SYLLABUS [1]

1. Information about the program

1.1 Higher education institution	Politehnica University Timisoara
1.2 Faculty[2]/ Department [3]	Civil Engineering Faculty / Civil Constructions and Installations Department
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]			Sanitary and sewage – Elective 7/ DS				
2.2 Coordinator (holder) of course activities			Assoc. Prof. PhD. Eng. BRATA Silviana				
2.3 Coordinator (holder) of applied activities[6]			Lecturer. PhD. Eng. ADAM Marius				
2.4 Year of study[7]	IV	**2.5** Semester	8 I	**2.6** Type of evaluation	E	**2.7** Type of discipline[8]	DO

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	3 of which:	**3.2** course	2	**3.3** seminar / laboratory / project	1
3.1* Total number of fully assisted hours / semester	42 of which:	**3.2*** course	28	**3.3*** seminar / laboratory / project	14
3.4 Number of hours partially assisted / week	1 of which:	**3.5** training	0.2	**3.6** hours for diploma project elaboration	0
3.4* Total number of hours partially assisted / semester	14 of which:	**3.5*** training	2.8	**3.6*** hours for diploma project elaboration	0
3.7 Number of hours of unassisted activities / week	2 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			0,5
3.7* Number of hours of unassisted activities / semester	28 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			7
3.8 Total hours / week [10]	5				
3.8* Total hours /semester	70				
3.9 Number of credits	4				

4. Prerequisites (where applicable)

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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.

4.1 Curriculum	• Fluid Mechanics and Machines, Introduction in Computer Programming
4.2 Competencies	• Learning the fundamentals of curriculum prerequisites • Documentation in Romanian and English technical language

5. Conditions (where applicable)

5.1 of the course	• Classroom of medium capacity, Support Materials: laptop, projector, projection screen, whiteboard
5.2 to conduct practical activities	• Classroom of medium capacity, Support Materials: laptop, projector, projection screen, whiteboard.

6. Specific competencies acquired through this discipline

Specific competencies	Learning the fundamental notions in sanitary and sewage systems and environmental protection.
Professional competencies ascribed to the specific competencies	• 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	• 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	Teaching students the general notions related to the water supply systems, water quantity and quality, water sources and treatment of water collecting and treating of water to reintroduce it to the natural environment. •
7.2 Specific objectives	• - presenting and commenting of different examples related to the water sources, transport, treatment, distribution, collecting and treatment of the water. Presentations regarding the main aspects related to the environment protection: 70%; • - efficient use of sources of information and communication resources, training assisted (Internet portals, specialized software applications, databases, online courses, etc.) both in Romanian and in a foreign language: 30% .

8. Content [11]

8.1 Course	Number of hours	Teaching methods [12]
1. Water supply schemes.	2	lecturing, conversation, explication, demonstration
2. Quantity and quality of water.	2	
3. General notions to water sources.	2	
4. General treatment rules.	2	
5.General notions for transport and water distribution.	2	
6. Sewage systems.	2	
7. Sewage flows and waste water characteristics.	1	
8. General notions regarding waste water treatment.	1	

Bibliography [13] 1. Ionescu G. C., Ionescu G. L. – Sisteme de alimentare cu apa, Editura Matrixrom, 2010.
2. Ionescu, G. C. – Sisteme de epurare a apelor uzate, Editura Matrixrom, 2010.
3. Ionescu Gheorghe–Constantin, G Emil, DAN Florin, Ionescu George–Lucian - Electric energy consumption forecast within the wastewater treatment plant Oradea, Journal of applied engineering sciences 1 (4), 97-105, 2011.

8.2 Applied activities [14]	Number of hours	Teaching methods
Water supply system for a town	14	explication, example, simulation

Bibliography [15] 1. Ionescu G. C., Ionescu G. L. – Sisteme de alimentare cu apa, Editura Matrixrom, 2010.
2. Ionescu, G. C. – Sisteme de epurare a apelor uzate, Editura Matrixrom, 2010.
3. Ionescu Gheorghe–Constantin, G Emil, DAN Florin, Ionescu George–Lucian - Electric energy consumption forecast within the wastewater treatment plant Oradea, Journal of applied engineering sciences 1 (4), 97-105, 2011.

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

[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.).
[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.

- Completing the discipline content in accordance with didactic books, with theoretical and practical elements of professional associations textbooks, norms, standards.

10. Evaluation

Type of activity	**10.1** Evaluation criteria [16]	**10.2** Evaluation methods	**10.3** Share of the final grade
10.4 Course	- Understanding of concepts taught in every introductory theme and linked the notions - Ensure recognition of the progressive accumulation	2 hours written paper, 3 theoretical subjects, one project related subjects; evaluation represents 0.5 from the final note, the rest of 0.5 representing the project grade.	50%
10.5 Applied activities	**S:**		
	L:		
	P[17]**:** individually solving of applications	The attendance is monitored	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])			
• grade 5 is secured when promoting the applications hours and obtaining 50% of the total points at all subjects.			

Date of completion January 17th, 2018	**Course coordinator (signature)** ……	**Coordinator of applied activities (signature)** ……
Head of Department (signature) ……	**Date of approval in the Faculty Council [19]** 12.02.2018	**Dean (signature)** ……

[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.