

Transilvania University of Brasov, Romania

Study program: Project Management in Urban Regeneration

Faculty: Civil Engineering

Study period: 2 years (master)

1st Year

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Project management and organization	PM01	6	2	2		

Course description (Syllabus): acquiring relevant skills for understanding and planning civil engineering projects in context with the STEEP factors (social, technological, economic, environmental, and political). The course aims to enhance knowledge and develop project management technics for project initiation, implementation, monitoring, and closing stages. Special attention is paid to assessing potential changes during the implementation of projects and to taking the necessary measures to minimize their negative effects or to benefit from the positive impact. Additionally, the course approaches understanding the roles and responsibilities of the project manager and each team member, including leadership and personnel perspectives. The final benefit the student can gain is the ability to coordinate and monitor project teams.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Applied regulations	AR01	5	2	1		

Course description (Syllabus): acquiring and applying in the professional career the notions specific to the legal field; identification, interpretation and application in the professional career of the legislative framework that regulates the situations arising in practice, as it is force in the European Union: Directive no.2014/23/EU, no.2014/24/EU and no.2014/25/EU and also, the Romanian legislation in the field; developing the ability to know and master the main points of view on the notions of applied legislation; acquiring the necessary knowledge to understand, comply with, develop and implement the notions of applied legislation regarding the following: the public and private property, the administrative contracts, the involved public authorities, etc.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Fundamental urban studies	US01	6	2	2		

Course description (Syllabus): the course is an overview of the basic principles of urban morphology of the towns&cities development by researching the historical urban patterns and integrating the urban site analysis to provide an understanding of the mechanism of urban planning from the origins to the present. Applying the basic knowledge of general and specialized urban development will improve future solutions to solve conceptual, functional, and urbanistic problems related to urban development. Will bring also topics on sustainable urban planning methods, assessment and management of the built environment, and innovative technologies in urban mobility.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Facility management	FM01	5	1	2		

Course description (Syllabus): the course introduces the principles and practices of facility management in the context of urban regeneration and project management. It covers the planning and operation of buildings, integration of facility management in the design process, space and maintenance management, asset lifecycle management, health and

safety, energy efficiency and sustainable operation of facilities. The course also addresses facility management operations, contracts and the use of digital tools and technologies. Emphasis is placed on assessing building performance and developing improvement strategies that enhance functionality, efficiency, sustainability and long-term asset value throughout the building life cycle.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Ethics and integrity in scientific research	EISR01	2	1	1		

Course description (Syllabus): acquiring and applying, in the professional career, the specific concepts of ethics and academic integrity; deontology and integrity in university and scientific research and the development of a culture of responsibility in terms of involvement in the joint effort to prevent, identify and combat possible academic fraud, especially plagiarism; acquiring the necessary knowledge to understand, respect, develop and implement codes of ethics and academic integrity.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Practical placement I	PP01	6				10

Course description (Syllabus): providing an initial overview of the processes of organization and management of various projects, including those in the construction sector; presenting the main strategies for elaboration and implementation of projects' proposals.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Rehabilitation and consolidation of structures	RCS02	6	2	2		

Course description (Syllabus): the course focuses on the assessment, diagnosis, rehabilitation and consolidation of existing structures within the framework of urban regeneration and built heritage conservation. It addresses the main types of structural systems (timber, masonry, concrete, steel and infrastructure like roads and bridges) by analyzing typical defects, degradation mechanisms, and their causes. Modern investigation and testing methods, including non-destructive techniques, are presented alongside principles of durability, compatibility and sustainability. The course emphasizes the integration of technical consolidation solutions into broader urban regeneration strategies, supporting informed decision-making, ethical responsibility and the protection of the built heritage.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Real estate investment management	REIM02	6	2	2		

Course description (Syllabus): the course presents the concept of real estate investment detailing characteristics, advantages, disadvantages comparing with other types of investments. The content of the course offers theoretical and practical knowledge regarding the cycle of a real estate investment, different sources of financing of real estate investments, the evaluation of real estate investments through several indicators regarding returns and yields. Additionally, the course will allow students to gain knowledge about the real estate market, both at national and international level. The practical activities within the course will propose projects in order to be able to analyze, identify and carry out a real estate investment of different types.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Information systems in construction project management	ISCPM02	3	1	1		

Course description (Syllabus): developing skills in Geographic Information Systems (GIS), which provides opportunities to analyze data, explore problems, solve problems, and assess situations in a geographic and spatial context; spatial data analysis, using GIS analysis tools, adapted to the management of construction projects; applying GIS, on a case-by-case basis, for the purpose of acquiring, storing, updating, processing, analyzing and displaying information in the form of plans, maps, reports for the management of construction projects; knowledge of the use and implementation of BIM technology in the design of structures for constructions and installations; identifying BIM application methods by implementing the building IT model.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Urbanism and urban planning	UP02	5	2			1

Course description (Syllabus): Developing understanding of urban morphology and analyzing the city through its own components. At the same time, diving in the urbanism history will provide the knowledge over several urban patterns, in order to know the chain of inserting the architectural object in the site. Also, it will familiarize the master students with the normative provisions of the land and urban planning and related fields as well as specific programs and projects. It will allow acquiring necessary knowledge to understand specific categories of the land and urban territories, according with the administrative structures at central and local level.

