

SYLLABUS

1. Data about the program of study

1.1	Institution	The Technical University of Cluj-Napoca
1.2	Faculty	Faculty of Automation and Computer Science
1.3	Department	Automation
1.4	Field of study	Systems engineering
1.5	Cycle of study	Master
1.6	Program of study/Qualification	Cyber-physical systems
1.7	Form of education	IF - Full time
1.8	Subject code	18.00

2. Data about the subject

2.1	Subject name	Project Cyber-physical systems 2				
2.2	Subject area	Systems engineering				
2.2	Course responsible/lecturer	At the student's choice				
2.3	Teachers in charge of seminars	Not necessary				
2.4	Year of study	2	2.5 Semester	1	2.6 Assessment	C
2.7	Subject category	Formative category				DS
		Optionality				DO

3. Estimated total time

3.1	Number of hours per week	2	of which	3.2 Course	0	3.3 Seminar	0	3.3 Laborator	0	3.3 Proiect	2
3.4	Total hours in the curriculum	28	of which	3.5 Course	0	3.6 Seminar	0	3.6 Laborator	0	3.6 Proiect	28
3.7 Individual study:											
(a) Manual, lecture material and notes, bibliography											
(b) Supplementary study in the library, online and in the field											28
(c) Preparation for seminars/laboratory works, homework, reports, portfolios, essays											42
(d) Tutoring											
(e) Exams and tests											2
(f) Other activities											
3.8 Total hours of individual study (sum (3.7(a)...3.7(f)))					72						
3.9 Total hours per semester (3.4+3.8)					100						
3.10 Number of credit points					4						

4. Pre-requisites (where appropriate)

4.1	Curriculum	Not necessary
4.2	Competence	Use of fundamental automation concepts

5. Requirements (where appropriate)

5.1	For the course	Not necessary
5.2	For the applications	Not necessary

6. Specific competences

Professional competences	Realization of professional and/or interdisciplinary research-development projects in compliance with quality, safety and security standards
Cross competences	Team work Scientific dissemination of results

7. Discipline objectives (as results from the *key competences gained*)

7.1	General objective	<ul style="list-style-type: none"> - Training of young engineers, researchers and developers; - Supporting master's students in the proper preparation of dissertations, research projects, dissemination of results; - Choosing strategies, methods, techniques and tools to develop and implement a project.
7.2	Specific objectives	- Acquiring of transdisciplinary and interdisciplinary knowledge

8. Contents

8.1. Lecture (syllabus)	Number of hours	Teaching methods	Notes
Not necessary			
Bibliography			
8.2. Seminars /Laboratory/Project	Number of hours	Teaching methods	Notes
Under the guidance of the coordinating teaching staff		Presentation of examples, discussions, practical applications	In case of force majeure, the online Teams platform will be used
Bibliography			

9. Bridging course contents with the expectations of the representatives of the community, professional associations and employers in the field

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Date of approval in the department of Automation

Head of department
Prof.dr.ing. Honoriu Vălean

Date of approval in the faculty of Automation and Computer
Science

Dean
Prof.dr.ing. Liviu Miclea