COURSE SYLLABUS

Academic year 2025 - 2026

1. Programme Information

1.1. Higher education institution	Lucian Blaga University of Sibiu
1.2. Faculty	Faculty of Science
1.3. Department	Mathematics and Informatics
1.4. Field of study	Informatics
1.5. Level of study[1]	Master
1.6. Programme of study/qualification	Cybersecurity

2. Course Information

2.1. Name of course	Project management in cybersecurity			Code	FSTI.MAI.CS.M.SA.4.2010.E-6.5
2.2. Course coordinator	Lecturer PhD. Daniel Hunyadi				
2.3. Seminar/laboratory coordinator	Lecturer PhD. Daniel Hunyadi				
2.4. Year of study[2]	2	2.5. Semester[3]	2	2.6. Evaluation form[4]	E
2.7. Course type[5]	O	2.8. The formative category of the course[6]			S

3. Estimated Total Time

3.1. Course Extension within the Curriculum – Number of Hours per Week				
3.1.a. Lecture	3.1.b. Seminar	3.1.c. Laboratory	3.1.d. Project	Total
2		1		**3**
3.2. Course Extension within the Curriculum – Total Number of Hours within the Curriculum				
3.2.a. Lecture	3.2.b. Seminar	3.2.c. Laboratory	3.2.d. Project	Total[7]
24		12		**36**

Time Distribution for Individual Study[8]	**Hours**
Learning by using course materials, references and personal notes	35
Additional learning by using library facilities, electronic databases and on-site information	35
Preparing seminars / laboratories, homework, portfolios and essays	24
Tutorial activities[9]	12
Exams[10]	2
3.3. Total Individual Study Hours[11] *(NOSI$_{sem}$)*	**108**
3.4. Total Hours in the Curriculum (*NOAD$_{sem}$*)	**42**
3.5. Total Hours per Semester[12] (*NOAD$_{sem}$ + NOSI$_{sem}$*)	**150**
3.6. No. of Hours / ECTS	**25**
3.7. Number of credits[13]	**6**

4. Prerequisites (if needed)

4.1. Courses that must be successfully completed first (from the curriculum)[14]	-
4.2. Competencies	-

5. Conditions (where applicable)

5.1. For course/lectures[15]	Classroom, equipped with blackboard, computer, video projector and software
5.2. For practical activities (lab/sem/pr/app) [16]	Laboratory room equipped with computers

6. Learning outcomes[17]

Number of credits assigned to the discipline: 6				
Learning outcomes				Credit distribution by learning outcomes
Nr. crt.	Knowledge	Skills	Responsibility and autonomy	
LO 1	The student identifies, explains and applies complex project management techniques	The student designs, develops and demonstrates complex software solutions using project management techniques	The student produces software and continuously adapts it to new technologies and market requirements.	2
LO 2	The student identifies, explains and applies agile techniques and agile ways of organizing a team	The student designs, develops and applies agile techniques and the agile way of organizing a team	The student produces software and continuously adapts it to new technologies and market requirements.	2
LO 3	The student identifies, explains and interprets the results obtained within a complex project	The student designs, develops and interprets the results obtained within a complex project	The student produces software and continuously adapts it to new technologies and market requirements.	2

7. Course objectives (resulted from developed competencies)

7.1. Main course objective	• Theoretical understanding as well as the practical use of an effective management of projects and especially of cybersecurity IT projects • Learning the basic principles, applications, management methods and technologies of projects and especially of cybersecurity IT projects • Understanding the principles of agile development as well as learning the techniques by which they can be put into practice in cybersecurity IT projects
7.2. Specific course objectives	• Implementation of the basic principles, methods and technologies of management of cybersecurity projects • Implementation of agile methods and techniques within complex cybersecurity projects

8. Content

8.1. Lectures[18]	**Teaching methods[19]**	**Hours**
Introduction to management. Definition of a project. Project management constraints. The success rate of complex IT projects. The manager of a project.	Lecture, use of video projector, discussions with students	2

