Erasmus+: Cooperation partnerships in higher education

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

CALLME Training – Report

Project Title	**Collaborative e-platform for innovation and educational enhancement in medical engineering 2022-1-RO01-KA220-HED-000087703**
Output	**CALLME – Training**
Date of Delivery	**October 2024.**
Author(s)	**Velibor Isailovic**

1. Description of CALLME Project

CALLME Project Overview and Objectives

The CALLME project is focused on introducing an innovative educational approach, referred to as the New Educational Methodology (NEM), which embeds STEM (Science, Technology, Engineering, and Mathematics) concepts into medical engineering education. This approach is designed to integrate smoothly with existing academic programs, enhancing a range of curricula and courses as part of the project's deliverables.

A major outcome of the project will be the creation of an open-access e-platform, E-COOL, which is intended to support collaboration, exchange of knowledge, and interdisciplinary partnerships. The platform will act as a central tool for implementing NEM, enabling the formation of a molecular network linking key participants within the "knowledge triangle"—including industry experts from biomedical companies, innovation centers, and higher education institutions. In addition, the platform will facilitate ongoing updates and improvements to current curricula while supporting the development of new programs at higher education institutions.

Project Objectives

The CALLME project is structured around several key objectives aimed at advancing biomedical engineering education. First, the initiative seeks to develop an integrated network connecting universities, industry partners, and governmental institutions, fostering collaboration and facilitating the flow of knowledge across disciplines. This network is intended to stimulate interdisciplinary cooperation and support innovative practices in the field.

Second, the project emphasizes the integration of the New Educational Methodology (NEM) and STEM principles into existing educational programs. By embedding these approaches into current teaching materials, CALLME provides a foundation for the design and implementation of future curricula that align both with higher education standards and professional sector requirements.

Third, the establishment of the E-COOL Smart Content Management System represents a core component of the project. This advanced web platform consolidates the collaborative network and offers tools for developing courses based on NEM and STEM methodologies, providing users with accessible, interactive, and engaging educational resources.

Finally, the project prioritizes broad access and long-term sustainability, ensuring that both the network and the NEM approach remain effective over time. By leveraging the E-COOL platform and complementary resources, CALLME aims to secure lasting impact and continued development of its educational initiatives.

Project Consortium

The realization of the CALLME project is being led by a consortium of institutions, including:

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

2. Summary of the CALLME training

A training event associated with the CALLME project took place at the Faculty of Engineering, University of Kragujevac. The session gathered students who showed a keen interest in pursuing a specialization in biomedical engineering. The purpose of the training was to provide participants with a comprehensive overview of the project, introduce the novel educational methodology, and demonstrate the use and potential of the E-COOL online platform as a tool for advanced learning.

Training Structure and Content

The training session was structured around several core components:

- Overview of the CALLME Project:

  The session commenced with a presentation of the project's aims and objectives. Participants were introduced to the New Educational Methodology (NEM) and the integration of STEM principles into biomedical engineering education. Special emphasis was placed on the concept of molecular (atomic) learning, which forms the basis of the project's innovative approach to medical engineering pedagogy.

- Presentation of the CALLME Web Platform:

  In the following segment, the full capabilities of the CALLME web platform were demonstrated. Participants were guided through key functionalities, including user registration, login procedures, and platform navigation. The available teaching materials

and courses were showcased, and attendees were acquainted with e-centers, designed to facilitate networking among stakeholders from academia, industry, and the public sector.

- Engagement with E-Centers and Collaborative Networking:

  The session also included practical guidance on using e-centers to support collaboration among the project's stakeholders. Participants observed how these centers enable the exchange of knowledge and provide opportunities for professionals from diverse sectors to connect and work together on interdisciplinary projects.

- Discussion and Participant Feedback:

  The training concluded with an interactive discussion, during which participants posed questions regarding the platform's functionality and practical implementation. Attendees expressed strong interest in the courses and teaching resources available through the platform. Several participants offered constructive suggestions, including the potential for expanding the platform's applications beyond biomedical engineering, leveraging the flexibility of e-centers to connect professionals across multiple disciplines and support a broader range of interdisciplinary initiatives.

3. Attendance

At the Faculty of Engineering, a specialized training session was organized for students from the Department of Computer Technique and Software Engineering who demonstrated a keen interest in biomedical engineering. The session provided an introduction to the CALLME project, outlining its aims, core objectives, and its potential contribution to advancing biomedical engineering education.

