULARY ON THE SUBJECT OF CLOTHING AND FOOTWEAR	Nikola Jankovic, MSc;	Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA
5.	THE INFLUENCE OF DIGITAL MARKETING ON BRAND CREATION	Milorad Murić, spec. Zorica Sagić, PhD;	Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA
6.	ANIMATION AS A SEGMENT OF THE MODERN TOURISM OFFER OF TRAVEL AGENCIES (TOUR OPERATORS)	Slobodanka Stankov, PhD;	Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA
7.	ANALYSIS OF THE IMPLEMENTATION OF THE IPARD II PROGRAM IN THE FIELD OF RURAL DEVELOPMENT 2014-2020	Bratislav Pešić, Nikola Stolić, Nebojša Zlatković, Tihomir Jovanović	Toplic Academy of Vocational Studies, Prokuplje, SERBIA
8.	THE ROLE AND SIGNIFICANCE OF TRAINING FIELDS FOR HUNTING DOGS ON THE DEVELOPMENT OF HUNTING TOURISM IN SOUTHEASTERN SERBIA	Bratislav Pešić, Nikola Stolić, Nebojša Zlatković, Dejan Stefanović	Toplic Academy of Vocational Studies, Prokuplje, SERBIA
9.	NATURE AND COMPATIBILITY OF PUBLIC RELATIONS AND CORPORATE COMMUNICATION	Borislav Kolarić, PhD; Ivana Vladimirović, MSc; Saša Spasojević, PhD	Academy of Applied Studies Šabac, Šabac, SERBIA



10.	IMPORTANCE OF FOOD MANAGEMENT SYSTEM – ILLUSTRATION FROM HOTEL MOSKVA	Miloš Zrnić, MSc(1), Tamara Gajić, PhD(2), Dragan Vukolić, MSc(3)	(1)Academy of Applied Studies – College of Hotel Management, Belgrade, SERBIA (2)Geographical Institute “Jovan Cvijić”, Belgrade, SERBIA; South Ural State University, Institute of Sports, Tourism and Service, Chelyabinsk, RUSSIA; Faculty of Hotel and Tourism Management, University of Kragujevac, Vrnjačka Banja, SERBIA (3)University of Business Studies, Faculty of Tourism and Hotel Management, Banja Luka, BOSNIA AND HERZEGOVINA
11.	SMEs MANAGEMENT DURING COVID-19 PANDEMIC	Sandra Stojadinović Jovanović, PhD(1); Violeta Domanović, PhD(2); Bojan Krstić, PhD(3);	(1)Western Serbia Academy of Applied Studies, Užice, SERBIA (2)University of Kragujevac, Faculty of Economics, Kragujevac, SERBIA (3)University of Niš, Faculty of Economics, Niš, SERBIA
12.	INDEX-BASED INSURANCE	Sanja Radovanović, PhD(1); Željko Radovanović, PhD;	(1)Western Serbia Academy of Applied Studies, Valjevo Department, SERBIA (2)National Security Academy, Belgrade, SERBIA
13.	AGENCY COSTS AND CAPITAL STRUCTURE	Marina Janković Perić, PhD(1); Šaban Gračanin, PhD(2)	(1)Western Serbia Academy of Applied Studies, SERBIA (2)Alere doo and Western Serbia Academy of Applied Studies, SERBIA
14.	COST ACCOUNTING AND PERFORMANCE MEASUREMENT WITH THE PURPOSE OF INCREASING THE COMPETITIVENESS OF HEALTHCARE ORGANIZATIONS	Kristina Spasić, MSc; Dragana Nikolić, PhD;	(1)Faculty of Economics, Nis, SERBIA (2)Academy of Vocational Studies Southern Serbia, Leskovac, SERBIA
15.	E-BOOKS AS STUDENT MOTIVATION AND ENGAGEMENT BOOSTER	Ivana Marinković, MA(1), Dragana Pešić, PhD(2);	(1)Western Serbia Academy of Applied Studies, Užice, SERBIA (2)Faculty of Hotel Management and Tourism in Vrnjačka Banja, University of Kragujevac, SERBIA
16.	AN INSIGHT INTO SERBIA INNOVATION RANK AS A BASIS FOR FUTURE DEVELOPMENT OF THE SERBIAN INNOVATION ECOSYSTEM	Toma Dašić, MSc; Tatjana Đekić, PhD; Miljana Stojković-Trajković, PhD;	Academy of Professional Studies South Serbia, Leskovac, SERBIA

