Syllabus

1. Data about the program of study

1.1 Institution	Technical University of Cluj-Napoca
1.2 Faculty	Automation and Computer Science
1.3 Departament	Automation
1.4 Field of study	Systems Engineering
1.5 Cycle of study	Bachelor of Science
1.6 Program of study/Qualification	Automation and Applied Informatics (English)
1.7 Form of education	Full time
1.8 Codul disciplinei	45.00

2. Data about the subject

2.1 Subject name		*Practical Work in the Specialization*				
2.2 Course responsible/lecturer		Assoc. prof. dr. eng. Petru Dobra				
2.3 Teachers in charge of applications		Internship supervisors appointed by the faculty: Assoc. prof. dr. eng. Petru Dobra Assoc. prof. dr. eng. Vlad Muresan Assist. prof. dr. eng. Ioan Valentin Sita				
2.4 Year of study	3	2.5 Semester	1	2.6 Assessment *(E/C/V)*		V
2.7 Type of subject		*DF – fundamental, DD – in the field, DS – specialty, DC – complementary*				DS
		DI – compulsory, DO – elective, Dfac – optional				DI

3. Estimated total time

3.1 Number of hours per week	-	of which:	Course	-	Seminar	-	Laboratory	-	Project	-
3.2 Number of hours per semester	150	of which:	course	-	Seminar	-	Laboratory	-	Project	150

3.3 Individual study	
(a) Manual, lecture material and notes, bibliography	
(b) Supplementary study in the library, online and in the field	
(c) Preparation for seminars/laboratory works, homework, reports, portfolios, essays	
(d) Tutoring	
(e) Exams and tests	
(f) Other activities:	

3.4 Total hours of individual study (sum of (3.3(a)…3.3(f)))	0
3.5 Total hours per semester (3.2+3.4)	150
3.6 Number of credit points	6

4. Pre-requisites (where appropriate)

4.1 Curriculum	N/A
4.2 Competence	N/A

5. Requirements (where appropriate)

5.1. For the course	N/A
5.2. For the applications	N/A

6. Specific competences

6.1 Professional competences	C2 – Operating with basic concepts of computer science, information technology and communication C2.1 – Describing the structure and operation of computer systems, communication networks and their applications in systems engineering using the concepts of programming languages, software environments and technologies, software engineering and specific tools (algorithms, diagrams, models, protocols, etc.). C2.2 – Well-grounded usage of concepts from informatics and computer technology in solving well defined problems of system engineering and in

	applications requiring the use 2/3 of hardware or software in industrial systems or information technology systems.

	C2.3 – Solving common problems of systems engineering using the computer science and information technology concepts for the use of dedicated software tools and computer aided design (CAD) and for the adaptation and extension of these.
	C2.4 – Selection and evaluation, as a user, of dedicated software and computer aided design (CAD) tools for applications in systems engineering, computers, information technology and communications. o C2.5 – Using hardware - software code sign and software engineering as development methodologies, including the system level modelling
6.2 Cross competences	CT1 - Honorable, responsible, ethical behavior in the spirit of the law to ensure the reputation of the profession
	CT2 - Identifying, describing and conducting processes in the projects management field, assuming different roles inside the team and clearly and concisely describing, verbally or in writing, in Romanian and in an international language, the results from the activity field. (2 credits)

7. Course objectives

7.1 General objective	Application of fundamental and applied knowledge gained in the projects development within a specialized company or research team (theme set by the project manager)
7.2 Specific objectives	Acquaintance and student involvement in every development stage of a hardware / software / communication project and connected aspects of design activities: - Design, implementation, testing and validation of the project - Preparation of documentations, technical reports - Team work and communication skills - Project management activities

8. Contents

8.1 Lecture	No.hours	Teaching methods	Notes
-			
8.2 Applications – Seminars/Laboratory/Project			
- analysis of the product - preparation of the project specifications - implementation and deployment of the hardware or software system - product testing and validation - product documenting		N/A	
Bibliography For the project development, the draft bibliography is the one recommended by the project leader from the company or by the research team at which the implementation is performed and the one resulted in the documenting phase.			

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

This discipline provides education and training of the students at the workplace site, with benefits for both sides. Students are familiarized with the working and professional requirements needed to work in a company, and companies have the opportunity to shape students to facilitate their employment after graduation (to reduce training expenses / training). Also it aims to increase cohesion between academia and employment in a priority area in terms of national and European level in order to improve the skills of employees and to prepare and maintain them in the labor market in a particularly dynamic and competitive domain (mainly existing competition with Eastern European countries and Asia - India and China).

10. Evaluation

Activity type	Assessment criteria	Assessment methods	Weight in the final grade
Course	N/A	N/A	N/A
Project	Attendance (min 100 h), activity, tutor assessment	Colloquy; Face-to-face evaluation; on-line evaluation;	100%
Minimum standard of performance: Development of a hardware / software / communication engineering project.			

Date of filling in:		Title Firstname NAME	Signature
	Course	Assoc. prof. dr. eng. Petru Dobra	
	Aplications	Assoc. prof. dr. eng. Petru Dobra	
		Assoc. prof. dr. eng. Vlad Muresan	
		Assist. prof. dr. eng. Ioan Valentin Sita	

Date of approval by the Department Board   Head of Departament ....
Automation Department   Prof.dr.ing. Honoriu VĂLEAN

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Date of approval by the Faculty Council ……………   Dean
Computer Science and Automation Faculty   Prof.dr.ing. Liviu Cristian MICLEA

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