

SYLLABUS ¹

1. Information about the program

1.1 Higher education institution	Politehnica University of Timisoara
1.2 Faculty ² / Department ³	Civil Engineering/Steel Structures and Structural Mechanics CMMC
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 / Civil Engineer

2. Information about the discipline

2.1 Name of discipline/ formative category ⁵	Tehnology for steel and composite structures / DS						
2.2 Coordinator (holder) of course activities	Prof.dr.ing. Dinu Florea						
2.3 Coordinator (holder) of applied activities ⁶	Prof.dr.ing. Dinu Florea						
2.4 Year of study ⁷	4	2.5 Semester	8	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	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	1,5 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			0,5
		training seminars / laboratories, homework and papers, portfolios and essays			0,5
3.7* Number of hours of unassisted activities / semester	21 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			7
		training seminars / laboratories, homework and papers, portfolios and essays			7
3.8 Total hours / week ¹⁰	4,5				
3.8* Total hours /semester	63				
3.9 Number of credits	3				

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. Prerequisites (where applicable)

4.1 Curriculum	•
4.2 Competencies	<ul style="list-style-type: none"> • To acquire knowledge about all kind of steel and composite constructions works, fabrication and erection techniques • To develop skills about management, organization, and planning of construction works •

5. Conditions (where applicable)

5.1 of the course	• Proper lecture room: laptop, beamer, screen, whiteboard, whiteboard pens
5.2 to conduct practical activities	• Computer room, software, bibliography, technical visits on fabrication/construction, management companies

6. Specific competencies acquired through this discipline

Specific competencies	<ul style="list-style-type: none"> • Acquire knowledge about design, construction and operation of steel and concrete constructions
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"> • To make the students familiar with the technologies and processes for construction of steel and composite structures (buildings or other applications) • To make the students familiar with planning of construction works and identify the key points • A good understanding of these problems is very important for the future graduate's career as structural engineer •
7.2 Specific objectives	<ul style="list-style-type: none"> • To make the students become familiar with the link between design, construction and operation of steel and concrete constructions • To develop engineering ethic issues

8. Content ¹¹

8.1 Course	Number of hours	Teaching methods ¹²
Introduction Aboveground construction engineering Fabrication techniques for steel and composite structures Construction technologies for various types of structures (low rise, high rise, long span, special conditions) Planning and logistic works for constructions (steel, concrete, composite)	4	Power Point presentation, conversations, explanations, demonstrations using models (physical models, computer models)
Fabrication processes Shop fabrication, construction quality standards and control Required performance Safety works.	10	
Transportation, erection and operation of structural steel and composite constructions Transportation system, conditions, safety, restrictions Construction site Erection: constructability, methods, conditions, procedures Economic efficiency, safety, environmental impact Periodic inspection of buildings	10	
Planning and logistic works for constructions	4	
<ol style="list-style-type: none"> 1. Bibliography ¹³ 2. Note de curs, e-book, http://www.ct.upt.ro/users/DinuFlorea 3. SR EN 1090; SR EN 10025 4. SR EN 1993-1-1; SR EN 1993-1-3; SR EN 1993-1-5; SR EN 1993-1-7; SR EN 1993-1-8; SR EN 1993-1-9; SR EN 1993-1-10; P100-1/2013; SR EN 1990; SR EN 1994-1-1 5. SR EN 1991-1-1; SR EN 1991-1-3; SR EN 1991-1-4; 6. Structural steel. Design and construction 7. Standard specifications for steel and composite structures 8. 3. Shop Inspection Handbook for Structural Steel Buildings, SSTC Publications , 2006 9. Inspection and Field Practices Workbook, SSTC publications, 2008 		

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.

8.2 Applied activities ¹⁴	Number of hours	Teaching methods
Technical specifications for supply, fabrication, delivery and erection of steel frame structure with composite floor slabs Supply of materials, consumables Fabrication, Inspection, Quality control in shop Handling, storage, transportation Sequence of assembly Temporary works Quality control at site Reception	10	Presentation, explanation, discussions, tutorial and support for application of specialized software
Specifications for onsite construction work procedures: diagrams Pre-assembly Lifting methods	3	
	3	
	3	
Bibliography ¹⁵ 1. Note de curs, e-book, http://www.ct.upt.ro/users/DinuFlorea 2. SR EN 1090; SR EN 10025 3. SR EN 1993-1-1; SR EN 1993-1-3; SR EN 1993-1-5; SR EN 1993-1-7; SR EN 1993-1-8; SR EN 1993-1-9; SR EN 1993-1-10; P100-1/2013; SR EN 1990; SR EN 1994-1-1 4. SR EN 1991-1-1; SR EN 1991-1-3; SR EN 1991-1-4; 5. Structural steel. Design and construction 6. Standard specifications for steel and composite structures 7. 3. Shop Inspection Handbook for Structural Steel Buildings, SSTC Publications , 2006 8. Inspection and Field Practices Workbook, SSTC publications, 2008 9. Manual de Autocad, Tekla		

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 content of the course and the application were corroborated with the expectations of the representatives of the epistemic community, professional associations in the field of civil and structural engineering, industry and other partners involved in the field. The unification of standards and codes – e.g. Eurocodes, and the globalization of the construction industry have been also considered in the elaboration of the content of the discipline.
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10. Evaluation

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.

Type of activity	10.1 Evaluation criteria ¹⁶	10.2 Evaluation methods	10.3 Share of the final grade
10.4 Course	Answering to specific subjects in the field of the course and applications	Written form	50%
10.5 Applied activities	S:		
	L: Technical specifications for supply, fabrication, delivery and erection of steel frame structure with composite floor slabs; Correctness and clarity of technical report and specifications	Presentation of the report, answering to questions	50%
	P¹⁷:		
	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"> • Approach of the exam questions at a satisfactory level - minimum 50% • Delivery and defense of the report (technical specifications, materials, quality control, storage, transportation, assembly, quality control at site, reception) - minimum 50% 			

Date of completion

01.02.2018

**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.