17.	FOOD SAFETY MARKETING STRATEGY IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT	Tatjana Đekić, PhD; Toma Dašić, MSc; Miljana Stojković- Trajković, PhD; Suzana Nedeljković;	Academy of Professional Studies South Serbia, Leskovac, SERBIA
18.	SAFETY ASPECT IN MODERN TOURISM	Radomir Stojanović, PhD;	Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA
19.	TOURIST ETHNOCENTRISM DURING THE PANDEMIC OF THE VIRUS COVID-19	Dragana Gašević, PhD(1); Stefan Zdravković, PhD(2); Marija Vranješ, MSc(1); Dragana Tomašević, MSc(1);	(1)Novi Sad School of Business, Novi Sad, SERBIA (2)Faculty Of Economics, Kragujevac, SERBIA
20.	ACCOUNTING AND LEGAL ASPECTS OF THE APPLICATION OF ELECTRONIC INVOICING	Tanja Janačković, PhD; spec. Milica Ilić; Saša Sarić, PhD;	1 Academy of Vocational Studies Southern Serbia, Department of Higher Business School Leskovac, Leskovac, SERBIA
21.	THE REGULATORY FRAMEWORK AS A KEY FOR THE IMPROVEMENT OF E-INVOICING SYSTEM IN THE REPUBLIC OF SERBIA	Dragana Nikolić, PhD(1); Kristina Spasić, MSc(2);	(1)Academy of Vocational Studies Southern Serbia, Leskovac, SERBIA (2)Faculty of Economics, Nis, SERBIA
22.	COMPARATIVE ANALYSIS OF CORPORATE PROFIT TAXATION IN WESTERN BALKAN COUNTRIES	Biljana Đuričić, Mr; Momčilo Vasiljević, PhD; Marijana Milanović, MSc; Aleksandar Stojanović, PhD;	Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA
23.	DIVIDEND POLICY OF JOINT STOCK COMPANIES IN SERBIA	Biljana Đuričić, Mr; Momčilo Vasiljević, PhD; Marijana Milanović, MSc; Aleksandar Stojanović, PhD;	Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA
24.	ELECTRONIC INVOICE – BENEFITS OR COSTS FOR PUBLIC AND PRIVATE SECTOR ENTITIES IN REPUBLIC OF SERBIA	Momčilo Vasiljević, PhD(1); Radovan Kastratović, PhD(2); Nenad Mihailović, PhD(3); Marijana Milanović, MSc(1);	(1)Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA (2)Faculty of Economics, University of Belgrade, Belgrade, SERBIA (3)Western Serbia Academy of Applied Studies–Valjevo Department, Valjevo, SERBIA
25.	IMPORTANCE OF COMMUNICATION	Vesna Vasović, PhD(1); Zorica Tanasković, PhD(1); Katarina Roganović, PhD(2);	(1)Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA (2)3 THIRD BELGRADE GYMNASIUM, Belgrade, SERBIA

