

**CONN'COR - Connect, Compare and Repair for a Common Future with Ukraine:
A Focus on Electrical Engineering Teaching**

Project No. 2024-1-FR01-KA220-HED-000250882

WP2: Strengthening the coherence of teaching on a certain set of subjects

Activity 2.3: Interaction with active and former students including implementation of learning with help of learning assistants

R2.3c Reports on 10 meetings between teachers and learning assistants

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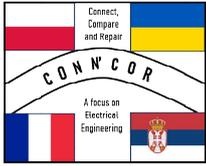
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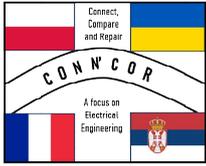


Reports on 10 meetings between teachers and learning assistants (CentraleSupélec)

Activity R2.3c Reports on 10 meetings between teachers and learning assistants. Learning assistant included to help students to get better learning outputs.

The number of meetings depend on the duration of these meetings. For example the participation to a 3-hours lecture counts for several meetings.

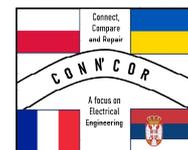
	Learning assistant 1	Learning assistant 2
Meeting 1 description	19 of December 2024 (15 minutes): First discussion between the teacher and the LA. The teacher explained in general what are the objectives and subject of the labworks and provided the tutorial and written subject of the labworks. The LA must try to do the tutorial and subject on his own and will make a list of feedbacks and questions for the teacher.	November 19th 2024 (20 minutes): Explanation of the concept of “research-based teaching” in CONN’COR. The learning assistant will have to propose at least 3 subjects for 12 students Discussion on the organization: 2 groups of 2 per subject Subjects to be proposed by LA: charge amplifier, variable-gain amplifier, comparator LA will provide a Short bio (for article, example)
Meeting 2 description	6th of January 2025 (1h00): The LA made all the feedbacks and questions to the teachers. For illustration, here is a non-exhaustive list of questions and feedbacks from LA: - Why students do not have more information about the dimensioning of the comparator in the subject? - How must we dimension the parasitic capacitance and current sources for the Voltage Controlled Oscillator? - How should the students prepare the common-centroid layout? - Is it necessary to layout	17th of February (45 minutes) Webinar (available on website)



	<p>the current mirror with dummy transistors?</p> <p>- The complete circuit must be tested with a H-Bridge, but the H-Bridge is not ready.</p> <p>Thanks to all these feedbacks the teacher will prepare a webinar with all detailed explanation for the 13th of January.</p>	
Meeting 3 description	<p>13th of January 2025 (1h00): The teacher presented a webinar session to answer all the previous questions with a pedagogical approach dedicated to ICS Master. The link to this webinar is before.</p>	<p>21th of February (15 minutes) : The teacher send to the learning assistant an example of slides for subjects presentation. Short discussion.</p>
Meeting 4 description	<p>16th of January 2025 (3h00): The LA assisted to the course "Computer Aided Design of analog integrated circuits" together with the ICS Master student.</p>	<p>25th of February (15 minutes) The LA sent the slides for his subjects and teacher makes a feedback. Short discussion to see how to avoid possible redundance with CAD1.</p>
Meeting 5 description	<p>20th of February 2025 (30 min): discussion about the survey, the students evaluation and the design of the missing H-Bridge</p>	<p>26th of March (30 minutes) Discussion on the content of students survey + discussion and construction of the evaluation grid for "Research based teaching"</p>



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Report on meetings between Myroslav Sabat (teacher) and Vladyslav Serniuk, who served as a "teaching assistant" on the course "Fundamentals of Design of Renewable Energy Elements and Systems" - spring semester 2024/2025

CONN'COR project No. 2024-1-FR01-KA220-HED-000250882

WP2: Improving the teaching of a set of disciplines. Activity R2.3c Report on 7 classes conducted by the teacher and assistant with students.

