



**TeComp**



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**WP 3.4**

598434-EPP-1-2018-1-RS-EPPKA2-CBHE-JP (2018-2467)

***THE COURSE **TEACHING AND  
ACADEMIC WRITING IN ENGLISH  
FOR NATURAL AND  
MATHEMATICAL SCIENCES  
(TAWE)*****

**Biljana Mišić Ilić  
Jasmina Đorđević  
Nikola Tatar**

## Structure and Dates

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- The course is a 24-hour intensive course.
- Implementation: 3<sup>rd</sup> – 23<sup>rd</sup> March 2022, 6 online Zoom sessions, each lasting 3 hours
- A dedicated Google classroom for materials delivery, course and class communication and course management
- Two onsite sessions for assessment and feedback (abstract writing and microteaching) in small groups of up to 8 participants.
- University of Niš 11-14<sup>th</sup> April 2022,
- University of Belgrade 27<sup>th</sup> May 2022,
- University of Novi Sad 28<sup>th</sup> May 2022
- University of Kragujevac 10-11<sup>th</sup> June 2022,
- University of Gjirokaster and University of Korce 15-16<sup>th</sup> June 2022.



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## Intstructors



**Dr Biljana Mišić Ilić, Full Professor**



**Dr Jasmina Đorđević, Associate Professor**



**Nikola Tatar, M.A., English language  
instructor**





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## Course participants:

- 116 total, 33 male and 83 female
- Serbian partner universities (University of Niš, University of Belgrade, University of Novi Sad and University of Kragujevac)
- Albanian partner universities (University of Gjirokaster and University of Korca).

  
**BESPLATAN ONLINE  
KURS ENGLESKOG JEZIKA**

<b>Kome je kurs namenjen?</b> Usavršavanju nastavnik kompetencija nastavnika i saradnika prirodnih nauka i matematike.	<b>Kako je kurs koncipiran?</b> Kurs će se sastojati iz šest sesija. Svaka sesija će biti u trajanju od tri školska časa (po 45 minuta)
<b>Koji su termini održavanja kursa?</b> Sesije će biti održavane u terminu od 18:00h do 20:30h datumima: <ul style="list-style-type: none"><li>• 4. mart 2022. god.</li><li>• 9. mart 2022. god.</li><li>• 11. mart 2022. god.</li><li>• 15. mart 2022. god.</li><li>• 18. mart 2022. god.</li><li>• 23. mart 2022. god.</li></ul>	<b>Ko su predavači na kursu?</b> Predavači na kursu biće sa Filozofskog fakulteta u Nišu: <ul style="list-style-type: none"><li>• <b>Biljana Mišić Ilić</b>, redovni profesor</li><li>• <b>Jasmina Đorđević</b>, vanredni profesor</li><li>• <b>Nikola Tatar</b>, nastavnik stranog jezika</li></ul>
<b>Kako se prijaviti?</b> Svi zainteresovani, mogu se prijaviti na mail: <a href="mailto:tecomp.p2018@gmail.com">tecomp.p2018@gmail.com</a> Za prijavu na kurs nije potrebno polagati nikakav ulazni test.	<b>I još?</b> Nakon 6 online sesija, biće organizovane i dve sesije posvećene mikronastavi i pisanju sažetka. Ove sesije će biti organizovane uživo u: Nišu, Kragujevcu, Novom Sadu i Beogradu.



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## General data:

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- **General aim:** To increase capacities of teaching staff in natural and mathematical sciences for teaching and academic writing in English and thus provide better options for internationalization of the HEIs, both at the institutional and personal level,
- **Course rationale:** University teaching staff need to be not only proficient in English for general purposes and familiar with the discipline-specific terminology in English, but also to gain a range of additional competences in order to be able to teach their courses in English and to publish their research in English.



## General data:

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- **Competences to be developed:**
  - the awareness of the specificities of English Medium Instruction (EMI),
  - the specific English language competences,
  - pedagogical competences,
  - intercultural communicative competences,
  - academic writing competences in English



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## Course objectives:

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- To provide university and college teachers of natural and mathematical sciences (non-native speakers of English) with appropriate language and methodology tools
- To help the teachers build the confidence and skillfulness in delivering lectures in English
- To help the researchers write academic articles in English in the form appropriate in language and style to the genre of international publications.



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# The needs analysis prior to the course:

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- Aim:

- to fine-tune the course content according to specific subdisciplines most suitable for the very specific target group of participants
- to identify the attendants' opinions of their needs regarding such a specific course.

