

SYLLABUS

1. Data about the program of study

1.1	Institution	The Technical University of Cluj-Napoca
1.2	Faculty	Faculty of Building Services Engineering
1.3	Department	Building Services Engineering
1.4	Field of study	Civil Engineering and Building Services
1.5	Cycle of study	Master
1.6	Program of study/Qualification	Building Services for Regenerative Cities / MS Engineer
1.7	Form of education	Full time

2. Data about the subject

2.1	Subject name				Project Management		Subject code	20.10
2.2	Course responsible/lecturer				Lecturer Eng. Anagabriela Deac, PhD anagabriela.deac@insta.utcluj.ro			
2.3	Teachers in charge of laboratory				Lecturer Eng. Anagabriela Deac, PhD anagabriela.deac@insta.utcluj.ro			
2.4	Year of study	2	2.5	Semester	1	2.6 Assessment		Exam
2.7 Subject category		Formative category						DC
		Optional						DOP

3. Estimated total time

3.1 Number of hours per week	2	of which	3.2 Course	1	3.3 Seminar		3.3 Laboratory	1	3.3 Project	
3.4 Total hours in the curriculum	28	of which	3.5 Course	14	3.6 Seminar		3.6 Laboratory	14	3.6 Project	
3.7 Individual study:										
(a) Exams and tests										3
(b) Manual, lecture material and notes, bibliography										14
(c) Supplementary study in the library, online and in the field										14
(d) Preparation for seminars/laboratory works, homework, reports, portfolios, essays										14
(e) Tutoring										-
(f) Other activities										2
3.8 Total hours of individual study (sum (3.7(a)...3.7(f)))					47					
3.9 Total hours per semester (3.4+3.8)					75					
3.10 Number of credit points					3					

4. Pre-requisites (where appropriate)

4.1	Curriculum	Bachelor's degree
4.2	Competence	Project development principles; Risk assessment principles; Communication principles;

5. Requirements (where appropriate)

5.1	For the course	Classroom equipped with Video Projector - 21 December 1989 Blvd., no. 128-130 Alternatively, ONLINE on UTCN's TEAMS platform.
5.2	For the applications laboratory	Room equipped with Video Projector and whiteboard/blackboard- 21 December 1989 Blvd., no. 128-130 Alternatively, ONLINE on UTCN's TEAMS platform.

6. Specific competences

Professional competences	CP1 - perform project management CP5 - execute feasibility study CP8 - compares contractors' offers CP21 - combine multiple fields of knowledge CP26 - manage contracts
Cross competences	CT1 - collaborating in teams and networks CT2 - thinks holistically CT3 - dealing with problems

7. Expected Learning Outcomes

Knowledge	CP1 - Knows project management methodologies applicable to urban infrastructure, planning tools, resource allocation techniques, and cost control specific to pipeline and urban network projects. CP5 - Has in-depth knowledge of feasibility study methodology for urban infrastructure projects, financial and social performance indicators, multi-criteria evaluation criteria, and legal, environmental, and social aspects specific to the urban context. CP8 - Has in-depth knowledge of public and private procurement procedures, bid evaluation criteria (price, quality, deadline, experience, warranties), tender documentation (specifications, data sheets), applicable legislation (European directives), and bid comparison and analysis techniques (evaluation matrix, scoring, weighting coefficients). CP21 - Possesses integrated knowledge from diverse fields (building services engineering, architecture, urban planning, environmental sciences, circular economy, public policies, urban sociology), essential for the holistic approach to regenerative cities. CP26 - Has in-depth knowledge of public and private procurement legislation, structure of design and execution contracts for urban infrastructure, specific contractual clauses, billing procedures, payment mechanisms, and claims management.
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Skills	CP1 - Develops project plans for urban infrastructure, defines stages and deliverables, allocates human and material resources, monitors progress through performance indicators, manages relationships with stakeholders (authorities, developers, communities), and periodically reports project status. CP5 - Collects and analyzes technical, economic, social, and environmental data for urban infrastructure projects, develops alternative scenarios (technologies, routes, sustainable solutions), calculates performance indicators, evaluates risks and uncertainties, formulates well-founded recommendations, and drafts the study according to beneficiary and funder requirements. CP8 - Analyzes and compares bids received from contractors for urban infrastructure projects, verifies compliance with tender requirements, applies predefined evaluation criteria (price, quality, deadline, warranties), calculates final scores, develops comparative evaluation reports, and formulates award recommendations, respecting transparency and non-discrimination. CP21 - Integrates perspectives from multiple disciplines in analyzing and solving complex urban problems, collaborates effectively with specialists from different fields (architects, urban planners, ecologists, sociologists, economists), develops interdisciplinary solutions that simultaneously address technical, social, economic, and environmental requirements. CP26 - Administers complex contracts for urban infrastructure projects, monitors execution of contractual obligations, manages payment certificates and invoices, records and analyzes claims, prepares periodic reports for beneficiaries and funders, manages contractual correspondence.
Responsibilities and autonomy	CP1 - Leads complex urban infrastructure and pipeline system projects autonomously, makes managerial decisions in the specific context of the urban environment, coordinates interdisciplinary teams, and is directly responsible for achieving objectives within established deadlines and budgets, in compliance with local and European regulations. CP5 - Coordinates interdisciplinary teams for developing feasibility studies for complex urban infrastructure projects, assuming responsibility for the quality, objectivity, and scientific foundation of analyses and for recommendations that influence the sustainable development of communities. CP8 - Leads bid comparison processes for complex urban infrastructure projects, assuming responsibility for the correctness, objectivity, and transparency of the evaluation, for compliance with legal regulations, and for substantiating the award recommendation before the procurement committee and beneficiaries. CP21 - Approaches regenerative urban development challenges from a holistic and integrated perspective, assuming responsibility for solutions that harmonize the multiple dimensions of sustainability, in collaboration with all stakeholders and respecting cultural and social diversity. CP26 - Autonomously manages large-scale contracts for urban infrastructure, assuming responsibility for administrative and financial correctness and compliance, for protecting the interests of the parties, and for efficient resolution of contractual issues in collaboration with technical and legal teams.

