

## SYLLABUS

### 1. Data about the program of study

1.1	Institution	The Technical University of Cluj-Napoca
1.2	Faculty	Faculty of Civil Engineering
1.3	Department	CCM
1.4	Field of study	Civil Engineering
1.5	Cycle of study	Bachelor of Science
1.6	Program of study/Qualification	CCIA English/Engineering
1.7	Form of education	Full time
1.8	Subject code	50.00

### 2. Data about the subject

2.1	Subject name				Technology of Construction I						
2.2	Subject area				Civil Engineering						
2.3	Course responsible/lecturer				Lecturer PhD. Eng. Andreea-Terezia MIRCEA <u><a href="mailto:Andreea.Mircea@ccm.utcluj.ro">Andreea.Mircea@ccm.utcluj.ro</a></u>						
2.4	Teacher in charge of seminars				Lecturer PhD. Eng. Andreea-Terezia MIRCEA <u><a href="mailto:Andreea.Mircea@ccm.utcluj.ro">Andreea.Mircea@ccm.utcluj.ro</a></u>						
2.5	Year of study	3	2.6	Semester	2	2.7	Assessment	C	2.8	Subject category	DS / DI

### 3. Estimated total time

3.1	Number of hours per week	2	3.2	of which, course:	1	3.3	applications:	1
3.4	Total hours in the curriculum	28	3.5	of which, course:	14	3.6	applications:	14
Individual study								hours
Manual, lecture material and notes, bibliography								7
Supplementary study in the library, online and in the field								7
Preparation for seminars/laboratory works, homework, reports, portfolios, essays								5
Tutoring								1
Exams and tests								2
Other activities								-
3.7	Total hours of individual study	22						
3.8	Total hours per semester	50						
3.9	Number of credit points	2.0						

### 4. Pre-requisites (where appropriate)

4.1	Curriculum	N/A
4.2	Competence	N/A

### 5. Requirements (where appropriate)

5.1	For the course	Multimedia equipment
5.2	For the applications	Multimedia equipment

## 6. Specific competences

Professional competences	C3.1. Description of technological processes for civil, industrial and agricultural construction. C3.3. Design of technological processes specific to the different phases for the execution of civil, industrial and agricultural construction elements.
Cross competences	CT1. Application of effective and responsible work strategies, punctuality, responsibility and personal liability based on principles, norms and values of professional ethics. CT2. Applying the techniques of effective team work on different hierarchical levels. CT3. Documentation in Romanian and in a foreign language, for professional and personal development through continuous training and effective adaptation to new technical specifications.

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

7.1	General objective	Development of skills and competencies needed in construction activities on compliance with safety requirements and sustainability
7.2	Specific objectives	Assimilation of knowledge regarding construction technologies

## 8. Contents

8.1.Lecture (syllabus)	Teaching methods	Notes
1. Introduction to construction technologies. Transport of materials and products during construction activities.	Exposure, discussions, multimedia presentations	Class board, video projector
2. Earthworks. Preparation for construction. Site clearing.		
3. Excavation works. Heavy construction machinery.		
4. Choosing the proper machinery, equipment and work techniques for different construction activities.		
5. Soil handling and disposal. Machines equipped with blades.		
6. Achieving compacted earth fillings. Soil stabilization.		
7. Auxiliary works. Safety at works, accident prevention.		
Bibliography		
1. AT Mircea “Construction Equipment for Earthwork Operations - Student Handbook”, Ed. UTPRESS 2013.		
2. AT Mircea “Lucrări de terasamente - Mașini de construcții terasiere”, Ed. UTPRESS 2014.		
3. RE Pașca, A Moga “Tehnologia executării terasamentelor”, Ed. UTPRESS 2003.		
4. Standard Construction Procedures, Part E: General Earthworks Information, USA 2004.		
5. Specification of Soil Handling and Disposal, Div.2, Sec 02115, USA.		
6. EN 1992-1-1. Eurocode 2: Design of concrete structures - Part 1: General rules and rules for buildings.		
7. Design and Execution of Earthworks, Section 1: Studies and Execution of Work - Technical Guide, Setra (Service d’Etude Technique) 2007.		
8.2.Applications/Seminars	Teaching methods	Notes
Selection of proper machinery, equipment and work techniques necessary for different construction activities:	Exposure, discussions	Class board, video projector

Theme presentation and working instruction		
L1: Selecting proper heavy machinery, equipment and transporting vehicle - (Part I) - Application		
- (Part II) - Result analysis and discussion		
L2: Estimating the activity duration - (Part I) – Application.		
- (Part II) - Result analysis and discussion		
L3: Estimating quantities – Application, result analysis and discussion		
Final verification of the project.		
Bibliography 1. AT Mircea “Construction Equipment for Earthwork Operations – Student Handbook”, Ed. UTPRESS 2013. 2. AT Mircea “Lucrări de terasamente – Mașini de construcții terasiere”, Ed. UTPRESS 2014. 3. RE Pașca, A Moga “Tehnologia executării terasamentelor”, Ed. UTPRESS 2003. 4. Standard Construction Procedures, Part E: General Earthworks Information, USA 2004. 5. Design and Execution of Earthworks, Section 1: Studies and Execution of Work - Technical Guide, Setra (Service d’Etude Technique) 2007. 6. EN 1992-1-1. Eurocode 2: Design of concrete structures - Part 1: General rules and rules for buildings.		

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

Acquired skills will be necessary to the civil engineers who work in structural design, construction companies and consultancy offices.

**10. Evaluation**

Activity type	10.1 Assessment criteria	10.2 Assessment methods	10.3 Weight in the final grade
10.4 Course	Fulfilling requirements for examination of theoretical part with min grade 5/10	Written paper (W)	80 %
10.5 Applications	Declared admissible, with min. grade 5/10	Verification and discussion (A)	20 %
10.6 Minimum standard of performance			
Grade 5/10, with the condition that $W \geq 5$ and $A \geq 5$			

Date of filling in:		Title Surname Name	Signature
30.09.2019	Lecturer	Lecturer PhD. Eng. Andreea-Terezia MIRCEA	
	Teacher in charge of application	Lecturer PhD. Eng. Andreea-Terezia MIRCEA	

Date of approval in the Department CCM

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Head of department  
Conf. PhD. Eng. Claudiu ACIU

Date of approval in the Faculty of Civil Engineering

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Dean  
Conf. PhD. Eng. Nicolae CHIRA