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 Department	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 Discipline code	51.20

2. Data about the subject

2.1 Subject name	***Project management***				
2.2 Course responsible/lecturer	Assoc. prof. dipl. eng. Enyedi Szilárd, PhD - Szilard.Enyedi@aut.utcluj.ro				
2.3 Teachers in charge of applications	Lect. dipl. eng. Ștefan Iulia, PhD - Iulia.Stefan@aut.utcluj.ro				
2.4 Year of study	4	2.5 Semester	1	2.6 Assessment *(E/C/V)*	E
2.7 Type of subject	*DF – fundamental, DID – in the field, DS – specialty, DC – complementary*				DS
	DOB – compulsory, DOP – elective, FAC – optional				DOP

3. Estimated total time

3.1 Number of hours per week	4	of which:	Course	2	Seminar	0	Laboratory	2	Project	0
3.2 Number of hours per semester	56	of which:	course	28	Seminar	0	Laboratory	28	Project	0
3.3 Individual study										
(a) Manual, lecture material and notes, bibliography										15
(b) Supplementary study in the library, online and in the field										12
(c) Preparation for seminars/laboratory works, homework, reports, portfolios, essays										12
(d) Tutoring										2
(e) Exams and tests										3
(f) Other activities:										0

3.4 Total hours of individual study (sum of (3.3(a)…3.3(f)))	44
3.5 Total hours per semester (3.2+3.4)	100
3.6 Number of credit points	4

4. Pre-requisites (where appropriate)

4.1 Curriculum	Management and communication, Software design.
4.2 Competence	Software engineering, programming basics.

5. Requirements (where appropriate)

5.1. For the course	Course attendance is compulsory.
5.2. For the applications	Laboratory attendance is compulsory.

6. Specific competences

6.1 Professional competences	**C6** – Applying the knowledge related to law, economy marketing, business, and quality assurance in business and managerial contexts. **Theoretical knowledge**: Knowledge of various project management techniques, specific activities and their applicability in various methodologies; Familiarity with progress metrics and indicators used in project management, and their significance; Understanding project risks and of the factors influencing and lead to the success or failure of a project. **Acquired skills and abilities**: Efficient planning and assignment of project tasks, according to available resources; Preparation for reacting to project changes and managing changes that occur in projects; Configuring a project plan, according to the phases and disciplines of learned methodologies; Management and prevention of project risks.

6.2 Cross competences	CC1 – Application, in the context of law compliance, of the intellectual property rights (including technology transfer), product certification methodology, principles, norms and values of professional ethics code for the own rigorous, effective and accountable work strategy. CC2 – Identifying the roles and the responsibilities in a multicompetent team, taking decisions and delegating tasks by applying professional networking techniques and effective teamwork techniques.

7. Course objectives

7.1 General objective	Preparation for the combined use of knowledge about management, design and testing, for managing development and integration of applications and automated control structures.
7.2 Specific objectives	• Development of the capacity for identifying product analysis and evaluation methods and techniques, as well as quality management, marketing and engineering, applicable in engineering activities. • Creation of abilities in interpreting and writing documentation specific to the organization of automatic systems projects and informatics applications execution and implementation processes. • Transferring knowledge related to the organizing and leading of automatic systems and applied informatics domain activities, including the execution of projects, while respecting legal and managerial requirements.

8. Contents

8.1 Lecture	No.hours	Teaching methods	Notes
Introduction. The need for project management.	2	Presentation and reading from course notes and references, questions and answers face-to-face and online, case studies.	
Classic methods. Characteristics.	2		
Agile methods. User stories. SCRUM. DevOps. Software development philosophies.	2		
The Toyota Way. History. Principles. Implementation. Problems. Kanban.	2		
Proposing a project. Feasibility. Budget.	2		
Estimation. Methods. Detail level.	2		
Risk management. Risk matrix. SWOT analysis.	2		
Monitoring. Versions. Quality and performance. Six Sigma.	2		
Deadlines. Student's Syndrome. Parkinson's Law. Task synchronization.	2		
Leader. Team management. Inspiration for the team.	2		
Human resources. Assertive communication. Emotional intelligence.	2		
General data protection regulation (GDPR).	2		
Virtual team. Benefits and disadvantages.	2		
Project management trends.	2		

