

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	Structures
1.4	Field of study	Civil Engineering
1.5	Cycle of study	Bachelor of Science
1.6	Program of study/Qualification	CCIA English/Engineer
1.7	Form of education	Full time
1.8	Subject code	9.10

2. Data about the subject

2.1	Subject name	History of Technic in Constructions									
2.2	Subject area	Civil Engineering									
2.3	Course responsible/lecturer	Lecturer phd.eng. Olar Radu – radu.olar@dst.utcluj.ro									
2.4	Teachers in charge of seminars										
2.5	Year of study	1	2.6	Semester	1	2.7	Assessment	C	2.8	Subject category (*)	DC DO

3. Estimated total time

3.1	Number of hours per week	2	3.2	of which, course:	2	3.3	applications:	-
3.4	Total hours in the curriculum	28	3.5	of which, course:	28	3.6	applications:	-
Individual study								14
Manual, lecture material and notes, bibliography								6
Supplementary study in the library, online and in the field								-
Preparation for seminars/laboratory works, homework, reports, portfolios, essays								-
Tutoring								-
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				

4. Pre-requisites (where appropriate)

4.1	Curriculum	
4.2	Competence	-

5. Requirements (where appropriate)

5.1	For the course	
5.2	For the applications	

6. Specific competences

Professional competences	<p>Basic terms and principles in the construction domain.</p> <p>Basic of the buildings structural behaviour.</p> <p>Structural conformation of historical buildings.</p> <p>Architectural elements.</p> <p>The evolution of construction techniques.</p> <p>Structural mechanisms and relation between the function and the shape of a structure.</p>
Cross competences	<p>To identify buildings of different time periods.</p> <p>To understand the behavior of structures, their design principles and how they are realised.</p> <p>To distinguish between structural and non-structural elements of a building.</p> <p>To know the modern techniques of design and execution in the construction field.</p> <p>To know the properties of modern construction materials.</p> <p>To know the issues and challenges facing a civil engineer in his work.</p>

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

7.1	General objective	The proper knowledge of specific terms in civil engineering domain
7.2	Specific objectives	<p>To understand the importance of the following disciplines in order to become specialists in this domain</p> <p>To have a proper view on the structural behaviour and relation between the function and the shape of a structure.</p>

8. Contents

8.1. Lecture (syllabus)		Teaching methods	Notes
1.	Introduction. Definitions, concepts regarding the buildings and the build patrimony.	The course are presented in a multimedia way, the students can interfere with questions and discussions are possible	
2.	Historical evolution of the constructions related to mankind development.		
3.	Function – structure – architecture.		
4.	Constructions of the ancient world		
5.	Medieval constructions		
6.	Renaissance constructions. Buildings of the industrial revolution period.		
7.	The evolution of shapes, technical and structural evolution in the last 100 years		
8.	Appearance and development of new materials and technologies for buildings		
9.	The evolution of modern construction industry and technology -I-		
10.	The evolution of modern construction industry and technology -II-		
11.	New construction technologies -I-		
12.	New construction technologies -II-		
13.	Modern buildings: shapes, trends, areas of development -I-		
14.	Modern buildings: shapes, trends, areas of development -II-		
Bibliography			
<ol style="list-style-type: none"> Alpatow, M. W.: <i>Istoria artei. Arta lumii vechi si a evului mediu</i>. Editura Meridiane, Bucuresti, 1962 Curinschi Vorona, Gh.: <i>Istoria arhitecturii în România</i>. Editura Tehnică, Bucuresti, 1985 Heinle, E., Schlaich, J.: <i>Kuppeln aller Zeiten – aller Kulturen</i>. Deutsche Verlags – Anstalt Stuttgart, 1996 Ionescu, G.: <i>Arhitectura pe teritoriul României de-a lungul veacurilor</i>. Editura Academiei RSR, Bucuresti, 1982 Sicignano, E.: <i>Techniche antiche e moderne, 8 architetture contemporanee</i>. Clean Edizioni, Napoli, 2000 Ramsey Dabby, Ashwani Bedi: "Structures for Architects", published by "John Wiley&Sons", New Jersey, 2012, ISBN 978-0-470-63376-2. Eric Fleming: "Construction technology", Blackwell Publishing Ltd, 2005, ISBN 1-4051-0210-1. Nikolas Davies, Erkki Jokiniemi: "Dictionary of Architecture and Building Construction", published by Elsevier Ltd, 2008, ISBN: 978-0-7506-8502-3 			

9. Edward Allen, Joseph Iano: "Fundamentals of Building Construction Materials and Methods", published by John Wiley & Sons, Inc., 2009, ISBN 978-0-470-07468-8.
10. Fiona Cobb: "Structural Engineer's Pocket Book", published by Elsevier Butterworth-Heinemann, 2004, ISBN 0 7506 5638 7.
11. Edward Allen: "How Buildings Work", Oxford University Press 2005, ISBN-13: 978-0-19-516198-4, ISBN-10: 0-19-516198-X

Virtual didactic materials

1. Movies and images of buildings systems, technologies and construction materials.

8.2. Applications/Seminars	Teaching methods	Notes

Bibliography

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

During the semester period, visits on the construction sites are organised in order to be presented to students practical aspects related with the execution and structural design. Direct contact with the representatives of the companies are also possible.

10. Evaluation

Activity type	10.1 Assessment criteria	10.2 Assessment methods	10.3 Weight in the final grade
10.4 Course	Quality evaluations performed by analysis, synthesis, generalization of data obtained through its own investigation and acuirements	The evaluation consists in an individual presentation of a building structure and questions related to the construction techniques and materials.	P – presentation, A – answers to questions N=0,6P+0,4A only if P>4, A>4.
10.5 Applications			
10.6 Minimum standard of performance : $N \geq 5.00$			

Date of filling in:		Title Surname Name	Signature
09.10.2019	Lecturer	PhD.Eng. Radu OLAR	
	Teachers in charge of application		

Date of approval in the department	Head of department Conf. Dr. Ing. Attila Puskás
Date of approval in the faculty	Dean Conf.dr.ing. Nicolae CHIRA