26.	CITATION RULES	Marina Pušica, MS(1); Katarina Roganović, PhD(2); Vesna Vasović, PhD(1);	(1)Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA (2)3 THIRD BELGRADE GYMNASIUM,Belgrade, SERBIA
27.	TALENTJOURNEY _ A PROJECT OF EXCELLENCE	Sašo Bizant, MSc;	ŠC Kranj, Kranj, SLOVENIA
28.	PERSPECTIVES OF INSURANCE MARKET DEVELOPMENT IN SERBIA	Anđelka Aničić, PhD; Milica Župljanić, PhD; Ana Anufrijević, PhD;	Business College of Applied Studies “Čačak”, Belgrade, SERBIA
29.	THE INFLUENCE OF ECOLOGY ON CONTEMPORARY BUSINESS AND MARKETING	Anđela Mikić, PhD; Sonja Milojević, PhD;	Belgrade Business and Arts Academy for Applied Studies, Belgrade, SERBIA
30.	ADAPTATION OF THE ORGANIZATIONAL STRUCTURE OF THE COMPANY IKEA IN NEW, CHANGED CIRCUMSTANCES	Marko Janackovic, PhD; Milena Marjanovic, PhD; Ivan Mihailovic, PhD; Zaklina Andjelkovic, Mr;	Academy of Professional Studies South Serbia, Department for Business Studies Leskovac, Leskovac, SERBIA
31.	THE USE OF THE INTERNET IN THE ELECTRONIC BUSINESS OF COMMERCIAL ENTERPRISES	Đorđe Pavlović, PhD; Branko Gledović, PhD;	Western Serbia Academy of Applied Studies–Valjevo Department, Valjevo, SERBIA
32.	TOUR GUIDING AS A TYPE OF ANIMATION IN CONTEMPORARY TOURISM	Slobodanka Stankov, PhD;	Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA
33.	WITH TOTAL QUALITY MANAGEMENT AND BUSINESS EXCELLENCE TO INTERNATIONALIZATION THROUGH INTERNATIONAL ACTIVITIES IN HIGHER EDUCATION	Nastja Beznik, BSc;	Kranj School Centre, Vocational College, Kranj, SLOVENIA
34.	PRODUCTION PROGRAMME OPTIMIZATION USING LINEAR PROGRAMMING	Nenad Milutinović, MSc;	Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA
35.	EMOTIONAL INTELLIGENCE - A MULTIDIMENSIONAL CONSTRUCT IN THE FUNCTION OF EMPLOYEE PERFORMANCE	Tamara Jevtić, MSc; Mira Vidaković, PhD; Jelena Jevtić, PhD; Zoran Jokić, PhD;	Academy of Professional Studies Šabac, SERBIA
36.	BEER TOURISM POTENTIALS: BIBLIOMETRIC AND TEXT MINING BASED CONTENT ANALYSIS	Dušan Garabinović, MSc(1); Miloš Papić, PhD(2); Marija Kostić, PhD(1); Katarina Karić, MSc(2);	(1)University of Kragujevac, Faculty of Hotel Management and Tourism, Vrnjačka Banja, SERBIA (2)University of Kragujevac, Faculty of Technical Sciences Čačak, SERBIA
37.	THE „ELASTIC INNOVATION“ AS A NEW MANAGEMENT PARADIGM IN CONDITIONS OF GROWING UNCERTAINTY	Nemanja Gligorijević, PhD; Jelena Krstić Randić, PhD; Žaklina Anđelković, MSc;	Academy of vocational studies Southern Serbia, Department of the Leskovac Business School, Leskovac, SERBIA

38.	IDENTIFYING THE BIG FIVE PERSONALITY CHARACTERISTICS AT THE LEVEL OF OPERATIONAL MANAGEMENT IN THE HOTEL INDUSTRY	Tamara Jevtić, MSc; Aleksandra Vasić, MSc; Jelena Jevtić, PhD; Dragana Ilić Udovičić, PhD	Academy of Professional Studies Šabac, Šabac, SERBIA
39.	SPECIFICITY OF RASPBERRY EXPORT PRICE MANAGEMENT - THE CASE OF THE REPUBLIC OF SERBIA	Borislav Kolarić, PhD; Ivana Vladimirović, Mr; Jelena Ignjatović, PhD; Suzana Grujić, Mr;	Academy of Applied Studies, Unit of Agricultural Business Studies and Tourism, Šabac, SERBIA
40.	DEVELOPMENT OF RETAIL FORMATS IN MARKETING	Ana Dukić, PhD; Nevena Miletović, MSc; Djordje Mihailović, PhD; Ana Urošević, MSc;	1 Academy of Professional Studies Šumadija, Department in Arandelovac, Arandelovac, SERBIA
41.	JOINT EFFORTS TOWARDS SUSTAINABLE SUPPLY CHAINS AND RETAIL	Alenka Grmek, BSc	School Centre Kranj, Kranj, SLOVENIA
42.	CONTEMPORARY ISSUES ON THE RELATIONSHIP BETWEEN SUSTAINABILITY AND ACCOUNTING EVALUATION	Ágnes Siklósi, PhD; Ervin Denich, PhD; Attila Veress, PhD; Krisztina A. Sisa, PhD;	Budapest Business School, University of Applied Sciences, Budapest, HUNGARY
43.	HAS SUSTAINABILITY BEEN INCREASINGLY EMPHASIZED IN THE BANKING SECTOR RECENTLY IN HUNGARY?	Veronika Siklósi	Sopron, HUNGARY
44.	THE ROLE AND IMPORTANCE OF LOCAL TOURIST GUIDES IN TOURISM OFFER OF ZLATIBOR	Jelena Krstić Randić, PhD; Nemanja Gligorijević, PhD; Žaklina Anđelković, MSc;	1 Academy of vocational studies Southern Serbia, Department of the Leskovac Business School, Leskovac, SERBIA
45.	THE ROLE AND IMPORTANCE OF LOCAL TOURIST GUIDES IN TOURISM OFFER OF ZLATIBOR	Nevena Majstorović	Zlatibor tourism organization, Zlatibor, SERBIA
46.	SUSTAINABLE TOURISM IN THE FUNCTION OF A PROTECTED AREA - A CASE OF STUDY RAJAC	Marija Perić, PhD; Tatjana Marinković, PhD; Ben Mladenović, PhD; Tatjana Sekulić, PhD;	Academy of Technical Applied Sciences, Belgrade, SERBIA
47.	ANALYSIS OF SKILLS NECESSARY IN THE LABOR MARKET OF SERBIA AND THE EUROPEAN UNION	Ljiljana Pecić, PhD; Gabrijele Dimić, PhD; Ivana Milošević, PhD;	Academy of Technical and Art Applied Studies, Belgrade, SERBIA
48.	INTERNATIONAL SYNDICATED LOANS	Saša Sarić, PhD; Dragan Stojanović, PhD; Tanja Janačković, PhD; spec. Milica Ilić;	Higher Business School of Vocational Studies, Leskovac, SERBIA

