

SYLLABUS CONTENT

1. Program information

1.1 Higher Education Institution	Technical University of Cluj-Napoca
1.2 Faculty	Constructions
1.3 Department	Civil Engineering and Management
1.4 Field of study	Civil Engineering
1.5 Cycle	Graduation
1.6 Study program/Qualification	Civil Engineering
1.7 Type of education	IF - învățământ cu frecvență
1.8 Syllabus code	55.00

2. Syllabus information

2.1 Syllabus name	Management and Administration of Construction Works (II)						
2.2 Course official	Assoc. Prof. Eng. PhD Livia Anastasiu – Livia.Anastasiu@ccm.utcluj.ro						
2.3 Application official	Assoc. Prof. Eng. PhD Livia Anastasiu – Livia.Anastasiu@ccm.utcluj.ro						
2.4 Year of study	IV	2.5 Semester	2	2.6 Evaluation	E	2.7 Syllabus type	DOB

3. Total estimated time

3.1 Hours per week	3	From which: 3.2 courses	1	3.3 applications	2
3.4 Total hours	42	From which: 3.5 courses	14	3.6 applications	28
Time distribution					ore
Study after manual, course support, reference, notes					14
Additional documentation in the library, specialized on-line platforms and practice					16
Preparing the applications, themes, portfolios, essays					16
Tutoring					14
Exams					2
Other activities					
3.7 Total hours of self study	62				
3.8 Total hours per semester	104				
3.9 Number of ECTS	4				

4 Prerequisite (where needed)

4.1 Curriculum	Passing the exam „Management and Administration of Construction Works (I)”
4.2 Competencies	No need

5. Conditions (where needed)

5.1. Courses	Classroom with blackboard, video-projector. Students will participate to courses and applications without opened mobile phones. Moreover, phone-calls will not be tolerated during courses, nore leaving the class for answering personal phone-calls.
5.2. Applications	Classroom with computers, software packages (for estimations and planning the construction works). The timeline for delivering the application project is mutually established with the students. For late delivery of the application project, the students will be punished by 1 point per day of delay.

6. Specific competencies

Professional competencies	<p>C2.2. Using the basic knowledge to explain concepts regarding the interpretation, development and implementation of tasks, specific processes of Engineering and Management, integrated with the computer.</p> <ul style="list-style-type: none"> - Knowing the importance of project management in constructions; - Knowing the importance of the methods and technics of strategical planning. <p>C3.2. Using the basic knowledge in planning, scheduling and leading the manufacturing processes, specific for Engineering and Management area.</p> <ul style="list-style-type: none"> - Knowledge of the methodology of calculating the duration of the construction works; - Knowledge of the techniques of optimizing the duration of the construction works. <p>C3.3. Applying the principles and basic methods for planning, scheduling and managing the organizations under qualified assistance.</p> <ul style="list-style-type: none"> - Applying the formulas for computing the duration of the construction works; - Designing the Gantt Chart. <p>C3.4. Appropriate using of criteria and standardised methods for the evaluation of the quality of some processes regarding the planning, scheduling and managing the organizations and the associated logistic networks.</p> <ul style="list-style-type: none"> - Optimizing the teams required for the achievement of the construction project; - Comparative analysis of scheduling the construction works, by using methods as PERT, Critical Path or Flowline. <p>C6.2. Identification, extraction, and synthesis of basic knowledge in management of construction organizations, as well as scheduling the execution of the construction works, for explaining and implementing some situations, processes and projects specific to the area.</p> <ul style="list-style-type: none"> - Knowledge of the elaboration of the documents needed for the planning of the construction works; - Knowledge of the methods of sizing the facilities of the site organization; - Knowledge of the techniques to design the site organization project. <p>C6.3. Application of the basic principles and methods specific for the management of the construction organizations, the site organization, the scheduling of the execution of the construction works, the specific technical-economic documentation in conditions of qualified assistance.</p> <ul style="list-style-type: none"> - Optimizing the duration of achievement the construction works by using the professional software Microsoft Project; - Determining the Critical Path for a complex construction project. <p>C6.4. Adequate using of the criteria and standard evaluation methods in order to estimate the advantages and quality of management methods specific for construction tasks.</p> <ul style="list-style-type: none"> - Optimizing the schedule of the construction works; - Optimizing the site organization project. <p>C6.5. Developing professional projects specific for construction organizations regarding the management of these systems.</p> <ul style="list-style-type: none"> - Optimizing the use of available space for construction; - Drawing up the site organization project.
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Transversal competencies	<p>CT1. Applying the responsible principles, norms and professional ethic values in achieving the professional tasks, and identifying the objectives to be achieved, the available resources, the working phases, the duration of tasks, the delivery deadlines and the related risks.</p> <p>CT2. Identifying the roles and responsibilities in a multi-task team, and applying the techniques of effective teamwork.</p> <p>CT3. Identifying the opportunities for life-long learning and efficiency for self-development, informational sources, communication resources and assisted training (Internet portals, software applications, data bases, on-line courses, etc.), both in Romanian and in an international language.</p>
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7. Syllabus objectives (coming from the grid of acquired specific competencies)