Hiring an assistant to help students achieve better academic results

ANNEX 1

Classes in the discipline "Fundamentals of Design of Renewable Energy Elements and Systems" began on March 1, 2025. After an oral announcement in a group of fifth-year students on March 20, 2025, only 2 (two) students were interested in such activities.

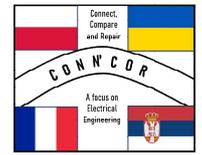
No.	Meeting date and time	Meeting topic	Comments and conclusions
1	27/03/2025 11:40 – 14:00	Meeting of the assistant with the teacher. Development of a work plan according to the program. Description and review of the structure of a feasibility study (FES) for renewable energy projects. Discussion of a FES example.	
2	03/04/2025 13:15 – 14:00	In-depth introduction to the types and types of hydroelectric power plants (HPPs). Discussion of advantages and disadvantages. Presentation on a projector.	The students were interested in the topic and expressed a desire to receive additional materials related to this topic.
3	10/04/2025 13:15 – 14:00	Prospects for installing and using an energy-saving installation (ESI). Discussion of advantages and disadvantages. Presentation on a projector.	This topic sparked discussion and interest among students.
4	16/04/2025 13:15 – 14:00	Using software (software) for designing renewable energy sources. Demonstration of working in the software.	The assistant explained in detail and demonstrated to the students the basic principles of working with software for calculating network modes.
5	17/04/2025 13:15 – 14:00	Assistance to students in the implementation of individual projects. Discussion of the most optimal solutions. Review of the energy system of Ukraine and collection of information for the implementation of individual projects.	Some students expressed a desire to work together on individual projects on a proactive basis.
6	23/04/2025 13:15 – 14:00	Helping students with calculating the compatibility of RES with the grid. Review of students' work on individual projects and answers to questions.	Students were pointed out errors and inaccuracies in their work and ways to solve them.
7	24/04/2025 13:15 – 14:00	Students complete a questionnaire on how they see the role of an assistant, what they liked about this format of training, what are the advantages and disadvantages. Summing up the work done on individual projects.	

Assistant's signature:
Vladyslav Serniuk

Teacher's signature:
Ph.D. Myroslav Sabat



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Report on meetings between Myroslav Sabat (teacher) and Dmytro Soiko, acting as a "learning assistant" in Fundamentals of designing renewable energy elements and systems- Spring semester 2024/2025

Project CONN'COR no. 2024-1-FR01-KA220-HED-000250882

WP2: Strengthening the coherence of teaching on a certain set of subjects

Activity R2.3c Reports on 7 meetings between teachers and learning assistants. Learning assistant included to help students to get better learning outputs.

APPENDIX 2

Fundamentals of designing renewable energy elements and systems classes began on March 1, 2025. Following an oral announcement in the group of fifth-year students of electrical engineering on March 20, 2025, it was only 2 (two) students interested in such an activity.

No.	Date and time of meeting	Topic of meeting	Comments and conclusions
1	26/03/2025 11:40 – 13:00	Meeting of the assistant with the teacher. Development of a work plan according to the program. Raising questions for RES design.	
2	02/04/2025 11:40 – 13:00	An in-depth look at the types of solar power plants (SPP). Discussion of advantages and disadvantages. Showing the presentation on the projector.	The students were interested in the topic.
3	09/04/2025 11:40 – 13:00	In-depth consideration of the classification and types of wind power plants (WPPs). Assessment of their advantages and disadvantages. Presentation slides will also be shown.	This topic sparked discussion and interest among students.
4	16/04/2025 11:40 – 13:00	Use of software for designing RES. Calculation of network modes.	The assistant explained in detail and demonstrated to the students the basic principles of working with software for calculating network modes.
5	17/04/2025 11:40 – 13:00	Assisting students with individual projects. Determining the location of RES connection.	
6	23/04/2025 11:40 – 13:00	Assistance to students in choosing a connection scheme in individual projects.	Students were pointed out errors and inaccuracies in their work and ways to solve them.
7	30/04/2025 11:40 – 13:00	Students fill in a questionnaire on how they see the role of an assistant, what they liked about this learning format, and what are the advantages and disadvantages. Summarising the work done on individual projects.	