49.	APITOURISM - MODERN TREND AND AN OPPORTUNITY FOR THE DEVELOPMENT OF MEDICAL TOURISM	Sara Stanić Jovanović, PhD(1); Anđelina Jovanović, PhD Student(2); Nevena Miletović 3 , MSc(1);	(1)Academy of Professional Studies Šumadija, Department in Arandelovac, Arandelovac, SERBIA (2)Clinical Hospital Center Zemun, Belgrade, SERBIA
50.	ANALYSIS OF THE QUALITY OF SERVICES IN SELECTED SPAS OF SERBIA	Radomir Stojanović, PhD(1); Marko Pavlović, PhD(2); Đorđe Pavlović, PhD(3);	(1)Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA (2)The Academy of Applied Technical Studies, Beograd, SERBIA (3)Western Serbia Academy of Applied Studies – Valjevo Department, SERBIA
51.	IMPROVING CREATIVITY THROUGH ORGANISATIONAL CULTURE	Ivana Bojović, PhD;	Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA

**(16:00-17:00) CONFERENCE HALL**

			CHAIRS
			SNEŽANA AKSENTIJEVIĆ, Ph.D. LJILJANA TRUMBULOVIĆ, Ph.D. VESNA MARJANOVIĆ, Ph.D. IVANA ČEKOVIĆ, Ph.D.
<b>SESSION:</b>			
<b>Mechanical Engineering and Occupational Safety and Health</b>			
No	Title of paper	Author(s)	Institution
1.	PHYSICAL AND CHEMICAL HARMS ANALYSIS IN THE WORKING ENVIRONMENTAL IN THE TEXTILE INDUSTRY PLANTS	Nataša Ćirović, PhD; Vesna Marjanović, PhD; Adela Alemdarević, BSc;	Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA
2.	HEALTH RISKS OF WELDERS WHEN PERFORMING WORK IN THE PRESENCE OF CHEMICAL HARMFULNESS	Vesna Marjanović, PhD(1); Nataša Ćirović, PhD(1); Jasmina Obradović(2);	(1)Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA (2)IMPOL SEVAL, Sevojino, SERBIA
3.	FIRE HAZARD RISK ASSESSMENT OF THE PUBLIC FACILITIES	Nataša Ćirović, PhD(1); Snežana Aksentijević, PhD;(1); Vesna Rosić, BSc(1); Dragan Obućina, MA(2);	(1)Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA (2)Remont centar, Užice, office@remontnicentar.com
4.	RISK MANAGEMENT FROM NATURAL DISASTERS AND ASSESSMENT OF THE CONSEQUENCES OF DAMAGE TO THE ECONOMY	Marijola Božović, PhD(1); Sanja Marković, PhD(1); Zorica Sagić, PhD(2); Martina Petković, PhD(1);	(1)Academy of Applied Studies of Kosovo and Metohija, Department Zvečan, SERBIA (2)Western Serbia Academy of Applied Studies, Užice Department, Užice, SERBIA
5.	FIRE PROTECTION MEASURES IN THE URBAN PLANNING	Nataša Ćirović, PhD; Snežana Aksentijević, PhD;	Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA
6.	MEDICAL WASTE MANAGEMENT	Željko Karganović, MD(1); Ljiljana Trumbulović, PhD(1); Mirjana Galjak, PhD(2);	(1)Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA (2)Academy of Applied Studies of Kosovo and Metohija, Department Leposavić, SERBIA
7.	PHYSICAL PRINCIPLES OF ACTION ELECTROMAGNETIC RADIATION IN THE WORKING AND LIVING ENVIRONMENT	Nataša Smiljanić, MA(1); Ljiljana Trumbulović, PhD(2); Ivana Čeković, PhD(2);	(1)Gymnasium Užice, SERBIA (2)Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA
8.	EVALUATION OF SUSTAINABLE PRODUCTION IN INDUSTRIAL CUTTING PROCESS	Štefan Žun, PhD;	ŠC Kranj, Kranj, SLOVENIA

