

SYLLABUS ¹

1. Information about the program

1.1 Higher education institution	Politehnica University Timisoara
1.2 Faculty ² / Department ³	Civil Engineering Faculty/Department of Land Communication Ways, Foundations and Cadastre
1.3 Chair	—
1.4 Field of study (name/code ⁴)	Civil Engineering/80
1.5 Study cycle	Bachelor
1.6 Study program (name/code/qualification)	Civil Engineering (in English)/10/Engineer

2. Information about the discipline

2.1 Name of discipline/ formative category ⁵	Foundations/DD						
2.2 Coordinator (holder) of course activities	Professor PhD. Eng. Ciutina Adrian						
2.3 Coordinator (holder) of applied activities ⁶	Lecturer PhD. Eng. Ciopec Alexandra						
2.4 Year of study ⁷	III	2.5 Semester	5	2.6 Type of evaluation	E	2.7 Type of discipline ⁸	DI

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

3.1 Number of fully assisted hours / week	5 of which:	3.2 course	2.5	3.3 seminar / laboratory / project	2.5
3.1* Total number of fully assisted hours / semester	70 of which:	3.2* course	35	3.3* seminar / laboratory / project	35
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			1
		hours of individual study after manual, course support, bibliography and notes			1
		training seminars / laboratories, homework and papers, portfolios and essays			0.5
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			14
		hours of individual study after manual, course support, bibliography and notes			14
		training seminars / laboratories, homework and papers, portfolios and essays			7
3.8 Total hours / week ¹⁰	7.5				
3.8* Total hours /semester	105				
3.9 Number of credits	5				

4. Prerequisites (where applicable)

4.1 Curriculum	<ul style="list-style-type: none"> Material Resistance, Mechanics
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¹ 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.

² The name of the faculty which manages the educational curriculum to which the discipline belongs

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

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

⁵ 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).

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

⁷ Year of studies in which the discipline is provided in the curriculum.

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

⁹ 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.

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

4.2 Competencies	<ul style="list-style-type: none"> Using the scientific engineering fundamentals
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5. Conditions (where applicable)

5.1 of the course	<ul style="list-style-type: none"> Classroom, support materials: laptop, projector, screen, blackboard
5.2 to conduct practical activities	<ul style="list-style-type: none"> Foundation laboratory

6. Specific competencies acquired through this discipline

Specific competencies	<ul style="list-style-type: none"> Understand design and execution of foundations for civil and industrial buildings
Professional competencies ascribed to the specific competencies	<ul style="list-style-type: none"> Recognizing typical structures and structural elements, specific to the graduated study programme Design of structural elements in civil engineering, specific to graduated study programme
Transversal competencies ascribed to the specific competencies	<ul style="list-style-type: none"> Documentation in Romanian and foreign language, in view of professional and personal development, via continuous learning and efficient adaptation to the new technical specifications

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"> The lecture's objective is to develop competences in the field of design and execution of the buildings' infrastructure
7.2 Specific objectives	<ul style="list-style-type: none"> Assimilate the theoretical knowledge regarding the foundations for civil and industrial buildings. Obtaining skills for the design of foundations for civil and industrial buildings.

8. Content¹¹

8.1 Course	Number of hours	Teaching methods ¹²
Chapter 1 - Introduction	1	Lecture support, discussions, explanation, drawings on the blackboard
Chapter 2 – Basis of Design	3	
Chapter 3 – Bearing Capacity of Foundations	4	
Chapter 4 – Foundation Movements	2	
Chapter 5 – Lateral Earth Pressure and Retaining Walls	6	
Chapter 6 – Design of Shallow Foundations	16	
Chapter 7 – Design of Deep Foundations	3	

¹¹ 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 "(*)".

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

Bibliography¹³

1. SR EN 1997-1 Eurocod 7: Proiectarea geotehnică. Partea 1: Reguli Generale
2. Normativ de proiectare a fundațiilor de suprafață NP 112-2014
3. Normativ privind proiectarea geotehnică a fundațiilor pe piloți: NP 123-2010
4. M. Mirea, M. Marin – Sisteme de fundare a construcțiilor, Orizonturi Universitare Publishing House, Timisoara, Romania, 2011

8.2 Applied activities¹⁴

	Number of hours	Teaching methods
Design of Retaining Walls	5	Explanation, questions, discussion
Slope Stability Checks	5	
Design of Shallow Foundations	16	
Settlement Calculus	4	
Design of Pile Foundations	5	Explanation, questions, discussion

Bibliography¹⁵

1. L. Abramson, T. Lee, S. Sharma, G. Boyce – Slope stability and stabilization methods, John Wiley & Sons, Inc., New York, 2002
2. B.M. Das - Principles of foundation engineering, PWS-Kent, Boston, 1990
3. .E. Bowles– Foundation Analysis and Design, McGraw-Hill International Edition, New York, 1998
4. Anghel Stanciu, Irina Lungu - Fundatii, Editura Tehnica, Bucuresti, 2006
5. SR EN 1997-1 Eurocod 7: Proiectarea geotehnică. Partea 1: Reguli Generale
6. Normativ de proiectare a fundațiilor de suprafață NP 112-2014
7. Normativ privind proiectarea geotehnică a fundațiilor pe piloți: NP 123-2010

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

¹³ 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.

¹⁴ 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".

¹⁵ At least one title must belong to the discipline team.

- The discipline is in accordance with the ability of the civil engineers required by the civil engineering management and design companies.
- The content of the discipline was adapted to the requirements of the labor market, following the discussions in professional meetings or scientific conferences organized by civil engineering companies.

10. Evaluation

Type of activity	10.1 Evaluation criteria ¹⁶	10.2 Evaluation methods	10.3 Share of the final grade
10.4 Course	Answer to subjects from lecture area	Spoken exam: will be treated two subjects from the lecture content.	50%
10.5 Applied activities	S:		
	L:		
	P ¹⁷ : Design of different foundation types	Project delivery	50%
	Pr:		
10.6 Minimum performance standard (minimum amount of knowledge necessary to pass the discipline and the way in which this knowledge is verified ¹⁸)			
<ul style="list-style-type: none"> • To pass the exam it is necessary to obtain a minimum 5 (five) grade for each of the exam subjects and it is compulsory to deliver the project. 			

Date of completion

January 2018

**Head of Department
(signature)**

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**Course coordinator
(signature)**

**Date of approval in the Faculty
Council ¹⁹**

12.02.2018

**Coordinator of applied activities
(signature)**

**Dean
(signature)**

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¹⁶ 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.)

¹⁷ 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.

¹⁸ It will not explain how the promotion mark is awarded.

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