Participants were guided through an in-depth demonstration of the project's online platform, exploring the full range of courses and educational resources, as well as the platform's operational features. The session further highlighted the concept of e-centers, illustrating how they enable professional networking and collaborative opportunities among representatives from universities, industry, and governmental institutions.

Below is a list of students who attended the training session.

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Erasmus+ Programme – Cooperation partnerships
Project No.: 2022-1-RO01-KA220-HED-000087703
Title of the activity: Training
Starting date: 15.10.2024.
End date: 15.10.2024.
Place: Faculty of Engineering, University of Kragujevac

ATTENDANCE LIST
Training activity

No.	Participant name	Sending organization name	Sending organization address (city, country)	Participant signature
1.	Вујин Петровић	UK	Крагујевац, Србија	Вујин Петровић
2.	Немања	UK	Крагујевац, Србија	Н.С.
3.	Jana Štekalj	UK	Kragujevac, Srbija	Jana Štekalj
4.	Огњен Милићевић	UK	Крагујевац, Србија	Огњен Мићић
5.	Кристина Тимић	UK	Крагујевац, Србија	Кристина Тимић
6.	Маја Весовић	UK	Крагујевац, Србија	Маја Весовић
7.	Петар Арсенијевић	UK	Крагујевац, Србија	П. Арсенијевић
8.	Владимир Ђорђевић	UK	Крагујевац, Србија	Владимир Ђорђевић
9.	Ђорђе Перић	UK	Крагујевац, Србија	Ђорђе Перић
10.	Лазар Димић	UK	Крагујевац, Србија	Димић Лазар
11.	Јован Шојоровић	UK	Крагујевац, Србија	[illegible]
12.	Јован Костић	UK	Крагујевац, Србија	Ј. Костић
13.	Стефан Цветковић	UK	Крагујевац, Србија	Стефан Цветковић
14.	Новак Пајовић	UK	Крагујевац, Србија	[illegible]
15.	Борис Вуиновић	UK	Крагујевац, Србија	[illegible]
16.	Давид Павловић	UK	Крагујевац, Србија	Д. Павловић
17.	Михајло Бојовић	UK	Крагујевац, Србија	Михајло Бојовић
18.	Марија Лојовић	UK	Крагујевац, Србија	Лојовић
19.	Наталија Марковић	UK	Крагујевац, Србија	Н. Марковић
20.	Никола Радивојевић	UK	Крагујевац, Србија	Н. Радивојевић

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21.	Алекса Стојановић	UK	Крагујевац, Србија	Алекса С
22.	Кристина Лукић	UK	Крагујевац, Србија	Кристина Лукић
23.	Ђурђић Александра	UK	Крагујевац, Србија	Ђурђић Александра
24.	Милица Николић	UK	Крагујевац, Србија	Милица Николић
25.	Александар Чомповић	UK	Крагујевац, Србија	Александар Чомповић
26.	Милош Дакић	UK	Крагујевац, Србија	Милош Дакић
27.	Давид Мартиновић	UK	Крагујевац, Србија	[illegible]

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4. Conclusion

As outlined earlier, the CALLME project is designed to implement a novel educational approach known as the New Educational Methodology (NEM), which integrates STEM (Science, Technology, Engineering, and Mathematics) principles, particularly within the context of biomedical engineering education. The initiative seeks to enhance current academic programs by introducing innovative teaching methods that support advanced learning and interdisciplinary competencies in the biomedical engineering field.

Another key component of the project is the creation of a virtual collaborative network, referred to as eCenters, which enables knowledge sharing and cooperative engagement. This network aims to connect universities, industry partners, and public sector organizations, fostering cross-disciplinary collaboration and contributing to the advancement of medical engineering education.

The training session for the CALLME project was organized at the Faculty of Engineering, University of Kragujevac and was attended by students with an expressed interest in specializing in biomedical engineering.

The session was structured into several main segments:

- Project Introduction: Participants were provided with an overview of the CALLME project, its goals, and its potential impact on education and collaboration.

- Web Platform Demonstration: Attendees were introduced to the platform's features, exploring its educational resources and tools.
- Course Exploration: The available courses were presented, demonstrating how NEM and STEM principles are embedded in the curriculum.
- E-Center Application: The use of eCenters was showcased, illustrating how they facilitate networking and cooperative activities among academic, industrial, and public stakeholders.
- Discussion and Feedback: The session concluded with an interactive discussion, allowing participants to ask questions, share observations, and provide feedback on the platform's usability and the project's implementation.