Fundamentals of management. Planning a project. Estimating and scheduling activities. Monitoring and measuring a project. Risk management. The fundamentals of quality assurance. Technical management.	Lecture, use of video projector, discussions with students	2
Introduction to project management methodology and processes. Presentation of the major process groups: Initialization, Planning, Execution, Monitoring and Control, Closing the project. Introducing the concept of tailoring.	Lecture, use of video projector, discussions with students	2
Presentation of the areas of knowledge from the standard project management methodology. Detailing the processes and fundamental artifacts within the methodology: project charter, requirements management, activity identification and planning, project monitoring and closure.	Lecture, use of video projector, discussions with students	2
Presentation of project management deficiencies in the development of cybersecurity IT projects. The problems and failures of exhaustive planning. An agile approach to project management. Introduction to agile methodology.	Lecture, use of video projector, discussions with students	2
The fundamentals of agile principles. The agile manifesto. An agile approach to planning, estimates and prioritization. Differences between traditional management and agile principles	Lecture, use of video projector, discussions with students	2
Instantiation of agile principles. Introduction to scrum. General presentation of the framework proposed by scrum. The roles and responsibilities in scrum. Introducing the concept of release and sprint.	Lecture, use of video projector, discussions with students	2
Presentation of the backlog concept. Introducing the concept of user stories and how to manage them. The backlog of a release and the backlog of a sprint. Presentation of scrum sessions. Presentation of scrum reports.	Lecture, use of video projector, discussions with students	2
Definition of estimates. The dimensions of the estimates: accuracy and precision. The elements that affect the estimates and the difficulty of the estimate. Estimation techniques in the classical project management.	Lecture, use of video projector, discussions with students	2
Estimates in the agile world. Estimating the quantity compared to the duration estimate. Estimate in story points. Estimation in ideal days. Agile estimation techniques.	Lecture, use of video projector, discussions with students	2
Risk management. The particularities of risk in the development of cybersecurity IT projects. Examples of risks. Sources of risk. Risks associated with planning.	Lecture, use of video projector, discussions with students	2
Uncertainty elimination plans. Classical methods of risk management. Containment and reduction of risks. Risk management techniques and mechanics.	Lecture, use of video projector, discussions with students	2
	Total lecture hours:	**24**

8.2. Practical activities (8.2.a. Seminar[20]/ 8.2.b. Laboratory[21]/ 8.2.c. Project[22])	**Teaching methods**	**Hours**
Examples of cybersecurity projects. Defining the requirements for the final project.	Use of video projector, discussions with students	1
Case study – cybersecurity IT project	Use of video projector, discussions with students	1
Standard management and technical management. Components and examples.	Use of video projector, discussions with students	1
Examples and detailing of standard project management artifacts: project charter, documentation of requirements, project timeline, detailing of activities	Use of video projector, discussions with students	1
Detailing the components of technical management. Source control and continuous integration.	Use of video projector, discussions with students	1

Detailing the components of technical management. Unit tests and deployment.	Use of video projector, discussions with students	1
Comparative analysis of organizational tools for an agile project	Use of video projector, discussions with students	1
Ash. Case Study.	Use of video projector, discussions with students	1
Integrating agile techniques with technical management components.	Use of video projector, discussions with students	1
Estimates. Examples and case study	Use of video projector, discussions with students	1
Risks and risk backlog	Use of video projector, discussions with students	1
Project support	Use of video projector, discussions with students	1
	Total seminar/laboratory hours:	12

9. Bibliography

9.1. Recommended Bibliography	1. A Guide to the Project Management Body of Knowledge (PMBOK® Guide) — Sixth Edition and Agile Practice Guide 2. Constantinescu D.A., ş.a., Managementul proiectelor, Colecţia Naţionala, Bucureşti, 2003
9.2. Additional Bibliography	3. Mike Cohn, Agile Estimating and planning, Pearson Education, Inc., 2006

10. Conjunction of the discipline's content with the expectations of the epistemic community, professional associations and significant employers of the specific study program[23]

It is done through regular contacts with the representatives of the companies. Knowing the stages required to develop a project and the methodologies to be applied for its implementation are necessary information for any graduate of a specialization in the cybersecurity field.

11. Evaluation

Activity Type	11.1 Evaluation Criteria	11.2 Evaluation Methods		11.3 Percentage in the Final Grade	Obs.[24]
11.4a Exam / Colloquy	• Theoretical and practical knowledge acquired (quantity, correctness, accuracy)	Tests during the semester[25]:	%	50% (minimum 5)	CEF
		Homework:	%		
		Other activities[26]:	%		
		Final evaluation:	50%		
11.4b Seminar	• Frequency/relevance of participation or responses	Evidence of participation, portfolio of papers (reports, scientific summaries)		5% (minimum 5)	nCPE
11.4c Laboratory	• Knowledge of the equipment, how to use specific tools; evaluation of tools, processing and interpretation of results	• Written questionnaire • Oral response • Laboratory notebook, experimental works, reports, etc. • Practical demonstration		5% (minimum 5)	nCPE
11.4d Project	• The quality of the project, the correctness of the project documentation, the appropriate justification of the chosen solutions	• Self-evaluation, project presentation • Critical evaluation of a project		40% (minimum 5)	nCPE
11.5 Minimum performance standard[27]					

To pass the exam, the candidate must have fundamental knowledge of how to develop an cybersecurity project.	