- Mode:

- a questionnaire prepared and distributed to prospective participants at Serbian partner universities via Google Forms.
- 22 closed-ended questions
- total of 86 responses collected in October 2021

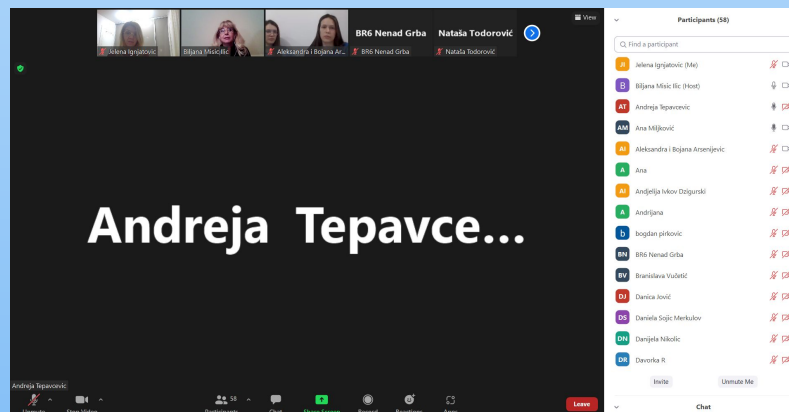


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# TAWC Course Material

- Carefully designed to cover crucial aspects in teaching academic courses in English and better academic writing in English in the fields of natural and mathematical sciences
- Main areas covered: the use of class language, instructions for effective lecturing, organizing interactive lectures, the use of teaching tools and visual aids, the forms of academic writing, differences between spoken and written academic genres, etc.),



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# TAWE Course Material

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- Printed as a booklet and distributed to course participants, also uploaded in the Google classroom dedicated for the course implementation as *Teaching and academic writing in English - TAWE. pdf*, available at <https://classroom.google.com/u/0/w/NDY2OTA0OTc3ODcx/tc/NDY2OTA0OTc4Nzk3>, for course participants.
- A lot of additional material in the form of illustrative videos from open-access reliable and high-quality sources, additional books and articles and a list of useful links also provided in the Google classroom, at <https://classroom.google.com/u/0/w/NDY2OTA0OTc3ODcx/t/all>.

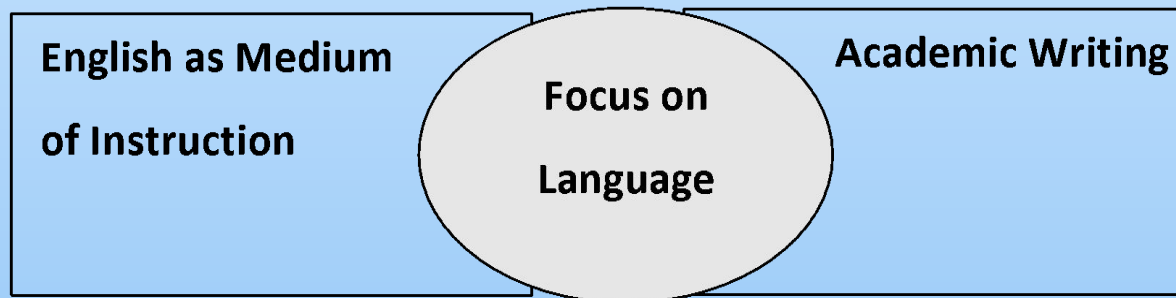


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## Course Content:

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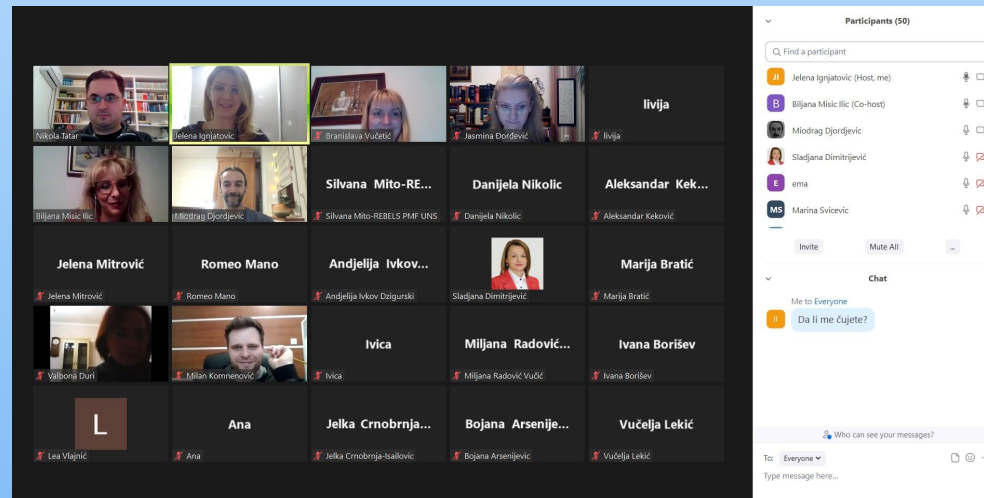
- The components of *TAW*E course include English Medium Instruction (EMI) topics, academic writing, and focus on English, appropriate in genre, style and medium.