Course title	Code	No. of credits	Number of hours per week			
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Practical placement II	PP02	6				10

Course description (Syllabus): the discipline aims to provide students with an initial overview of geographic information systems (GIS), building information modelling (BIM) and other software needed to simulate and model processes usable in construction project management.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
(01) Sustainable constructions	SC02	4	2	1		

Course description (Syllabus): The course presents the concept of sustainability in the construction sector, short history, regulations, the environmental impact, energy used in constructions, etc. Sustainable building concepts, eco-building design principles, building materials, certification systems and the calculation of specific indicators during the construction life cycle and ways to monitor and certify sustainable constructions will be presented.

Course title	Code	No. of credits	Number of hours per week			
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(02) Circular economy	SCCS02	4	2	1		

Course description (Syllabus): the course introduces the principles and concepts of the circular economy and their application in the construction sector, with a focus on urban regeneration projects. It examines European and international policies, material and resource flows, life cycle assessment and the environmental, social and economic impacts of construction activities. The course addresses the use of renewable and sustainable materials, recycling and reuse of construction waste and design strategies for adaptability, modularity and disassembly. Emphasis is placed on integrating circular economy principles into project planning and decision-making in order to reduce environmental impacts, optimize resource use and create long-term sustainable value in the built environment.

2nd Year

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Sustainable development and urban regeneration	SDTS03	5	1			2

Course description (Syllabus): Understanding and creating premises for finding the optimal solutions for a sustainable design and construction, using materials and modern technology, in accordance with the principles of sustainable development, in constructions and architecture. Developing skills for projecting urban planning activities, Smart City - BIM, specific to contemporary constructions. Developing the capacity to analyse the impact on the environment and territory, of the constructions and development of the capacities of technological adaptation according to the climatic conditions and zoning.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Contract management	CM03	6	2	2		

Course description (Syllabus): the course helps to improve negotiation skills and gain a deeper understanding of the psychology behind successful negotiations. After completing the course, students will improve their ability to prepare for and conduct business negotiations. They will learn to create and claim value successfully in negotiations. This is essential to achieve and exceed their business goals.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Territorial marketing	TM03	5	2	1		

Course description (Syllabus): acquiring knowledge regarding the general and specific conceptual framework of territory marketing; understanding the necessity and the context of territory marketing; identifying the evaluation process of territory competitiveness; understanding the measurement and management processes of territory image; acquiring knowledge regarding urban communication; identifying the specificities of urban branding creation and promotion.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Project communication. Public relations and advocacy	PC03	4	1	2		

Course description (Syllabus): the course introduces general notions of communication, public relations and advocacy and notions of communication in the context of project implementation, aiming at acquiring knowledge and developing communication skills within projects and developing the ability to communicate interpersonal and corporate within project teams. Topics: theoretical notions about communication (forms of communication, communication models); interpersonal communication (direct communication and its objectives, conversational analysis, conversation and correspondence, communication skills); organizational communication (intercultural and corporate communication, internal communication, internal public relations); project communication (project team, communication plan, good practices); communication in project management (types of communication, managerial communication, standardized communication, barriers in communication and overcoming them); public relations and advocacy (campaigns and strategies, crisis management, corporate reputation, lobbying and sponsorship); technological tools in communication.

Course title	Code	No. of credits	Number of hours per week			
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Practical placement III	PP03	6				10

Course description (Syllabus): the discipline aims to provide students with an overview of sustainable urban planning processes through the use of modern methods and technologies for the design and execution of construction works, giving them the ability to coordinate the activities of several construction work teams, to ensure that they do not interfere with each other and to ensure that work is carried out in a timely manner.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
(01) Urban mobility	UM03	4	2			1

Course description (Syllabus): Urban mobility refers to the study of how easy or difficult people are able to move between two points in urban areas. Its management is one of the main challenges of the future development of densely populated areas (cities), as often contradicting problems need to be solved: maintaining a high standard for the quality of life and, at the same time, an attractive business environment or restricting traffic to certain sensible areas, without limiting the necessary movement of goods and people. The course includes general elements of urban mobility, principles and models for the reorganization of road arteries in the urban environment, pedestrian and cyclist traffic, public transport, digital technologies and "smart" urban mobility solutions.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
(02) Urban road safety	URS03	4	2			1

Course description (Syllabus): Traffic safety focuses on the study of the methods and measures used to prevent accidents for the users of a specific transport network. This becomes increasingly difficult in urban areas, where the number of vulnerable users of the transport network (pedestrian and cyclists) increases significantly, and road traffic is also quite busy. The course includes an introduction to general notions regarding road traffic, specific studies for roads and intersections, traffic safety and case studies.

Course title	Code	No. of credits	Number of hours per week			
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Practice for drafting the dissertation	PA04	20				16

Course description (Syllabus): the discipline is designed to assist students in the preparation of their dissertation paper during a practical stage carried out in the university or in a private company / public institution on a subject specific to the master domain.

Course title	Code	No. of credits	Number of hours per week			
			course	seminar	laboratory	project
Elaboration of the Dissertation Thesis	ED04	10				10

Course description (Syllabus): periodical meetings with the coordinator of the dissertation thesis in order to achieve the necessary results and formal criteria for a dissertation paper that can be presented in front of an examination board.