Assistant's signature:

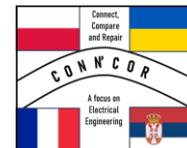
Dmytro Soiko

Teacher's signature:

Myroslav Sabat



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Report on meetings between Jaroslaw Makal (teacher) and Jan Kulakowski, acting as a "learning assistant" in Theory of Circuits 1 (EDS1B 1004), the practical profile of electrical engineering, during the winter semester 2024/2025

Project no. 2024-1-FR01-KA220-HED-000250882

WP2: Strengthening the coherence of teaching on a certain set of subjects

Activity R2.3c Reports on 10 meetings between teachers and learning assistants. Learning assistant included to help students to get better learning outputs.

APPENDIX 1

Theory of Circuits 1 classes began on October 1, 2024. Following an oral announcement in the group of second-year students of electrical engineering on October 21, 2024, it was only 1 (one) student interested in such an activity.

No.	Date and time of meeting	Topic of meeting	Comments and conclusions
1	04/11/2025 13.15 – 13.30	Familiarization with the role of an assistant. Presentation of the expectations of the lecturer, Prof. J. Makal. Student's decision to start the project.	
2	14/11/2025 11.00- 11.45	Clarification of student's doubts regarding Thevenin's method. Hints regarding detailed solutions.	
3	21/11/2024 11.00- 11.45	Ohm's Law for AC RLC circuits. Problems for DC Circuits. The Method of Loop Currents.	
4	28/11/2024 11.00- 11.45	Problems on the nodal potential method.	After the teacher leaves the classroom, students usually have many questions for the assistant.
5	05/12/2024 11.00- 11.45	Discussion of issues that cause great difficulty for students. Thevenin's method.	
6	12/12/2024 11.00- 11.45	The assistant's proposal to conduct a survey among students on how they see the role of an assistant and whether they need one at all.	Noticeable drop in student activity. They have no questions for the assistant.
7	19/12/2024 11.00- 11.45	Assistant's comments on homework assignments for the December-January period (class break from 20/12 to 10/01/2025). Discussion of assignments and proposed tips for students.	Emphasizing the possibility of communication between students and the assistant via e-mail.
8	09/01/2025 11.00 - 11.45	Discussion of students' skills in solving homework problems. Identification of problems involving complex numbers in electrical circuits.	Students prefer to work independently, although they do not undertake it
9	16/01/2025 11.00 - 11.45	Discussion of the scope of tasks for passing the subject. Selection of tasks for the final calculation exercises.	
10	23/01/2025 11.00 – 11.45	Summary of the assistant's role. Pointing out strengths and weaknesses. Suggestions for modifying the assistant's activities in the future.	The assistant's acceptance and satisfaction with participating in the classes and the role undertaken.
11	30/01/2025 12.15 – 14.00	Participation of the assistant during the final colloquium, but without active communication with students.	
12	10,17/02/2025 11.00 – 14.00	Participation of the assistant in the oral exam of Theory of Circuits 1	

Assistant's signature:

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Jan Kulakowski

Teacher's signature:

dr inż. Jaroslaw Makal, prof. PB



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Report on meetings with Sylwester Glinko and Mateusz Dołęgiewicz, acting as "learning assistants" in Metrology (EDS1B 2010), the practical profile of electrical engineering, during the summer semester 2024/2025

Project no. 2024-1-FR01-KA220-HED-000250882; WP2: Strengthening the coherence of teaching on a certain set of subjects
Activity R2.3c Reports on 10 meetings between teachers and learning assistants. Learning assistant included to help students to get better learning outputs.