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# Course Implementation:

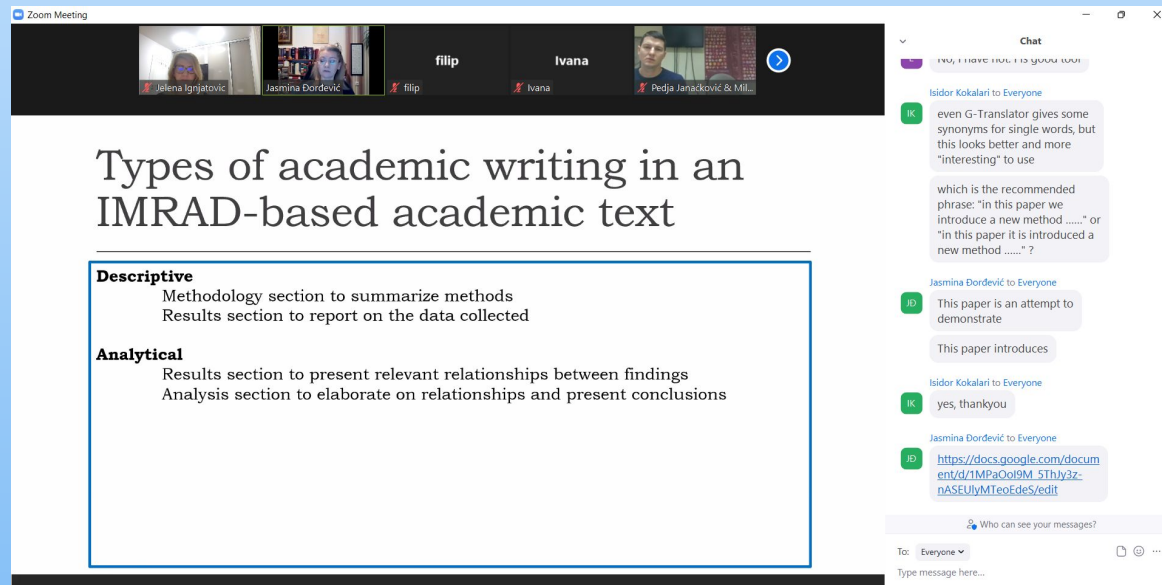
- Theoretical aspects of EMI, academic writing and vocabulary study kept to a minimum.
- The course participants were invited and encouraged to reflect upon, discuss and do many practical activities relating general principles to their academic and professional setting.
- Illustrative videos and segments of academic articles from open-access reliable sources were often used, accompanied by guided questions, which promote noticing, reflection, teaching strategies and language study.
- Authentic materials were carefully chosen to demonstrate the style differences among natural sciences and mathematical sciences, and for discipline-specific individualization.



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# Course Implementation:

- Special attention is devoted to genre and language differences between spoken and written language, i.e., between EMI teaching and writing academic articles in English.
- Class interaction, despite the great limitations of the online format, was very important.
- The participants used chat, interactive google documents for writing and discussion in class and occasional discussion during sessions.
- Both discipline-specific and even personal individualization was enabled through small-group and individual written tasks, submitted via Google classroom.



The screenshot shows a Zoom meeting interface. The main window displays a slide titled "Types of academic writing in an IMRAD-based academic text". The slide content is as follows:

<b>Descriptive</b>
Methodology section to summarize methods Results section to report on the data collected
<b>Analytical</b>
Results section to present relevant relationships between findings Analysis section to elaborate on relationships and present conclusions

On the right side of the Zoom window, a chat window is open. It shows a conversation between participants. One participant asks for a recommended phrase to introduce a new method, and another suggests "in this paper we introduce a new method .....". A third participant provides a Google Docs link for editing a document.



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# General outcomes of the course

- The course promotes self-reflection and self-assessment related to the participants' teaching and academic writing practices, language skills, communication and professional contexts.
- The course is not intended to give standardized, general solutions, but to provide guidelines and stimulate self-reflection.