9.	QUALITY MANAGEMENT OF PROTECTIVE COATINGS BASED ON ZIRCONIUM SILICATE	Marko Pavlović, PhD(1); Zorica Tanasković, PhD(2); Marina Dojčinović, PhD(3); Zagorka Aćimović, PhD(4);	(1)Innovation Center of Faculty of Mechanical Engineering, Belgrade, SERBIA (2)Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA (3)University of Belgrade, Faculty of Technology and Metallurgy, Belgrade, SERBIA (4)Engineering Academy of Serbia, Belgrade, SERBIA
10.	THE INFLUENCE OF CHANGING THE NUMBER OF BAFFLES ON THE FLOW AND THERMAL CHARACTERISTICS OF THE TUBULAR HEAT EXCHANGER	Branko Drndarević, MSc(1); Aleksandar Milovanović, PhD(2); Ivana Čeković, PhD(2); Snežana Aksentijević, PhD(2);	(1)Rad Rašo d.o.o., 31000 Užice, SERBIA (2)Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA
11.	USING SOLIDWORKS SIMULATION SOFTWARE AS HELP IN LEARNING CONCEPTS OF STRENGTH OF MATERIALS	Andreja Stefanović 1 , PhD;	Kosovo and Metohija Academy of Applied Studies, Leposavić, SERBIA
12.	CLASSIFICATION, RISKS, CONSEQUENCES AND SAFETY PROCESSES IN WORKING WITH CHEMICALS	Zoran Čeganjac, PhD(1); Marko Pavlović, PhD(2); Djordje Mihailović, PhD(1); Nevena Miletović, MSc(1);	(1)Academy of Professional Studies Šumadija, Department in Aranđelovac, Aranđelovac, SERBIA (2)Academy Innovation Center of the Faculty of Mechanical Engineering, Belgrade, SERBIA
13.	REFURBISHMENT BY WELDING OF DRILLING HOE WORN AREAS USING HIGH ENTROPY ALLOYS FILLER METAL	Elena Violeta Stefanescu Paveliu, PhD(1); Ionelia Voiculescu, PhD(1); Victor Geanta, PhD(1); Emilia Florina Binchiciu, PhD(2);	(1)University Politehnica of Bucharest, Bucharest, ROMANIA (2)ISIM Timisoara, Timisoara, ROMANIA
14.	SEM EDX OF PM 2.5 PARTICLES AND IT'S IMPACT TO CARDIOVASCULAR DISEASES IN UŽICE TOWN CORE, SERBIA	Mirjana Cvijović, PhD(1); spec. Dragan Čučković, MSc(2); Filip Rajković, MSc(3); Ana Čudić, PhD student(4);	(1)Institute for Microbiology and Immunology, Faculty of Medicine , Belgrade, SERBIA (2)Institute of Public Health, Užice, SERBIA (3)Faculty of Mining and Geology, Belgrade, SERBIA (4)Faculty of Earth and Life Sciences, Vrije, Biomedical Sciences , Amsterdam, NETHERLANDS
15.	VISUAL EFFECT OF ARTISTIC ELEMENTS OF VALUE AND COLOR ON THE MOOD AND WORK PERFORMANCE OF THE SPACE USERS	Aleksandar Dimitrijević, PhD; Ivana Čirović, PhD;	Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA
16.	ERGONOMIC PRINCIPLES IN DESIGNING SPACE, FURNITURE AND EQUIPMENT FOR PRESCHOOL INSTITUTIONS	Ivana Čirović, PhD; Aleksandar Dimitrijević, PhD; Jana Vasiljević, MSc;	Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA

