

# SYLLABUS <sup>1</sup>

## 1. Information about the program

1.1 Higher education institution	Politehnica University Timisoara
1.2 Faculty <sup>2</sup> / Department <sup>3</sup>	Civil Engineering Faculty / Civil constructions and Installations Department
1.3 Chair	—
1.4 Field of study (name/code <sup>4</sup> )	Civil Engineering / 80
1.5 Study cycle	bachelor
1.6 Study program (name/code/qualification)	Civil Engineering in English/ 80 / Engineer

## 2. Information about the discipline

2.1 Name of discipline/ formative category <sup>5</sup>	Buildings 1 / DD						
2.2 Coordinator (holder) of course activities	Ş.I. Dr. Ing. DAESCU Alexandru Cosmin						
2.3 Coordinator (holder) of applied activities <sup>6</sup>	Ş.I. Dr. Ing. DAESCU Alexandru Cosmin						
2.4 Year of study <sup>7</sup>	III	2.5 Semester	VI	2.6 Type of evaluation	E	2.7 Type of discipline <sup>8</sup>	DI

## 3. Total estimated time – hours / semester: direct teaching activities (fully assisted or partly assisted) and individual training activities (unassisted) <sup>9</sup>

3.1 Number of fully assisted hours / week	4 of which:	3.2 course	2	3.3 seminar / laboratory / project	2
3.1* Total number of fully assisted hours / semester	56 of which:	3.2* course	28	3.3* seminar / laboratory / project	28
3.4 Number of hours partially assisted / week	of which:	3.5 training		3.6 hours for diploma project elaboration	
3.4* Total number of hours partially assisted / semester	of which:	3.5* training		3.6* hours for diploma project elaboration	
3.7 Number of hours of unassisted activities / week	2,5 of which:	additional documentary hours in the library, on the specialized electronic platforms and on the field			0,5
		hours of individual study after manual, course support, bibliography and notes			1
		training seminars / laboratories, homework and papers, portfolios and essays			1
3.7* Number of hours of unassisted activities / semester	35 of which:	additional documentary hours in the library, on the specialized electronic platforms and on the field			7
		hours of individual study after manual, course support, bibliography and notes			14
		training seminars / laboratories, homework and papers, portfolios and essays			14
3.8 Total hours / week <sup>10</sup>	6,5				
3.8* Total hours /semester	91				
3.9 Number of credits	4				

## 4. Prerequisites (where applicable)

<sup>1</sup> The form corresponds to the Discipline File promoted by OMECTS 5703 / 18.12.2011 and to the requirements of the ARACIS Specific Standards valid from 01.10.2017.

<sup>2</sup> The name of the faculty which manages the educational curriculum to which the discipline belongs

<sup>3</sup> The name of the department entrusted with the discipline, and to which the course coordinator/holder belongs.

<sup>4</sup> The code provided in HG no.140 / 16.03.2017 or similar HGs updated annually shall be entered.

<sup>5</sup> Discipline falls under the educational curriculum in one of the following formative disciplines: Basic Discipline (DF), Domain Discipline (DD), Specialist Discipline (DS) or Complementary Discipline (DC).

<sup>6</sup> Application activities refer to: seminar (S) / laboratory (L) / project (P) / practice/training (Pr).

<sup>7</sup> Year of studies in which the discipline is provided in the curriculum.

<sup>8</sup> Discipline may have one of the following regimes: imposed discipline (DI), optional discipline (DO) or optional discipline (Df).

<sup>9</sup> The number of hours in the headings 3.1 \*, 3.2 \*, ..., 3.8 \* is obtained by multiplying by 14 (weeks) the number of hours in headings 3.1, 3.2, ..., 3.8. The information in sections 3.1, 3.4 and 3.7 is the verification keys used by ARACIS as: (3.1) + (3.4) ≥ 28 hours / wk. and (3.8) ≤ 40 hours / wk.

<sup>10</sup> The total number of hours / week is obtained by summing up the number of hours in points 3.1, 3.4 and 3.7.

4.1 Curriculum	<ul style="list-style-type: none"> <li>• Construction materials, Structural mechanics, Strength of Materials</li> </ul>
4.2 Competencies	<ul style="list-style-type: none"> <li>• Work with scientific, engineering and informatic fundamentals</li> </ul>

#### 5. Conditions (where applicable)

5.1 of the course	<ul style="list-style-type: none"> <li>• Average capacity classroom. Support: laptop, projector, whiteboard</li> </ul>
5.2 to conduct practical activities	<ul style="list-style-type: none"> <li>• Computer room. Whiteboard.</li> </ul>

#### 6. Specific competencies acquired through this discipline

Specific competencies	<ul style="list-style-type: none"> <li>• Acquiring knowledge about structural systems for buildings</li> </ul>
Professional competencies ascribed to the specific competencies	<ul style="list-style-type: none"> <li>• Recognizing typical structures and structural elements, specific to the graduated study programme</li> <li>• Design of structural elements in civil engineering, specific to graduated study programme</li> <li>• Complying to quality and sustainable requirements for civil, industrial and agricultural constructions</li> </ul>
Transversal competencies ascribed to the specific competencies	<ul style="list-style-type: none"> <li>• Documentation in Romanian and foreign language, in view of professional and personal development, via continuous learning and efficient adaptation to the new technical specifications</li> </ul>