Bibliography

1. Enyedi Szilárd, *Project Management –course notes* (on-line at http://users.utcluj.ro/~szilard/, credentials will be given at the course and lab hours).
2. Chris Croft, *Project Management QuickStart Guide: The Simplified Beginner's Guide to Precise Planning, Strategic Resource Management, and Delivering World Class Results*, ClydeBank Media, 2022.
3. Luis Gonçalves, Ben Linders, *Getting Value out of Agile Retrospectives*, lulu.com, 2014 (online at https://www.infoq.com/minibooks/agile-retrospectives-value).
4. Corina Rădulescu et al., *Planificarea şi conducerea proiectelor*, U.T.Press, 2017 (online at http://biblioteca.utcluj.ro/carti-online.html).

8.2 Applications (seminar/laboratory/project)	No.hours	Teaching methods	Notes
Team creation. Individual work versus teamwork. Defining "soft skills".	2	Documentation reading, presentation and	
Soft skills: self-assessment, peer assessment. Belbin Test.	2		

Building the online and offline professional profile. Team presentation using collaborative tools.	2	exemplification, individual exercises on paper and on the computer, problem solving within a team.	
Project management tools. Mind maps: conceptual description, software tools, experimentation.	2		
Tools to manage documentation and feedback. Collaborative approach.	2		
Project organization tools. WBS diagrams. Choosing the theme for the team project. Studying the theme (documenting the state of the art).	2		
Project organization tools. GANTT diagrams. Tools and implementation.	2		
Tools for team-based project development. Presentation and self-directed learning within the teams.	2		
System Requirements Specification I. Presentation of the structure and content. Standardized requirements description. SRS examples from the industry.	2		
System Requirements Specification II. Development and presentation of the document, by each team.	2		
System Design Description I. Presentation of the structure and content. Specific features in online collaborative tools for content recovery.	2		
System Design Description II. Development and presentation of the document, by each team.	2		
Project presentation exercises within the teams, part I.	2		
Project presentation exercises within the teams, part II.	2		

Bibliography

1. Enyedi Szilárd, *Project Management –course notes* (on-line at http://users.utcluj.ro/~szilard/, credentials will be given at the course and lab hours).
2. Chris Croft, *Project Management QuickStart Guide: The Simplified Beginner's Guide to Precise Planning, Strategic Resource Management, and Delivering World Class Results*, ClydeBank Media, 2022.
3. Luis Gonçalves, Ben Linders, *Getting Value out of Agile Retrospectives*, lulu.com, 2014 (online at https://www.infoq.com/minibooks/agile-retrospectives-value).
4. Corina Rădulescu et al., *Planificarea şi conducerea proiectelor*, U.T.Press, 2017 (online at http://biblioteca.utcluj.ro/carti-online.html).

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

- Bridging with corresponding COR qualifications: Analyst, Informatics consultant, Informatics project manager, University education teaching assistant, Informatics researcher.
- Knowledge correlated with the international de facto standard for project management, "Project Management Body of Knowledge".
- Continual adaptation of the material to the requirements of potential employers and to the feedback from hired graduates.

10. Evaluation

Activity type	Assessment criteria	Assessment methods	Weight in the final grade
Course	Questions from the material presented at the course.	Written exam / online exam using Teams/Moodle	60%
Laboratory	Theoretical and practical questions from the material presented at the applications.	Written/online laboratory project / colloquium using Teams	40%
Minimum standard of performance: Grade G>=5, G=0,6*E+0,4*C, where E=exam (minimum mark 5), C=colloquium (minimum mark 5).			

Date of filling in:		Title First name NAME	Signature
22.03.2023	Course	Assoc. prof. dipl. eng. Szilárd ENYEDI, PhD	
	Applications	Lect. dipl. eng. Iulia ȘTEFAN, PhD	

Date of approval by the Department Board	Head of Department Prof.dr.ing. Honoriu VĂLEAN
Date of approval by the Faculty Council	Dean Prof.dr.ing. Liviu Cristian MICLEA