**(17:00-19:00) CONFERENCE HALL**

CHAIRS  
**SLAVKA MITRIČEVIĆ, Ph.D.**  
**ŽELJKO KARGANOVIĆ, spec.**

**SESSION:****Medicine and Health Care**

<b>№</b>	<b>Title of paper</b>	<b>Author(s)</b>	<b>Institution</b>
1.	FOODBORNE BOTULISMUS - CASE REPORT	Sladjana Pavić, MD PhD(1); Željko Karganović, MD(2); Slavka Mitričević, DMD PhD(2);	(1)Department for Infectious and Tropical Diseases, General Hospital Užice, Užice, SERBIA (2)Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA
2.	RESEARCH OF FAKTORS DETERMINING THE PROVISION OF PREVENTIVE SERVICES IN PRIMARY HEALTH CARE IN SERBIA	Slavka Mitričević, DMD PhD(1), Slađana Pavić, MD PhD(2), Željko Karganović, MD(1)	(1)Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA (2)Department for Infectious and Tropical Diseases, General Hospital Užice, Užice, SERBIA
3.	CESTODE FAUNA – FISH PARASITES OF THE UNA RIVER	Isat Skenderović, PhD(1); Edina Hajdarević, PhD(1); Eldar Tanović, PhD(1); Ibro Skenderović, PhD(2);	(1)Faculty of Natural Sciences and Mathematics, University of Tuzla, Tuzla, BOSNIA AND HERZEGOVINA (2) The International University of Novi Pazar, Novi Pazar, SERBIA
4.	FREQUENCY AND ANTIBIOTIC RESISTANCE OF BACTERIA THAT CAUSE URINARY TRACT INFECTIONS IN CHILDREN UNDER THE AGE OF SEVEN	Bogdanović Svetlana(1), Randelović Dobrila(1), Zlatanović Zvonko(1), Živković Marina(2)	(1)Academy of Professional Studies Toplica, Prokuplje, SERBIA (2)Zivkovic_lab, rokuplje, SERBIA
5.	MANAGING BIOMEDICAL WASTE AT THE GENERAL HOSPITAL “DR. ALEKSA SAVIĆ” IN PROKUPLJE	Ivana Zlatković, PhD; spec. Svetlana Bogdanović; Zvonko Zlatanović, PhD; Zoran Petrović;	(1)Toplica Academy of Applied Studies, Department of Agricultural and Technological Studies Prokuplje, SERBIA (2)General Hospital “Dr Aleksa Savić” in Prokuplje, SERBIA
6.	INCIDENCE OF E.COLI IN NON-NOSOCOMIAL INFECTIONS	Zlatanović Zvonko, Bogdanović Svetlana, Zlatković Ivana, Randelović Dobrila	Academy of Professional Studies Toplica, Prokuplje, SERBIA
7.	A SEDENTARY LIFESTYLE IN POST-INDUSTRIAL SOCIETIES AND CONSEQUENCES FOR HUMAN HEALTH	Snežana Knežević, MD;	Health center Kraljevo, Kraljevo, SERBIA
8.	FACTORS THAT AFFECT KNOWLEDGE AND ATTITUDES OF	Roland Antonić, Slobodanka Bogdanović	Academy of Professional Studies Šabac, Department of Medical and Business-Technological Studies, Šabac, SERBIA



