

SYLLABUS

1. Data about the program of study

1.1	Institution	Technical University of Cluj-Napoca
1.2	Faculty	Faculty of Electrical Engineering
1.3	Department	Electrotechnics and Measurements
1.4	Field of study	Electrical Engineering
1.5	Cycle of study	Bachelor of Science
1.6	Program of study/ Qualification	Electrical System Cluj-Napoca in English language
1.7	Form of education	Full time
1.8	Subject code	54.10

2. Data about the subject

2.1	Subject name	Integrated Design Environments for Electrical Installations			
2.2	Course responsible/ lecturer	Prof. Dr. Eng. Sorin Ghe. Pavel – sorin.pavel@enm.utcluj.ro			
2.3	Teachers in charge of Seminars/ Laboratory/ Project	Prof. Dr. Eng. Sorin Ghe. Pavel – sorin.pavel@enm.utcluj.ro			
2.4 Year of study	4	2.5 Semester	1	2.6 Type of assessment (<i>E – exam, C – colloquium, V – verification</i>)	C
2.7 Subject category	<i>DF – fundamental, DD – in the field, DS – specialty, DC – complementary</i>				DS
	<i>DI – compulsory, DO – elective, Dfac – optional</i>				DO

3. Estimated total time

3.1 Number of hours per week:	4	of which	3.2 Course	2	3.3 Seminar		3.3 Laboratory	1	3.3 Project	1
3.2 Total hours per semester	56	of which	3.5 Course	28	3.6 Seminar		3.6 Laboratory	1	3.6 Project	1
3.7 Individual study:										
(a) Manual, lecture material and notes, bibliography									20	
(b) Supplementary study in the library, online and in the field									10	
(c) Preparation for seminars/laboratory works, homework, reports, portfolios, essays									10	
(d) Tutoring										
(e) Exams and tests									4	
(f) Other activities										
3.8 Total hours of individual study [sum (3.7(a) to 3.7(f))]					44					
3.9 Total hours per semester [sum of 3.4 and 3.8]					100					
3.10 Number of credit points					4					

4. Prerequisites (where applicable)

4.1	Curriculum	Not applicable
4.2	Competences	Not applicable

5. Requirements (where appropriate)

5.1	For the course	
5.2	For the applications	

6. Specific competences

Professional competences	Ability to apply knowledge of engineering, applied sciences, and computer science Ability to create technical design documentation Ability to use symbol/device-based electrical design techniques Ability to use object-oriented drawing techniques Ability to generate reports: equipment lists, connection diagrams, cable/pipe logs, etc.
Cross competences	Development of teamwork skills, oral and written communication, and adherence to professional ethics

7. Discipline objectives (based on specific competencies acquired)

7.1	General objective	Creation of technical design documentation
7.2	Specific objectives	Ability to address problems using symbol/device-based design techniques Ability to address problems using object-oriented drawing techniques Ability to address problems related to generating reports: equipment lists, wiring diagrams, cable/pipe logs

8. Contents

8.1. Course (Lectures)		Number of hours	Teaching methods	Additional remarks
1	Graphic symbols in electrical engineering	2	PowerPoint presentation. Classes will be held onsite or online via MS Teams when in-person attendance is not possible.	
2	Technical-economic documentation in electrical engineering	2		
3	Representation and marking of elements	2		
4	The ePLAN concept. User interface	2		
5	Creating a project	2		
6	Project editing and management	2		
7	Page generation and editing	2		
8	Generating a schematic	2		
9	Generating graphic pages	2		
10	Using filters	2		
11	Generating and inserting macros	2		
12	Report generation	2		
13	Project customization	2		
14	Project printing	2		
Bibliography				
EPLAN Electric P8 – Beginners Guide, Friedhelm LOH Group, 2010				

8.2. Applications - Seminar /Laboratory/Project		Number of hours	Teaching methods	Additional remarks
1	L1: Interface familiarization – 2h	2	Practical applications. Labs and projects will be conducted onsite or online via MS Teams when in-person attendance is not possible.	
2	L2: Creating a project – 7h	7		
3	L3: Adding new pages – 2h	2		
4	L4: Title page customization – 1h	1		
5	L5: Basic settings – 1h	1		
6	L6: Inserting junction boxes – 1h	1		
7	L7: Inserting equipment – 1h	1		
8	L8: Properties, labels, label positioning – 1h	1		
9	L9: Connection points – 1h	1		
10	L10: Inserting a contactor – 1h	1		
11	L11: Inserting control equipment – 1h	1		
12	L12: Inserting terminal strips – 1h	1		
13	L13: Cable and conductor specifications – 1h	1		
14	L14: Creating graphic pages – 7h	7		
Bibliography				
EPLAN Electric P8 – Beginners Guide, Friedhelm LOH Group, 2010				

9. Alignment of course content with expectations of the epistemic community, professional associations, and representative employers in the field

The acquired competencies are applicable in the design of electrical installations.

10. Assessment

Activity type	10.1 Assessment criteria	10.2 Assessment methods	10.3 Weight in the final grade (%)
10.4 Course	Theoretical knowledge	Written and/or oral exam	70%
10.5 Laboratory 10.5 Project	Practical knowledge	Verification	30%
10.6 Minimum standard of performance: Grade 5 in both assessments.			

Date of completion	Lecturers	Title/ Surname/ Name:	Signature
September 2024	Course	Prof. Dr. Eng. Sorin Ghe. Pavel	
	Applications Seminar/ Laboratory/ Project	Prof. Dr. Eng. Sorin Ghe. Pavel	

Date of approval in the ETHM Department Council

September 2024

Head of Department:

Prof. Eng. MICU Dan Doru, PhD

Date of approval in the Faculty of Electrical Engineering Council

September 2024

Dean:

Assoc. Prof. Eng. CZIKER Andrei, PhD