

# 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/Department of Land Communication Ways, Foundations and Cadastre
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)/10/Engineer

## 2. Information about the discipline

2.1 Name of discipline/ formative category <sup>5</sup>	Highway and Traffic Engineering/DS						
2.2 Coordinator (holder) of course activities	Lecturer PhD. Eng. Cristina Otilia Voicu						
2.3 Coordinator (holder) of applied activities <sup>6</sup>	Lecturer PhD. Eng. Cristina Otilia Voicu						
2.4 Year of study <sup>7</sup>	II	2.5 Semester	4	2.6 Type of evaluation	D	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	2 of which:	3.2 course	1	3.3 seminar / laboratory / project	1
3.1* Total number of fully assisted hours / semester	28 of which:	3.2* course	14	3.3* seminar / laboratory / project	14
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 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			0.5
		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			14
		hours of individual study after manual, course support, bibliography and notes			7
		training seminars / laboratories, homework and papers, portfolios and essays			7
3.8 Total hours / week <sup>10</sup>	4				
3.8* Total hours /semester	56				
3.9 Number of credits	2				

## 4. Prerequisites (where applicable)

4.1 Curriculum	<ul style="list-style-type: none"> <li>Algebra, geometry, descriptive geometry</li> </ul>
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<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.

4.2 Competencies	<ul style="list-style-type: none"> <li>• Building Materials</li> </ul>
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### 5. Conditions (where applicable)

5.1 of the course	<ul style="list-style-type: none"> <li>• Classroom with projector and blackboard</li> </ul>
5.2 to conduct practical activities	<ul style="list-style-type: none"> <li>• Classroom with projector and blackboard</li> </ul>

### 6. Specific competencies acquired through this discipline

Specific competencies	<ul style="list-style-type: none"> <li>• Understanding the land communication ways, particularly in traffic and highways, learning about written and drawing pieces for a road design</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>• Technological and economical design for the erection, operation and maintenance works in civil engineering, specific to graduated study programme</li> <li>• Organization and management of the execution, operation and maintenance procedures for civil, industrial and agricultural constructions</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>• The general objective is to initiate the students in the domain of the land communication ways, particularly in traffic and highways. It aims at providing technical knowledge about traffic characteristics, prognosis and analysis, also the particularities of highways design, execution, maintenance and exploitation.</li> </ul>
7.2 Specific objectives	<ul style="list-style-type: none"> <li>• Acquiring particular knowledge for geometrical elements in plan, longitudinal profile and transversal profile for roads and highways.</li> <li>• Knowledge about the technical rank establish.</li> <li>• Interpretation and elaboration of the written and drawing pieces for a road design.</li> </ul>

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

8.1 Course	Number of hours	Teaching methods <sup>12</sup>
Introductory notions about highways. Traffic definition	2	Presentation of theoretical aspects,
Particularities about highways design, execution, maintenance and	6	

<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 "(\*)".

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

exploitation. Plan axis for a highway, longitudinal and cross profile. Highways knots. Road system and adjacent buildings.		examples, discussions, solved problems, questions
Characteristics of the traffic.	2	
Study of the traffic (Organization, analysis and prognosis of the traffic. Mathematical models for analysis and prognosis.)	4	
Bibliography <sup>13</sup> 1. Nicoara, L., Lucaci ,G. Trafic si autostrazi. Curs. I.P.T.V.T., Timisoara.1988 2. Cohen, S. Inginierie du trafic routier.,Presses d Ecole National des Ponts et Chaussees. Paris, 1990. 3. Normele romanesti pentru proiectarea autostrazilor.		
<b>8.2 Applied activities</b> <sup>14</sup>	Number of hours	Teaching methods
Determination of the traffic characteristics.	2	Theoretical presentations, discussions, explanations, case studies
Plan axis, curves connection, longitudinal profile, cross profile for a highway.	8	
Traffic knots design.	4	
Bibliography <sup>15</sup> 1.Belc, F., Cai de comunicatie terestre. Elemente de proiectare. Editura Orizonturi Universitare, Timisoara, 1999		

**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**

- The discipline is in accordance with the ability of the civil engineers required by the roads 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 road engineering companies.

**10. Evaluation**

Type of activity	<b>10.1</b> Evaluation criteria <sup>16</sup>	<b>10.2</b> Evaluation methods	<b>10.3</b> Share of the final grade
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<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.

<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.)

<b>10.4 Course</b>	The capacity to identified, define, demonstrate, compute and the interpretation of the concepts introduced by the lecture.	Written examination, two written tests in 7 <sup>th</sup> and 14 <sup>th</sup> week	2/3
<b>10.5 Applied activities</b>	<b>S:</b>		
	<b>L:</b> The capacity to transpose the theoretical knowledge into practical examples and the ability of the design computing.,	Presentation of the design project. )	1/3
	<b>P<sup>17</sup>:</b>		
	<b>Pr:</b>		
<b>10.6 Minimum performance standard</b> (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>To pass the exam it is necessary to obtain a minimum 5 (five) grade for each of the exam subjects, the presence is compulsory to 75% of the lecture and seminar works and it is necessary to deliver the project.</li> </ul>			

**Date of completion**

**Course coordinator  
(signature)**

**Coordinator of applied activities  
(signature)**

**Head of Department  
(signature)**

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

**Dean  
(signature)**

12.02.2018

<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.