	PROFESSIONAL DRIVERS ABOUT THE INFLUENCE OF MEDICINES ON DRIVING ABILITY	Vasić, Katarina Pavić, Kosana Popović	
9.	RISK FACTORS FOR CARDIOVASCULAR DISEASES IN THE STUDENT POPULATION	Slobodanka Bogdanović Vasić(1), Roland Antičić(1), Nikola Savić(2), Katarina Pavić(1)	(1)Academy of Professional Studies Šabac, Department of Medical and Business-Technological Studies, Šabac,SERBIA (2)Medical School "Dr Miša Pantić", Valjevo, Singidunum University, Faculty of Health and Business Studies Valjevo, SERBIA
10.	PREVENTIVE MEASURES TO COMBAT FATIGUE AND INCREASE WORK CAPACITY	Željko Karganović, MD(1), Sladjana Pavić, MD PhD(2), Slavka Mitričević, DMD PhD(1);	(1)Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA (2)Department for Infectious and Tropical Diseases, General Hospital Užice, Užice, SERBIA
11.	NUTRITIONAL IMPACT ON BRAIN FUNCTION: FOOD FOR THOUGHT, EMOTIONS AND WELLBEING	Tatjana Marinković, PhD(1); Dragan Marinković, PhD(2);	(1)Academy of Applied Technical Studies Belgrade, Belgrade, SERBIA (2)University of Belgrade-Faculty of Special Education and Rehabilitation, Belgrade, SERBIA
12.	FREQUENCY OF CHROMOSOMAL ABERRATION IN PERIPHERAL BLOOD OF THE POPULATION IN SOUTH AND EAST SERBIA	spec. Bogdanović Svetlana; Zlatković Ivana, PhD; spec.Jugović Dragana; spec. Branković Ljiljana;	(1)Academy of Applied Studies Toplica, Prokuplje, SERBIA (2)University Clinical Centre Niš, Laboratory for Immunology and Genetics, Centre for Medical and Clinical Biochemistry, Niš, SERBIA
13.	REPRESENTATION OF CERVICAL CANCER IN THE CITY OF UZICE IN RELATION TO ZLATIBOR DISTRICT AND CENTRAL SERBIA	Slavka Mitričević, DMD PhD(1); Slađana Popović, BSN(2); Jelena Ristović, BSN(3);	(1)Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA (2)Health Center Uzice, Public Health Center, Uzice, SERBIA (3)Health Center Užice, General Hospital,Uzice,SERBIA, SERBIA
14.	DEVELOPMENT OF CARDIOVASCULAR COMPLICATIONS IN PEOPLE IN ISOLATION DUE TO THE COVID 19 PANDEMIC	Jelena Raković Radivojević, MD(1); Aleksandra Pavić, MD(2); Željko Karganović, MD(2); Ivanka Đuričić, MD(1);	(1)Western Serbia Academy of Applied Studies, Department Užice, , SERBIA (2)Clinical Center of Serbia, Belgrade, SERBIA
15.	MANAGING BIOMEDICAL WASTE AT THE PROKUPLJE HEALTH CENTER BEFORE AND AFTER COVID-19 PANDEMIC	Ivana Zlatković, PhD(1); Dobriła Ranđelović, Mr(1); Zvonko Zlatanović, PhD(1); Gordana Mihajlović(2);	(1)Toplica Academy of Applied Studies, Department of Agricultural and Technological Studies, Prokuplje, SERBIA (2)Prokuplje Health Center, SERBIA
16.	PRIMARY DISEASES OF THE HEART MUSCLE-DEFINITION AND CLASSIFICATION	Dara Savić Božović, MD PhD(1); Branko Božović, MD(2); Mirjana Čopić, BSN(3);	(1)Western Serbia Academy of Applied Studies, Department Užice, , SERBIA (2)Volunteer specialization (3)Health Center Uzice, General Hospital,Uzice, SERBIA