- This, hopefully, leads to solutions which are most suitable for various participants, depending on institutional policies, local conditions, as well as the needs of the teacher.

**Explanation of what it means to know a word**

- Collocations – words that commonly occur together
- There was a heated debate on the issue of artificial insemination.
- Register – language use in specific contexts (academic, news, etc.)
- The results of the experiment are not statistically important. (!)
- Colligation – the tendency of words to appear together with particular grammatical structures or forms
- The whole team was looking forward to seeing the results of the experiment.
- Semantic prosody – the positive or negative connotation of a word
- to cause pain/trouble/distress/disease vs. to bring about improvement/cure/solution
- Semantic preference - the frequency of a word to occur within a specific semantic set

**Language devices typical for lecture mode (colour coding used in the text below)**

Phrases for starting the lecture, and moving through the lecture, and closing the lecture

Context dependent items

More everyday vocabulary, less complex sentence structure, active instead of passive, verbs instead of noun phrases

More personal (I, we, you), dialogic features

Journal article (written)	Lecture (spoken)
<p><b>INTRODUCTION</b></p> <p>Free radicals play a crucial role in chemical reactions. Most of the reactions in the fuel system, the earth's atmosphere and planets have involved free radicals. In fact, their mechanisms have been intensively studied recently. The methyl radical CH<sub>3</sub>, one of the most important free radicals due to its high reactive activity, is featured in combustion research. Recent results showed that it also participates in chemical vapor deposition (CVD) and chemical vapor infiltration (CVI) on the surface of carbon fibers.</p>	<p>The topic of our lecture today is free radicals. They are very important because they play a crucial role in chemical reactions in most of the reactions, such as the ones in the fuel system, on the earth's atmosphere and the planets. They are also involved in many interesting things, and in the handout, the first four items, you will find references to some recent studies. One of the most important free radicals is the methyl radical CH<sub>3</sub>. It is highly reactive and that's why it's often found in combustion research.</p>







# Assessment

- Composed of two segments, with two tasks.
- The first segment: the writing of a 200-word abstract on a given topic from the candidates' respectful areas of expertise within 45 minutes.
  - The content and structure of the abstracts was based on the academic writing training sessions and on pre-prepared rubrics.
  - After that they were provided with a peer and a teacher assessment of their writing.

## Focus on writing articles

**I** – Introduction contextualizes the research, provides a presentation of the theoretical background, informs of the value of the research – How is it different? How is it new?

**M** – Methodology describes how the research was conducted, tells about the methods, approaches, techniques, instruments, sample, participants, time, place, etc.

**R** – Results section presents the findings qualitatively and/or quantitatively depending on the research design.

**A** – and

**D** – Discussion offers a detailed analysis of the relationships between the results, provides a presentation of how the findings confirm/don't confirm the hypothesis, explains whether initially set research questions have been answered, displays limitations, indicates implications and offers a concluding remark.

*“Uses promptos facit.”  
Practice makes perfect*

- PROVERB







# Assessment

- The second segment: the candidates delivered a micro lecture on a topic of their choice, related to the course(s) they teach.
  - They handed in lesson plans and they prepared PPT presentations as well as any necessary teaching aid.
  - Following of their microteaching, each candidate was provided with peer and teacher assessments prepared on assessment lists.

Language devices typical for lecture **mode** (colour coding used in the text below)

Phrases for starting the lecture, and moving through the lecture, and closing the lecture

Context dependent items

More everyday vocabulary, less complex sentence structure, active instead of passive, verbs instead of noun phrases

