CALLME
e-platform ♦ innovation ♦ medical engineering

Co-funded by the Erasmus+ Programme of the European Union

CALLME

EC Project Number: 2022-1-RO01-KA220-HED-000087703

Project title:

Collaborative e-platform for innovation and educational enhancement in medical engineering

REPORT

Project Title	**Collaborative e-platform for innovation and educational enhancement in medical engineering**
Report	**Teaching activity: C1-C5 courses**
Date of Delivery	**December 2024**
Authors	**Velibor Isailovic**
Version	**V1**

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1. *Description of CALLME Project*

The CALLME project aims to implement a Novel Educational Methodology (NEM) and promote STEM (Science, Technology, Engineering, Mathematics) principles—specifically through the concept of molecular (atomic) learning—within existing educational frameworks in the field of medical engineering. This innovative approach is expected to impact multiple academic curricula and course structures, which will be presented as tangible project outcomes.

In parallel with the introduction of NEM, a key deliverable of the project is the development of an open-access educational platform (E-COOL) designed to facilitate collaboration and knowledge exchange. This platform will support the application of NEM through a molecular network structure encompassing elements from the so-called "knowledge triangle"—namely higher education institutions, industry, and innovation sectors. The E-COOL platform will serve as a foundation for enhancing existing curricula and fostering the development of new programs in higher education.

The primary objectives of the CALLME project include:

- Establishment of a collaborative network in the field of medical engineering and education to facilitate knowledge exchange and cooperation among higher education institutions, industry, and government bodies;
- Integration of the Novel Educational Methodology (NEM) and STEM principles into existing educational materials, along with the formulation of guidelines for the development of future academic and industry-oriented curricula;
- Development of the E-COOL Smart Content Management System, a web-based platform that supports the integration of the network and enables the creation of courses aligned with NEM and STEM principles;

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- Promotion and sustainability of the established network and the NEM approach through the dissemination and long-term utilization of the E-COOL platform and related project outputs.

The project consortium comprises the following institutions:

- Technical University of Cluj-Napoca, Romania (Project Coordinator)
- University of Niš, Serbia
- Riga Technical University, Latvia
- University of Dublin, Ireland
- University of Kragujevac, Serbia
- G.M. Eurocy Innovations LTD, Cyprus

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2. *Summary of the teaching event*

At the University of Kragujevac, and particularly at the Faculty of Engineering, a wide range of accredited engineering study programs has been developed and implemented. Among the most prominent and rapidly evolving scientific domains at the university is biomedical engineering. Initially established and most intensively developed at the Faculty of Engineering, this field has gradually expanded to other constituent faculties through the introduction of master's and doctoral study programs.

The doctoral study program in bioengineering was created through the synergy of scientific expertise, institutional competencies, and individual capacities from three faculties: the Faculty of Engineering, the Faculty of Science, and the Faculty of Medicine. To attract students with diverse academic interests, numerous elective courses in this field have also been introduced at lower levels of study.

At the undergraduate level, the Faculty of Engineering offers a Bachelor's study program in Computer Engineering and Software Engineering, accredited within the field of Electrical Engineering. This program consistently attracts high-achieving students from secondary education and represents a valuable base for the recruitment of future candidates for advanced studies (master's and doctoral) in the field of bioengineering.

This was one of the key factors in selecting this particular student group as the target audience for the dissemination activities related to the CALLME project.

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3. *Attendance*

The teaching session was conducted at the Faculty of Engineering Sciences and involved a group of final year students from the Department of Computer Engineering and Software Engineering. During the session, students were introduced to practical examples demonstrating the application of engineering methods, techniques, and tools in the context of biomedicine, enabling them to gain initial insight into the interdisciplinary nature of biomedical engineering.

It was observed that the students had limited prior knowledge of this field; however, they demonstrated a high level of interest and engagement during the lecture. Their active participation, followed by subsequent registration on the project platform, suggests that the CALLME project is already beginning to fulfil its broader purpose—namely, the establishment of a knowledge-sharing network that bridges the academic community, industry stakeholders, and clinical institutions.

Below is a list of students who attended the session where the C1 course – Personalized bone implants design and manufacturing, that was created as a result of the project, is presented.

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Erasmus+ Programme – Cooperation partnerships
Project No.: 2022-1-RO01-KA220-HED-000087703
Title of the activity: Training
Starting date: 06.12.2024.
End date: 06.12.2024.
Place: Faculty of Engineering, University of Kragujevac

ATTENDANCE LIST
Teaching activity

No.	Participant name	Sending organisation name	Sending organisation address (city, country)	Participant signature
1.	Aleksandar Đokić			[signature]
2.	Lazar Jakovljević			[signature]
3.	Luka Virijević			[signature]
4.	Неда Ивановић			[signature]
5.	Јована Раконац			[signature]
6.	Емилија Тимотијевић			[signature]
7.	Сава Димитријевић			[signature]
8.	Илија Вуков			[signature]
9.	Алекса Миленковић			[signature]
10.	Anđela Stojadinović			[signature]
11.	Катарина Петровић			[signature]
12.	Јована Стојановић			[signature]
13.	Ognjen Obradović			[signature]
14.	Павле Јевтић			[signature]
15	Теодора Јелић			[signature]
16	Вукан Јездимировић			[signature]
17.	Лука Радовановић			[signature]
18.	[illegible]			[signature]
19.	Milan Nedić			[signature]

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20	Маријана Јеремић			М.Јеремић
21	Дејана Јовановић			Дејана

All personal data provided for registration for this event is collected during the implementation of the Erasmus+ Programme according to the regulations of the European Commission. They will be stored and processed by Velibor Isailovic in accordance with the provisions of Regulation (EU) 2018/1725 of the European Parliament and of the Council of 22 October 2018 on the protection of individuals with regard to the processing of personal data and on the free movement of such data. During the event, photos/ screenshots and/ or video recordings will be taken for use by the Velibor Isailovic for purposes related to the promotion and dissemination of results from projects funded by the Erasmus+ Programme. The materials will not affect your personal or institutional image. By registering for this event, you give your consent to be filmed and/ or photographed for the reasons mentioned above.

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4. Conclusion

As discussed in the preceding sections, the primary aim of the CALLME project is the implementation of a Novel Educational Methodology (NEM) and the integration of STEM (Science, Technology, Engineering, and Mathematics) principles, based on the concept of molecular (atomic) learning, into existing teaching practices within the field of medical engineering.

Early indicators, demonstrated by students' active participation during the teaching session and their subsequent registration on the project platform, suggest that the project is already advancing toward its overarching objective—namely, the creation of a sustainable knowledge network linking university educators, industry professionals, clinical practitioners, and students engaged in biomedical engineering.

In view of these initial achievements, the following recommendations are put forward:

- Continue the systematic integration of NEM and STEM principles across a broader range of academic curricula to strengthen interdisciplinary learning;
- Further develop and promote the E-COOL platform as a central hub for collaborative knowledge exchange;
- Encourage greater involvement of industry and clinical partners in curriculum design and dissemination of educational outcomes;
- Ensure long-term sustainability through ongoing evaluation, periodic content updates, and expansion of the knowledge network across institutions.

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