17.	LUNG CANCER - THE GROWTH PATTERN OF NEW ILLNESSES IN RELATION TO OTHER LUNG DISEASES AND RISK FACTORS	Ivanka Djuricic, MSc(1); Milena Ljubic, LPN(2); Jelena Ristic, LPN(3);	(1)Western Serbia Academy of Applied Studies – Užice Department, Užice, SERBIA (2)Pneumophthisiology service Užice General Hospital, SERBIA (3)Surgical intensive care and therapy service Užice General Hospital, Užice, SERBIA
18.	THE IMPORTANCE OF THE APPLICATION OF MECHANICAL VENTILATION IN TRAUMATED PATIENTS FROM THE ASPECT OF HEALTHCARE-CASE REPORT	Rada Milić, BSN(1); Jelena Raković Radivojević, MD(2); Dušica Jovićević, BSN(1);	(1)Health Center Užice, General Hospital Užice, SERBIA (2)Western Serbia Academy of Applied Studies, Department Užice, SERBIA
19.	HYPERTENSION IN CHILDREN - DILEMMA AND TRAPS REPORT OF CASES	Dara Savić Božović, MD PhD(1); Branko Božović, MD(1); Mirjana Čopić, BSN(3);	(1)Western Serbia Academy of Applied Studies, Department Užice, , SERBIA (2)Volunteer specialization (3)Health Center Užice, General Hospital, Užice, SERBIA
20.	INTERPERSONAL COMMUNICATION IN HEALTHCARE	Ivana Bojović, PhD;	Academy of Applied Sciences Western Serbia, Užice Department, Užice, SERBIA
21.	PROFESSIONAL CHALLENGES IN THE GERIATRIC POPULATION – DILEMMA AND PREJUDICES	Jelena Raković Radivojević, MD; Rada Milić, BSN;	(1)Academy of Applied Sciences Western Serbia, Užice Department, Užice, SERBIA (2)Health Center Užice, General Hospital Užice, SERBIA
22.	SELF ASSESSMENT OF HEALTH-RELATED QUALITY OF LIFE IN YOUTH WITH TYPE 1 DIABETES MELLITUS AND COMORBIDITIES	Mirjana Smuđa(1,2); Tatjana Milenković(3); Vera Zdravković(4,5); Dragana Milutinović(6);	(1)Academy for Applied Studies Belgrade, The College of Health Sciences, Belgrade, SERBIA (2)University of Novi Sad, Faculty of Medicine, SERBIA (3)Department of Endocrinology, Mother and Child Health Care Institute of Serbia "Dr Vukan Cupic", SERBIA (4)University of Belgrade, Faculty of Medicine, Belgrade, SERBIA (5)University Children's Hospital Belgrade, Belgrade, SERBIA (6)Department of Nursing, Faculty of Medicine, University of Novi Sad, Novi Sad, SERBIA

23.	A REVIEW OF THE EPIDEMIOLOGY AND EXOGENOUS RISK FACTORS FOR BLADDER CANCER	Marijana Srećković, (1,2,3); Vesna Ignjatović, (4); Nikola Beljić, (1); Aleksandra Kršmanović(1);	(1)Academy of Professional Studies Šabac, SERBIA (2)Public Health Institute Šabac, SERBIA (3)Faculty of Medicine, University of Novi Sad, SERBIA (4)Department for Nuclear Medicine, Faculty of medical sciences, University of Kragujevac, SERBIA
24.	ASSESSMENT AND SELF-ASSESSMENT OF THE COMPETENCES OF TEACHING ASSOCIATES IN NURSING CARE	Biljana Stojanović Jovanović, PhD; Stevan Jovanović, PhD; Ivan Tanasić, PhD; Nataša Stojković;	Academy of Applied Studies, Belgrade, The College of Health Studies, Belgrade, SERBIA
25.	ACTIVE LISTENING: THE KEY OF SUCCESSFUL COMMUNICATION IN HEALTHCARE	Ivana Bojović, PHD(1); Marija Nikolić, BSc(2);	(1)Western Serbia Academy of Applied Studies - Uzice Department, Uzice, SERBIA (2)Medical school, Uzice, SERBIA

**THIRD DAY - WEDNESDAY, 7<sup>th</sup> JUNE 2023**

**(10:30-11:30) WORKSHOP:  
Education 3.0 And Social Networkbased Education  
FOR EFFECTIVE LEARNING AND INTEGRATION WITH INDUSTRY**

<b>CHAIRS</b>	<b>GORAN D. PUTNIK, (Professor)</b> University Of Minho, Department Of Production And Systems Engineering
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**(12:00-15:00) TRIP TO GRABAK WINERY**

**(17:00-19:00) ROUND TABLE:  
Exploring Opportunities and Challenges of Networking Among  
Higher Education and Research: Research Data as Machine Learning  
Educational Tasks**

<b>CHAIRS</b>	<b>DRAGAN MARKUSHEV, Ph.D.</b> <b>ALEKSANDAR KUPUSINAC, Ph.D.</b> <b>MIROSLAVA JORDOVIĆ PAVLOVIĆ. Ph.D.</b>
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**(19:00-20:00) CLOSING REMARKS  
Ljiljana Trumbulovic, Ph.D.  
Vice-President of Organizing Committee**

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