Metrology lab classes started on 26th of February, 2025. Following an oral announcement in the group of second-year students of electrical engineering on October 21, 2024, there were only 2 (two) students of 4th semester interested in such an activity.

Lp.	Day at time of meeting	Topic of meeting	Comments and conclusions
1	27/03/2025 8.45 – 9.30	Training for play the role of an assistant. Presentation of the expectations of the lecturer, Prof. J. Makal.	Students' decision to start the project.
2	02/04/2025 8.15 – 8.30	Description of requirements for experiment M05 (measuring of resistance by the technical method)	LAs pay attention on input preparation of students
3	09/04/2025 8.15 – 8.30	Description of requirements for experiment M08 (measuring of resistance by the Wheatstone bridge)	The waste of time on making tables in class
4	16/04/2025 8.15 – 8.30	Description of requirements for experiment M14 (multimeter and 4W resistance measurement)	After the teacher leaves the classroom, students usually have many questions for the assistant.
5	23/04/2025 8.15 – 8.30	Description of requirements for experiment M16a (measurements with oscilloscope)	
6	30/04/2025 11.15 – 12.00	Discussing the results of the practical evaluation 1. Drawing attention to those who did not pass it	LAs noticed persons who didn't pass the evaluation and will pay attention on them.
7	14/05/2025 8.15 – 8.30	Description of requirements for experiment M07 (Influence the instrument on the result of measurement)	Emphasizing the importance of right definition of a measurand in each experiment
8	21/05/2025 8.15 – 8.30	Discussion of students' skills in connecting the circuits and maintaining of instruments. Identification of problems with the digital and analogue wattmeter.	Necessary correction in the manual for this exercise due to the unclear connection diagram of the digital wattmeter
9	28/05/2025 8.15 – 8.30	Identification of problems with the uncertainty calculation.	
10	02/06/2025 8.15 – 8.30	Selection of tasks for the final calculation exercises. Summary of the assistant's role. Pointing out strengths and weaknesses.	The assistant's acceptance and satisfaction with participating in the classes and the role taken on.
11	11/06/2025 11.30 – 12.00	Discussing the results of the practical evaluation 2. Suggestions for modifying the assistant's activities in the future.	

Assistants' signatures:

Sylwester Glinko, Mateusz Dołęgiewicz

Teacher's signature:

dr inż. Jarosław Makal, prof. PB



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Report on meetings with Tomasz Tumiel, acting as a "learning assistant" in Electrical Engineering and Electronics (MYARS 02004), the profile of electrical and mechanical engineering, during the summer semester 2024/2025

Project no. 2024-1-FR01-KA220-HED-000250882

WP2: Strengthening the coherence of teaching on a certain set of subjects

Activity R2.3c Reports on 10 meetings between teacher and learning assistant. Learning assistant included to help students to get better learning outputs.

Electrical Engineering and Electronics classes started on April 25, 2025. Following an oral announcement to the group of first-year of mechanical engineering students on December 2, 2024, only 1 (one) student expressed interested in this activity.