The Course Syllabus will encompass components adapted to persons with special educational needs (SEN – people with disabilities and people with high potential), depending on their type and degree, at the level of all curricular elements (skills, objectives, contents, teaching methods, alternative assessment), in order to ensure fair opportunities in the academic training of all students, paying close attention to individual learning needs.

Filling Date: |_0_|_8_| / |_0_|_9_| / |_2_|_0_|_2_|_5_|

Department Acceptance Date: |_0_|_9_| / |_0_|_9_| / |_2_|_0_|_2_|_5_|

	Academic Rank, Title, First Name, Last Name	**Signature**
Course Teacher	Lecturer PhD. Daniel Hunyadi	
Study Program Coordinator	Associated Professor PhD. Nicolae Constantinescu	
Department Head	Professor PhD. Mugur Acu	

[1] *Bachelor / Master*
[2] *1-4 for bachelor, 1-2 for master*
[3] *1-8 for bachelor, 1-3 for master*
[4] *Exam, colloquium or VP A/R - from the curriculum*
[5] *Course type: R = Compulsory course; E = Elective course; O = Optional course*
[6] *Formative category: S = Specialty; F = Fundamental; C = Complementary; I = Fully assisted; P = Partially assisted; N = Unassisted*
[7] *Equal to 14 weeks x number of hours from point 3.1 (similar to 3.2.a.b.c.)*
[8] *The following lines refer to individual study; the total is completed at point 3.37.*
[9] *Between 7 and 14 hours*
[10] *Between 2 and 6 hours*
[11] *The sum of the values from the previous lines, which refer to individual study.*
[12] *The sum (3.5.) between the number of hours of direct teaching activity (NOAD) and the number of hours of individual study (NOSI) must be equal to the number of credits assigned to the discipline (point 3.7) x no. hours per credit (3.6.)*
[13] *The credit number is computed according to the following formula, being rounded to whole neighbouring values (either by subtraction or addition*

$$No.credits = \frac{NOCpSpD \times C_C + NOApSpD \times C_A}{TOCpSdP \times C_C + TOApSdP \times C_A} \times 30\ credits$$

Where:

- NOCpSpD = Number of lecture hours / week / discipline for which the credits are calculated
- NOApSpD = Number of application hours (sem./lab./pro.) / week / discipline for which the credits are calculated
- TOCpSdP = Total number of course hours / week in the Curriculum
- TOApSdP = Total number of application hours (sem./lab./pro.) / week in the Curriculum
- C_C/C_A = Course coefficients / applications calculated according to the table

Coefficients	**Course**	**Applications (S/L/P)**
Bachelor	2	1
Master	2,5	1,5
Bachelor - foreign language	2,5	1,25

[14] *The courses that should have been previously completed or equivalent will be mentioned*
[15] *Board, video projector, flipchart, specific teaching materials, online platforms, etc.*
[16] *Computing technology, software packages, experimental stands, online platforms, etc.*
[17] *Learning outcomes will be mentioned according to the specific standards of the ARACIS Specialty Commissions (https://www.aracis.ro/ghiduri/)*
[18] *Chapter and paragraph titles*
[19] *Exposition, lecture, board presentation of the studied topic, use of video projector, discussions with students (for each chapter, if applicable)*
[20] *Discussions, debates, presentations and/or analyses of papers, solving exercises and problems*
[21] *Practical demonstration, exercise, experiment*
[22] *Case study, demonstration, exercise, error analysis, etc.*
[23] *The relationship with other disciplines, the usefulness of the discipline on the labour market*
[24] *CPE – Conditions Exam Participation; nCPE – Does Not Condition Exam Participation; CEF - Conditions Final Evaluation; N/A – not applicable*
[25] *The number of tests and the weeks in which they will be taken will be specified*
[26] *Scientific circles, professional competitions, etc.*
[27] *The minimum performance standard in the competence grid of the study program is customized to the specifics of the discipline, if applicable*