

Course/studio syllabi

1. Data on the study programme

1.1 Institution	Technical University of Cluj-Napoca
1.2 Faculty	of Architecture and Urban Planning
1.3 Department	Urban Planning and Technical Sciences
1.4 Domain	Architecture
1.5 University level	Licence and master's degree
1.6 Study programme/Qualification	Architecture
1.7 Form of studies	IF – on-site full-time studies
1.8 Course / studio code	55.00

2. Data on the course

2.1 Name of the course	Specialized Design - Structure and facilities				
2.2 Course/ Studio Head	Lecturer Radu HULEA				
2.3 Head of seminary/ laboratory/ studio	-				
2.4 Study year	4	2.5 Semester	1	2.6 Type of evaluation	Colloquy
2.7 Course /studio regime	Formative category: fundamental (DF)/ linked to the domain (DD)/ specific (DS)/ complementary (DC)				DD
	Compulsory (DI)/ Optional/ (DOP)/ Voluntary (DFac)				DI

3. Total estimated time

3.1 Number of hours/week	2	out of which:	3.2 Course		3.3 Seminary		3.3 Laboratory		3.3 Project	3
3.4 Number of hours/semester	75	out of which:	3.5 Course		3.6 Seminary		3.6 Laboratory		3.6 Project	44
3.7 Distribution of time (hours)/ semester for:										
(a) Individual study supported by course textbook, course text, bibliography, and notes										12
(b) Supplementary study in the library, online, and on site										
(c) Preparation for seminars/ laboratories/ assignments, reports, portfolios, and essays										21
(d) Tutoring										
(e) Examination										
(f) Other activities										-
3.8 Total hours of individual study (sum (3.7(a)...3.7(f)))					33					
3.9 Total semestrial hours (3.4+3.8)					75					
3.10 Number of credits					3					

4. Preconditions (where applicable)

4.1 curriculum preconditions	-
4.2 competence preconditions	Competences and knowledge acquired in fundamental courses such as: <i>Structural Engineering Theory 1,2 Structural Mechanics, Construction elements and materials</i> , may constitute a basis for a good understanding of notions and information discussed in the present course.

5. Conditions (where applicable)

5.1. for the course	
---------------------	--

5.2. for the seminary	- On site, in the allocated classroom (according to the faculty schedule). Attendance is a condition for examination. See also „10. Assessment method”.
-----------------------	---

6. Specific competencies

	<ul style="list-style-type: none"> • Technical knowledge of structure, materials, and construction. • Awareness of the impact of geotechnical conditions on construction • Understanding of the impact of climate on urban and architectural design and construction. • Ability to act with innovative technical competence in the use of building techniques and the understanding of their evolution. • Understanding of the processes of technical design and the integration of structure, construction technologies and services systems into a functionally effective whole. • Understanding of services systems as well as systems of transportation, communication, maintenance, and safety. • Awareness of the role of technical documentation and specifications in design realisation, and of the processes of construction, cost, planning and control.
--	--

7. Objectives of the discipline

7.1 General objective of the discipline	<ul style="list-style-type: none"> • Acquiring the necessary knowledge to be able to design constructions with a correct and economical structure as well as electrical, heating, and sanitary installations. • The ability to simultaneously analyze architectural requirements, the requirements for creating the structural framework, installations, and some details related to these, in the design of a building.
7.2 Specific objectives	<ul style="list-style-type: none"> • Pre-dimensioning the elements of a structural framework • Choosing and positioning the elements of electrical, heating, and sanitary installations, and the overall drawing for the installations associated with a building.