#### 7. Objectives of the discipline (based on the grid of specific competencies acquired - pct.6)

7.1 The general objective of the discipline	<ul style="list-style-type: none"> <li>• Giving students knowledge in the discipline of Buildings 1</li> <li>• Defining structural systems for buildings. The structural systems for buildings are presented to the students</li> </ul>
7.2 Specific objectives	<ul style="list-style-type: none"> <li>• Establishing the correct building layout</li> <li>• 3D concept for building's structural system</li> <li>• Study on the horizontal structural elements</li> <li>• Study on the vertical structural elements</li> <li>• Structural design of the main structural elements</li> <li>• Structural design using FEM</li> </ul>

#### 8. Content <sup>11</sup>

8.1 Course	Number of hours	Teaching methods <sup>12</sup>
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<sup>11</sup> It details all the didactic activities foreseen in the curriculum (lectures and seminar themes, the list of laboratory works, the content of the stages of project preparation, the theme of each practice stage). The titles of the laboratory work carried out on the stands shall be accompanied by the notation "(\*)".

1. Introduction. Definition of the structural concepts in buildings	2	PPT presentations
2. Horizontal structural elements. Types.	6	
3. Vertical structural elements. Cast-in place elements.	6	
4. Vertical structural elements. Pre-casted elements.	4	
5. Vertical structural elements. Masonry elements.	6	
6. Vertical structural elements. Timber elements.	2	
7. Vertical structural elements. Composite elements.	2	
Bibliography <sup>13</sup> 1 Stoian V, Cladiri civile, UT Timisoara, 1990 2 Stoian V. Tudor D., Cladiri civile, vol,1, IPTimisoara, 1980 3 Stoian V. Tudor D., Cladiri civile, vol.2, IPTimisoara, 1980		
<b>8.2 Applied activities<sup>14</sup></b>	<b>Number of hours</b>	<b>Teaching methods</b>
1. Architectural design - presentation	2	whiteboard explanations
2. Architectural design – Horizontal sections - plans	8	
3. Architectural design – Vertical sections - plans	8	
4. Architectural design – Functional calculus of the staircase	2	
5. Architectural design – Staircase representation	2	discussions
6. Structural design – slab design	4	discussions
7. Defending the project	2	discussions
Bibliography <sup>15</sup> 1. Indrumator de proiectare pentru cladiri, IPTimisoara, 1980		

**9. Corroboration of the content of the discipline with the expectations of the main representatives of the epistemic community, professional associations and employers in the field afferent to the program**

- Generally, the students have good geometrical representation knowledge, but lack in the structural layout knowledge.
- The employers appreciate the computational skills the students develop, by using the specific software for design.

**10. Evaluation**

<sup>12</sup> Presentation of the teaching methods will include the use of new technologies (e-mail, personalized web page, electronic resources etc.).

<sup>13</sup> At least one title must belong to the discipline team and at least one title should refer to a reference work for discipline, national and international circulation, existing in the UPT library.

<sup>14</sup> Types of application activities are those specified in footnote 5. If the discipline contains several types of applicative activities then they are sequentially in the lines of the table below. The type of activity will be in a distinct line as: "Seminar:", "Laboratory:", "Project:" and / or "Practice/training".

<sup>15</sup> At least one title must belong to the discipline team.

Type of activity	10.1 Evaluation criteria <sup>16</sup>	10.2 Evaluation methods	10.3 Share of the final grade
10.4 Course	Correct answer to the questions from the courses	Written examination.	67%
10.5 Applied activities	<b>S:</b>		
	<b>L:</b>		
	<b>P</b> <sup>17</sup> : Architectural drawings, slab design notes.	Discussions on the plans in the project	28%
	<b>Pr:</b> Attendance	Attendance list	5%
<b>10.6</b> Minimum performance standard (minimum amount of knowledge necessary to pass the discipline and the way in which this knowledge is verified <sup>18</sup> )			
<ul style="list-style-type: none"> <li>Answers in the written exam must cumulate minimum 5 points out of maximum 10.</li> </ul>			

**Date of completion**

January 17<sup>th</sup>, 2018

**Head of Department  
(signature)**

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**Course coordinator  
(signature)**

**Date of approval in the Faculty  
Council <sup>19</sup>**

12.02.2018

**Coordinator of applied activities  
(signature)**

**Dean  
(signature)**

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<sup>16</sup> Syllabus must contain the procedure for assessing the discipline, specifying the criteria, methods and forms of assessment, as well as specifying the weightings assigned to them in the final grade. The evaluation criteria shall be formulated separately for each activity foreseen in the curriculum (course, seminar, laboratory, project). They will also refer to the forms of verification (homework, papers, etc.)

<sup>17</sup> In the case where the project is not a distinct discipline, this section also specifies how the outcome of the project evaluation makes the admission of the student conditional on the final assessment within the discipline.

<sup>18</sup> It will not explain how the promotion mark is awarded.

<sup>19</sup> The endorsement is preceded by the discussion of the board's view of the study program on the discipline record.