7.1 General objective of the syllabus	<ul style="list-style-type: none"> • Acknowledging the students with the importance of strategic planning of the construction works; • Training the necessary skills for reflecting them in the integrated project management by explaining the importance of planning the construction works through appropriate methods; • Developing the student's capacity to understand and use the methods for organizing and planning the construction projects; • Acquiring individual study in the theoretical and practical training of the student.
7.2 Specific objectives	<ul style="list-style-type: none"> • Ability to design a time schedule of the construction works by optimizing the timetable, and the specialized teams; • Ability to design, present, analyze and optimize the planning of the construction work by using at least three methods; • Ability and capacity to draw up, present and analyze the site organization of a construction project.

8. Content

8.1 Course	Teaching methods	Observations
1. Integrated management of construction projects	Presentation, discussions	Video-projector
2. Methods of planning the construction works: Gantt, Critical Path, Flowline, PERT		
3. Estimation of time for construction works		
4. Designing Gantt diagram		
5. Critical Path method		
6. Flowline schedule, PERT		
7. Designing the site organization project		
<p>References:</p> <p>In UTC-N library</p> <p>1. Anastasiu, L.: <i>Management of Construction Works (II) – Course notes</i>, Ed. UTPRES 2018</p> <p>In other libraries:</p> <p>1. Belker, L., McCormick J., Topchik G. : <i>The First Time-Manager</i>, 6th Edition, AMACOM, 2012</p> <p>2. Newitt, J. : <i>Construction Scheduling : Principles and Practices</i>, 2nd Edition, PEARSON, 2008</p> <p>3. Berkun, S.: <i>Making Things Happen: Mastering Project Management (Theory and Practice)</i>, Revised Edition, REILLY, 2008</p>		

8.2 Applications	Teaching methods	Observations
1. Presentation of estimation norms	Presentation, applications	Video-projector
2. Design of the estimation norms		
3. Design of the unit prices		
4. Calculus of the costs of material transportation		
5. Optimizing the costs of the task estimation		
6. Presentation of the estimation software INTELISOFT		
7. Designing the cost estimation of the project		
8. Calculus of the number of workers for each task of the project		
9. Optimization of the teams of workers		
10. Calculus of the duration for the project tasks		
11. Presentation of the software Microsoft Project		
12. Scheduling the project duration by using Microsoft Project		
13. Calculus of the facilities for the project`s site organization		
14. Designing the drawings for the project`s site organization		
References:		
In UTC-N library		
1. Anastasiu, L.: <i>Management of Construction Works (II) – Applications</i> , Ed. UTPRES 2018		
In other libraries:		
2. Belker, L., McCormick J., Topchik G. : <i>The First Time-Manager</i> , 6 th Edition, AMACOM, 2012		
3. Newitt, J. : <i>Construction Scheduling : Principles and Practices</i> , 2 nd Edition, PEARSON, 2008		
4. Berkun, S.: <i>Making Things Happen: Mastering Project Management (Theory and Practice)</i> , Revised Edition, REILLY, 2008		

9. Corroborating the content of the syllabus with the expectations of the epistemic community representatives, professional associations and employers belonging to the program area

The acquired competences will serve the employees who will work in design or manufacturing companies in constructions (site or supply).

10. Evaluation

Type of activity	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Ratio on the final mark
10.4 Course	Solving two subjects of theory. Solving a Critical Path problem. The attendance of the students at the courses is mandatory. Each absence will draw penalty of 0.5 points of the mark.	Written test (theory): 1.5 ore Written test (Critical Path): 0.5 ore	40% 40%
10.5 Applications	Delivery of the project.	Project evaluation	20%
10.6 Minimum performance standard			
<ul style="list-style-type: none"> • Project evaluation: Evaluation of the project has to be minimum 6. • Solving two subjects of theory for minimum 5; solving the problem for minimum 6. • Attendance to minimum 4 courses and minimum 11 applications. 			

Completion Date:	Responsible	Title, Name, Surname	Signature
01.10.2018	Course	Assoc. Prof. Eng. PhD Livia ANASTASIU	
	Applications	Assoc. Prof. Eng. PhD Livia ANASTASIU	

Approval in the CCM Department Council	Manager of CCM Department Assoc. Prof. Eng. PhD Claudiu ACIU
Approval in the Civil Engineering Faculty Council	Dean Assoc. Prof. Eng. PhD Nicolae CHIRA