8. Content/Syllabi

8.1 Course	No. of hours	Teaching methods	Notes
8.2 Seminary / laboratory / project	No. of hours	Teaching methods	Notes
1. Analysis and resolution of foundation problems in relation to the surroundings.	6	Presentation in class of the methods for solving problems and individual corrections, collective corrections.	-
2. Optimization of the structural concept. Pre-dimensioning of structural elements.	6		
3. Architectural plans modified according to the analyses performed (basement plan, floor plan, characteristic section, formwork plan, and foundation plan)	6		

4. Presentation and analysis of solutions for routes for indoor sanitary installations and outdoor networks.	6		
5. Presentation and general analysis of solutions for equipping buildings with heating, cooling, and fresh air supply installations.	6		
6. Presentation and general analysis of solutions for electrical installations.	6		
7. Evaluation	6		
NOTE: the permanent actualization of the project matter might lead to minor changes in its structure			
<p>Bibliography :</p> <p>BUDIU, Viorica: Teoria structurilor. Vol. 1: Conceperea structurilor, actiuni, materiale, calculul sectiunilor (Cluj-Napoca : Universitatea Tehnica din Cluj-Napoca, 1995) cotă 25 : 482.100/1 624.07/B88/1</p> <p>BUDIU, Viorica: Teoria structurilor. Vol. 2: Elemente structurale (Cluj-Napoca : Universitatea Tehnica din Cluj-Napoca, 1997) cotă 49 : 482.100/2, 624.07/B88/2</p> <p>DANIEL Stoica: Construcții civile : probleme și soluții moderne (București : Matrix Rom, 2014) cotă 1 : 545.212</p> <p>ILIAN Mihai: Enciclopedia tehnica de instalatii, Manualul de instalatii, Instalatii de incalzire (Editia a II - a, Editura Artecno, 2010)</p> <p>DUTA Gheorghe: Enciclopedia tehnica de instalatii, Manualul de instalatii, Instalatii de ventilare si climatizare (Editia a II - a, Editura Artecno, 2010)</p> <p>CUGUDEAN C.: Instalații Electrice Industriale – Îndrumător Proiect (UTPress, 2015, ISBN 978-606-737-111-6)</p> <p>PETRU Moga, Ștefan I. Guțiu, Cătălin Moga: Elemente structurale din oțel : bazele proiectării (Cluj-Napoca : U.T.Press, 2015) cotă 5 : 544.646</p> <p>KOPENETZ Ludovic, Pârv Bianca Roxana: Introducere în teoria structurilor înalte și a structurilor cu deschideri mari (Cluj-Napoca : U.T.Press, 2014) cotă 8 : 543.099, 624.07/K73</p> <p>Normativ I7/2011 Normativ pentru proiectarea, executia si exploatarea instalatiilor electrice aferente cladirilor - I 7-2011, M.D.R.A.P.</p> <p>Normativ I7/2011 Normativ pentru proiectarea, executia si exploatarea instalatiilor electrice aferente cladirilor - I 7-2011, M.D.R.A.P.</p>			

9. Harmonizing the content of the discipline with the expectations of the epistemic community, the professional associations, and representative employers

The competencies achieved across the course contribute to the consolidation of the professional culture necessary for the profession and to the integrated use of theory and practice.

10. Assessment

Type pf activity	10.1 Evaluation criteria	10.2 Assessment method	10.3 Calculation of final grade
10.5 Laboratory	-	-	1 point by default
	Envolvement during the activity	Oral assessment. The methodology of rationale articulation for the chosen solutions.	max. 2 points

	Relevance and quality of project structure / facilities		3.5 puncte structures 3.5 puncte facilities
Calculus of the final grade: as a sum of the points obtained through the evaluation methods described above.			
10.6 Minimal standard for passing			
• a grade of minimum 5			

Date :	Head of course	Title, Name, Surname	Signature
10.01.2024	Course		
	Seminary/Lab	Lecturer. PHd. eng. Radu HULEA	-

Date of validation by the Department Council: _____	Chief of Department Associate professor Vlad Sebastian Rusu, Arch. PhD
Data of approval in the Faculty Council: _____	Dean Associate professor. PhD. arch. Dragoş Şerban Ion ȚIGĂNAŞ