8. Discipline objectives (as results from the *key competences gained*)

8.1	General objective	Development of skills in the field of project evaluation understand the impact of their specialty on complex interdisciplinary projects at every stage of the project lifecycle.
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8.2	Specific objectives	To Establish the criteria and assumptions of regenerative project requirements; To identify the phases of the project management life cycle and the necessary steps, resources and documentations for supporting the project; To use the basic concepts to evaluate interdisciplinary projects based on regenerative principles; To use project management tools and methods to communicate relevant information during all phases of a project with various stakeholders.

9. Contents

9.1. Lecture (syllabus)	Number of hours	Teaching methods	Notes
1. Introduction in Project Lifecycle processes and how they apply to regenerative design	2	Video-Projector Teaching style based on the interactive teacher-student partnership; Alternatively ONLINE on UTCN's TEAMS platform	
2. Feasibility and Pre-FEED analysis based on regenerative principles	2		
3. FEED phase of complex projects and mapping out all stakeholders	2		
4. Design phase in a closed loop approach and quality management plan	2		
5. Execute phase and prerequisites for implementation in the regenerative urban development framework	2		
6. Operating complex projects and change management	2		
7. Decommission and maximize reuse at end of life of the projects	2		
Bibliography:			
1.A guide to the project management body of knowledge, Ed. Newton Square: Project Management Institute, 2013;			
2.Project management: a systems approach to planning, scheduling, and controlling; Harold Kerzner, Ed. John Wiley and Sons, 2013;			
3. https://www.worldfuturecouncil.org/wp-content/uploads/2016/01/WFC_2010_Regenerative_Cities.pdf https://www.worldfuturecouncil.org/wp-content/uploads/2016/01/WFC_2014_Regenerative_Urban_Development_A_Roadmap_to_the_City_We_Need.pdf			
4. https://issuu.com/world.bank.publications/docs/9781464804731 https://issuu.com/msc.exhibition2019/docs/190902_thesis_final_single_pages https://www.projectsmart.co.uk/white-papers.php			
5. https://www.pmi.org/business-solutions/white-papers			

9.2. Seminar /Laboratory/Project	Number of hours	Teaching methods	Notes
1. Project ideas and working groups designation, cost efficiency principles	2	Teaching style based on the interactive teacher-student partnership; Student presentation of evaluations on the selected projects.	
2. Project economic feasibility evaluation results and impact criteria selection	2		
3. Project stakeholder mapping and FEED evaluation	2		
4. Project quality plan and correspondence with design documents	2		
5. Project management tools and their application to a change management scenario	2		
6. Project end of life scenarios and reuse option for the involved materials	2		
7. Project conclusion presentations	2		
Bibliography 1. https://ec.europa.eu/environment/gpp/lcc.htm 2. https://ec.europa.eu/environment/gpp/pdf/Buying-Green-Handbook-3rd-Edition.pdf 3. https://sppregions.eu/fileadmin/user_upload/Life_Cycle_Costing_SoA_Report.pdf 4. https://ec.europa.eu/regional_policy/sources/docgener/studies/pdf/cba_guide.pdf 5. https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52020DC0098&from=EN 6. https://www.pmi.org/learning/library/practical-quality-management-project-managers-16			

10. Bridging course contents with the expectations of the representatives of the community, professional associations and employers in the field

The acquired competencies will be necessary for the employees who carry out their activity in complex interdisciplinary context for understanding the impact of their own specialty on the project at every phase of the project management life cycle.

11. Evaluation

Activity type	11.1 Assessment criteria	11.2 Assessment methods (and evaluation form: continuous/summative)	11.3 Weight in the final grade
11.4 Course	The exam consists in verifying the theoretical and practical knowledge acquired	Oral exam	20%
11.5 Seminars /Laboratory/Project	Completion and submission of project evaluation - conditions the entrance to the exam.	Submission of project evaluation	80%
11.6 Minimum standard of performance			
Participation in the laboratory conditions the entrance to the exam. Exam grade components (E); Laboratory (L); Calculation formula of the grade $G = 0.2 \times E + 0.8 \times L$ Condition for obtaining credits: $G > 5.0$; where $E > 5.0$, $L > 5.0$			

Date of filling in: 11.05.2026		Title Surname Name	Signature
	Lecturer	Lecturer Eng. Anagabriela Deac, PhD	
	Teachers in charge of application	Lecturer Eng. Anagabriela Deac, PhD	

Date of approval in the Department of Building Services Engineering		Head of department
09.07.2026		Assoc.prof.phd.eng. Ciprian BACOTIU
Date of approval in the Council of the Faculty of Building Services Engineering		Dean
09.07.2026		Assoc.prof.phd.eng. Florin DOMNIȚA