

JOINED FOR SUSTAINABILITY - building climate RESILIENT communities in WB and EU

WP4: Task 4.2 - Introducing innovative curricula

UNIVERSITY OF MONTENEGRO

Date: 06th December 2023

Place: NOVI SAD



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No.	Name of HEI	Name of Courses ECTS	ECTS	Program of study	Number of students	Status
1	UoM	Project Management	5	Master	25	Mandatory
2	UoM	Construction Company Management	5	Master	25	Mandatory
3	UoM	Risk management in the implementation of construction projects	6	Master	15	Elective
4	UoM	Construction Management	5	Master	20	Mandatory
5	UoM	Special chapters in construction management	6	Master	10	Elective
6	UoM	Maintenance, rehabilitation and reconstruction of buildings	5	Master	20	Mandatory

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The catalog will be complemented by the lecture

The project management course covers the fundamentals of investment projects, the role of consultants according to FIDIC, project conception and definition, technical documentation, project implementation management, documentation management on the site, technical inspection, and project management organization from both investor and contractor perspectives. Participants will gain an understanding of the key phases and aspects of successful project management.

Sustainable Practices in Project Management in the Context of Climate Changes: This lectures could focus on the implementation of sustainable practices throughout all project phases to mitigate negative environmental impacts. Discussing strategies to reduce carbon footprint, utilizing renewable energy sources, and integrating sustainability principles into project planning and execution could be crucial for contemporary project management in the context of climate changes.

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Construction Company Management

The catalog will be complemented by the lecture

The course "Construction Company Management" provides a fundamental understanding of system principles, systems engineering, and organizational structures. It covers the establishment and structure of companies, relationships with government administration, functions, and organs of construction companies. Additionally, it includes analyses such as SWOT and benchmarking, while exploring business process reengineering. Financial management, accounting, and marketing are also key areas addressed. The course offers a comprehensive understanding of management in the construction industry.

A lecture on climate change management in a construction company emphasizes key managerial actions aimed at reducing adverse environmental impacts. The focus would be on making sustainable business decisions that not only decrease the ecological footprint but also contribute to long-term profitability and social responsibility of the construction firm. This lecture would provide practical guidance and strategies for construction company management to effectively govern and mitigate the negative impacts of climate change within their operations.

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Risk Management in implementation of construction projects

The course "Risk Management in Construction Projects" provides fundamental concepts of risk, explores the causes of high risk, and emphasizes the importance of risk assessment in the context of construction projects. It analyzes managerial decisions and focuses on planning strategies in risky conditions, including the identification, assessment, evaluation, and analysis of alternatives for project risks. Through the exploration of specific risk reduction measures, implementation of risk management plans, and conflict resolution, participants are prepared for successful construction project management. The course also covers the application of databases, Fuzzy logic, and neural networks in risk management, providing theoretical and practical knowledge to establish a fundamental understanding and skills for addressing challenges in risky conditions within the construction industry.

The catalog will be complemented by the lecture

"Climate Change Risk Management in Construction Projects," examining the impact of climate change on construction projects. Emphasis is placed on identifying and assessing risks, adapting plans, and minimizing the adverse effects of extreme weather conditions. The lecture will underscore the importance of using climate models for risk prediction and explore innovative technologies such as artificial intelligence. Real-world examples will provide insight into strategies for managing risks associated with climate change. The resilience of infrastructure projects and the role of databases will also be covered. The lecture will highlight the need for integrating modern approaches to effectively address climate challenges in construction projects.

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The catalog will be complemented by the lecture

The Construction Management course explores the genesis of management, management schools, and key aspects of managerial relationships. It focuses on the role of management in organizations, entrepreneurship, and the specifics of management in the construction industry. Participants will study the functions of planning, organizing, leading, and controlling, with an emphasis on motivation, leadership, strategic management, and innovation. The course also addresses the application of strategic technologies in management, offering an interdisciplinary approach for a comprehensive understanding of management in the context of the construction industry.

Sustainability in the Construction Sector: Practical Strategies for Reducing Environmental Footprint: This lecture could explore concrete approaches and strategies applicable in the construction sector to reduce the environmental footprint. Examining the use of sustainable materials, energy-efficient design, and the implementation of green infrastructure provides practical guidelines for sustainability in projects.

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Special chapters in Construction Management

The course "Special Topics in Construction Management" provides an in-depth understanding of key aspects of management in the construction sector. These special topics include human resource management, strategic human resource management, training and development, organizational behavior, business ethics, teamwork, and presentation skills.

Through the analysis of the specificities of the construction industry, students will become familiar with essential skills and strategies necessary for successfully managing construction projects. The course also offers insights into electronic business, the digital economy, internet marketing, e-governance, information system technologies, as well as aspects of banking and finance relevant to the construction sector.

The catalog will be complemented by the lecture

A lecture on sustainability in construction management focuses on addressing climate change and implementing circular economy principles. It covers key aspects of sustainability, analyzes the impacts of climate change, and explores the application of circular economy in reducing waste in construction projects. The lecture showcases practical examples of sustainable practices throughout the life cycle of projects and emphasizes the social responsibility of construction firms. It highlights the importance of transparent communication regarding sustainable practices and concludes by emphasizing the contribution to global sustainability and responsible resource use in the construction sector.

Maintenance, rehabilitation and reconstruction of buildings

The main objective of this course is acquiring knowledge in the field of maintenance, rehabilitation, and strengthening of structures. Introducing students to the needs for rehabilitation, maintenance, and strengthening of structures, basic causes of damage, principles, techniques, and methods of rehabilitation, strengthening and maintenance of structures, and design of strengthening and upgrading of structural elements.

The catalog will be complemented by the lecture

Novel integrated techniques for the combined seismic strengthening and energy upgrading of existing buildings – lecture added in chapter related to *Seismic assessment of existing buildings*.

Sustainability – lecture added in chapter related to *Basic concepts of durability and reliability*.

Sustainable building materials for rehabilitation and strengthening - lecture added in chapter related to *New and innovative approaches to rehabilitation and strengthening*.

Thank you for your attention

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