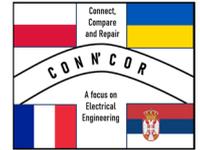
No.	Date and time of meeting	Topic of meeting	Comments and conclusions
1	24/04/2025 14.00 - 15.00	Familiarization with the role of an assistant. Presentation of the expectations of the lecturer, PhD A. M. Białostocka. Student's decision to start the project.	
2	08/05/2025 14.00 - 15.00	Discussion of the topics covered in calculation exercises for the subject "Electrical Engineering and Electronics".	
3	15/05/2025 14.00 - 15.00	Ohm's and Kirchhoff's Laws for DC circuits. Problems for DC Circuits. Methods for solving electrical circuits (current loop and nodal potential methods).	
4	22/05/2025 14.00 - 15.00	Ohm's and Kirchhoff's Laws for AC RLC circuits. Problems for AC Circuits. Methods for solving electrical circuits (current loop and nodal potential methods).	Typically, after the instructor leaves, students engage more with the learning assistant for help and clarification.
5	29/05/2025 14.00 - 15.00	Discussion of issues that students find particularly challenging. Complex numbers.	
6	04/06/2025 12.00 - 13.00	Discussion of a proposal to conduct a survey among first-semester participants of the above-mentioned subject.	Noticeable drop in student activity. They have questions for each other.
7	05/06/2025 14.00 - 15.00	Discussion on the use of games and educational activities to guide students' activities both as a group and individually.	Some students still prefer to work individually, although they also participate in teamwork.
8	12/06/2025 11.00 - 11.45	Discussion of students' skills that will be applied in subsequent semesters of study.	Some students still prefer to work individually, although they also participate in teamwork.
9	18/06/2025 11.00 - 11.45	Discussion on the rules for passing the course, taking into account the learning outcomes specified in the course syllabus.	
10	25/06/2025 11.00 - 12.00	Summary of the functions performed by the teaching assistant. Presentation of the strengths and weaknesses of the LA. Suggestions for future modifications based on previously conducted participant surveys.	The assistant expressed acceptance and satisfaction with participating in the classes and fulfilling the assigned role.

Assistant's signature:

Tomasz Tumiel

Teacher's signature:

dr inż. Anna Maria Białostocka



Report on meetings between teachers, and Jana Vasić and Đurađ Bogunović, acting as "learning assistants"

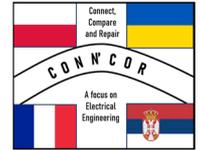
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WP2: Strengthening the coherence of teaching on a certain set of subjects

Activity R2.3c Report on 10 meetings between teachers and learning assistants. Learning assistant included to help students to get better learning outputs.

Following an oral announcement in the group of master-level students of the Module "Communications, and Information Processing" (December 2024), it was two students interested in such an activity. Training was organized for two candidates to enable them to help students in the learning process. Training of the candidates was carried out in general, i.e., for a group of courses in the field of telecommunications. During the 2025/26 academic year, all higher education institutions in Serbia founded by the state were blocked in the period from late December 2024 until June 2025. During this time, conditions did not exist for delivering lectures and exercises to students while other activities related to the functioning of higher education institutions were carried out. Due to these circumstances, there has been a certain delay in the implementation of this activity.

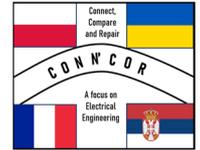
No.	Date and time of meeting	Topic of meeting	Comments and conclusions
1	29/9/2025 13.00 – 13.45	The role of learning assistants was explained, institutions where learning assistants exist were mentioned, and a parallel was drawn with laboratory demonstrators who had previously existed at the Faculty of Electronic Engineering in Niš.	Đurađ and Jana asked a series of useful questions and provided suggestions on how their role could be made as beneficial as possible from the students' perspective. Video recording available. Lecture given by Goran Djordjevic.
2	30/9/2025 10.00- 11.00	The objective of this meeting was to train future learning assistants to help students correctly interpret the results obtained from Monte Carlo simulations. This objective was achieved using the example of fading simulation occurring in mobile communication systems.	First, Đurađ and Jana were provided with relevant literature that could be used. It was demonstrated how these methods are implemented in MATLAB and how graphical results are generated. Subsequently, they were shown how to transfer graphical results into a Word document. The interpretation of the results was explained to them. Notes available. Lecture given by Goran Djordjevic.