More repetitions and clarifications, synonyms

More personal (I, we, you), dialogic features

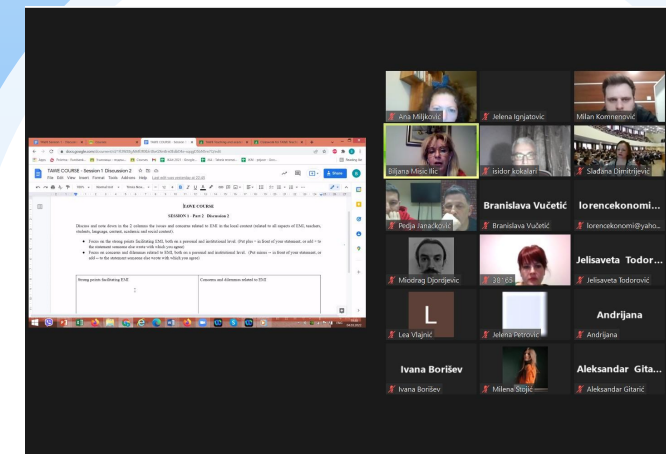
Journal article (written)	Lecture (spoken)
<p><b>INTRODUCTION</b></p> <p>Free radicals play a crucial role in chemical reactions. Most of the reactions in the fuel system, the earth's atmosphere and planets have involved free radicals. In fact, their mechanisms have been intensively studied recently.<sup>1-4</sup> The methyl radical CH<sub>3</sub>, one of the most important free radicals due to its high reactive activity, is favored in combustion research. Recent results showed that it also participates in chemical vapor deposition (CVD) and chemical vapor infiltration (CVI) routes.<sup>5-7</sup> Among alkyl radicals, CH<sub>3</sub> shows</p>	<p>The topic of our lecture today is free radicals. They are very important because they play a crucial role in chemical reactions. When we look around us, we see that free radicals are involved in most of the reactions, such as the ones in the fuel system in the earth's atmosphere and the planets. This was an interesting topic for many researchers, and in the handout, the first four items, you will find references to some recent studies. One of the most important free radicals is the methyl radical CH<sub>3</sub>. It is highly reactive and that's why it is often found in combustion research. Recently, researchers showed that CH<sub>3</sub> also</p>





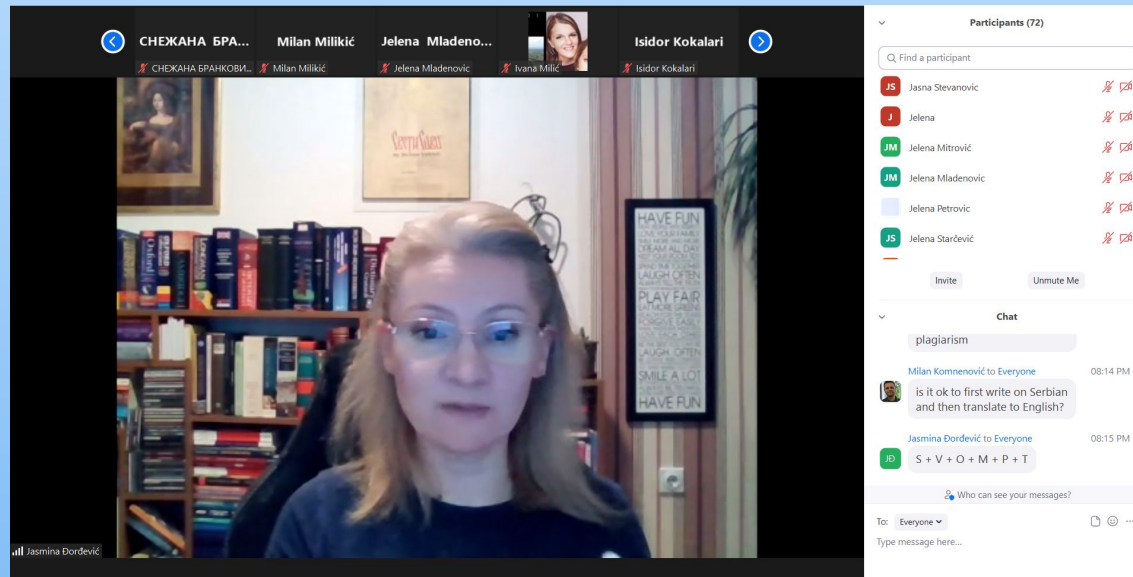
# Course Evaluation

- After the TAWÉ course, a Google form questionnaire to evaluate the course, 13 close-ended questions, with multiple options for answers.
- Responses received from 51 participants.
- Some highlighted responses:
- Course outcomes: 82.4% participants stated they had a chance to get instructions and materials from the instructors, while 76.5% stated they could improve their English skills and 74.5% that they could practice teaching in English.
- Biggest concern about EMI at their institutions and their using EMI: 68.6% of respondents is concerned that students will have mixed English language abilities; 56.9% are concerned that they will need more time to prepare their lessons.



# Course Evaluation

- **Positive effects on their confidence in using English:** most of the respondents agreed that their reading, listening, speaking and overall use of English had been affected either considerably or partly.
- **Course effect:** On average, 63% of the respondents stated that the course had a positive effect on their overall confidence in English, their pedagogic skills and their knowledge how to structure their classes.



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# Certificates:

- All the participants who successfully completed the TAWE course were awarded the course certificates, at a ceremony at the University of Niš on September 15th , 2022.



# GREAT TEACHERS



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# Training sustainability:

- The course is officially accredited in the Centre for professional education at the Faculty of Science and Mathematics, University of Niš.



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