3	30/9/2025 11.00- 12.00	The initial meeting of LAs with Prof. Dejan Milic. Discussion about the courses whose students might benefit from LAs, and the role of LAs in those courses.	Clarified the role of learning assistants. No need to refresh their knowledge, since they are not going to teach. Discussion about the possibility of helping students during realization of student projects. Target subjects and possible problems are identified. Notes available. Class was held by Dejan Milic.
4	13/10/2025 13.00- 114.00	The aim of this meeting was to explain the main tasks of a learning assistant; and to understand where is the crossline between scenario in which students should ask teaching assistants or professors for additional clarification rather than learning assistants.	The main conclusion from the meeting was that the role of a learning assistant is either to give advice about the most important topics from specific course and how to find appropriate material for learning, or to help students explaining some topics of subject and helping them in projects and homeworks. Notes available. Lecture given by Aleksandra Panajotovic and Jelena Anastasov



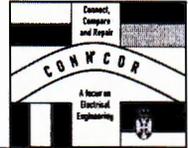
5	14/10/2025 13.00- 14.00	<p>The objective of this meeting was to introduce learning assistants with digital tools in teaching, which are helpful in education process. Learning assistants were provided by info of virtual classroom and/or online educational platform-PBworks, presentation tool-Prezi, authoring tool-Hot Potatoes and testing and assessment tool-Google forms.</p>	<p>We all agreed that exploitation of open educational resources can support both teaching and learning. The use of technology, online resources, tools and visuals, can expand course offerings, experiences, and learning materials; support learning 24 hours a day, 7 days a week, increase student engagement and motivation; and accelerate learning. In addition, we concluded that technologies do link students to their teachers/assistants and indeed enhance educational productivity, reduce additional costs for instructional materials and allow utilizing teacher time. Notes available. Lecture given by Jelena Anastasov and Aleksandra Panajotovic.</p>
6	13/12/2025 11.00- 12.00	<p>Discussing the help that would be required during the lab exercises in the field of optical communications within the course of “Designing of telecommunication systems”</p>	<p>Besides the learning process in theoretical subjects, some experience in the lab is also necessary for the students. LAs have suggested what could be improved and how the students would benefit even more from the labs. Notes available. Class was held by Dejan Milic.</p>



7	21/1/2026 11.00- 12.00	The aim of this class was to train learning assistants to provide support to their peers in mastering the following topics: installation of a virtual machine, connecting the USRP to a virtual machine, the capabilities of the USRP, and its application in software-defined radio.	The learning assistants had a large number of questions regarding the differences between Windows and Linux, the specific characteristics of Linux, and the principles of software-defined radio. In their opinion, they were positively surprised and satisfied with the knowledge they acquired during this class, as they had not previously had the opportunity to go through the entire procedure in such detail. They claim that they are fully qualified to assist their peers in acquiring knowledge in this field. Notes available. Lecture given by Nenad Milosevic.
8	23/1/2026 11.00 – 12.00	This meeting was held in the lab, with an aim to discuss the potential issues that may arise during the lab exercises involving sensitive equipment.	We have tested 3D printed components needed for optical communications experiments, and concluded that they should be used wherever it is possible. However, we have also identified some equipment that cannot be replaced easily. Notes available. Class was held by Dejan Milic.
9	23/1/2026 12.00 - 13.00	The aim of this lecture was to familiarize learning assistants with the proper way of writing laboratory work reports and student research papers. Đurađ and Jana provided the most comments regarding the writing of the introduction and the citation of the used literature.	Although both of them had already been involved in the preparation of student research papers, during this lecture they learned certain new details related to the presentation of a paper, as well as the differences between a conference paper and a journal paper. Notes available. The class was delivered by Goran Djordjevic.



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10	23/1/2025 13.00 – 14.00	The aim of this meeting was to familiarize the learning assistants with the grading scheme of the written part of the exam and the assessment criteria. In addition, a recapitulation of all activities conducted during the training was carried out and conclusions were drawn.	The learning assistants provided a number of suggestions regarding the learning process, as they are themselves master's students. They also completed a survey, the results of which are provided in the appendix. Notes available. Lecture given by Goran Djordjevic.
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Learning assistants:

Jana Vasić

Jana Vasić

Đurađ Bogunović

Đurađ Bogunović

On behalf of the teachers:

Goran T. Đorđević

Goran T. Đorđević