COURSE OUTLINE

1. Data about the study programme

1.1 Higher education institution	Transilvania University of Brasov
1.2 Faculty	Mathematics and Informatics
1.3 Department	Mathematics and Informatics
1.4 Field of study[1)]	Informatics
1.5 Study level[2)]	Master
1.6 Study programme/ Qualification	Internet Technologies (English language)

2. Data about the course

2.1 Name of course			Project Management in Web Application Development					
2.2 Course convenor			Lect.dr. Enache-David Nicoleta					
2.3 Seminar/ laboratory/ project convenor			Lect.dr. Enache-David Nicoleta					
2.4 Study year	1	2.5 Semester	1	2.6 Evaluation type	E	2.7 Course status	Content[3)]	PC
							Attendance type[4)]	CPC

3. Total estimated time (hours of teaching activities per semester)

3.1 Number of hours per week	**3**	out of which: 3.2 lecture	**2**	3.3 seminar/ laboratory/ project	**1**
3.4 Total number of hours in the curriculum	42	out of which: 3.5 lecture	28	3.6 seminar/ laboratory/ project	14

Time allocation	hours
Study of textbooks, course support, bibliography and notes	40
Additional documentation in libraries, specialized electronic platforms, and field research	40
Preparation of seminars/ laboratories/ projects, homework, papers, portfolios, and essays	40
Tutorial	10
Examinations	3
Other activities.....	

3.7 Total number of hours of student activity	133
3.8 Total number per semester	175
3.9 Number of credits[5)]	7

4. Prerequisites (if applicable)

4.1 curriculum-related	•
4.2 competences-related	•

5. Conditions (if applicable)

5.1 for course development	• Room equipped with a video projector
5.2 for seminar/ laboratory/ project development	• Room equipped with computers

6. Specific competences and learning outcomes

Professional competences	C1. Specification, design and development of software systems using procedural languages, object-oriented languages, declarative languages, databases, methodologies and development platforms; L.O. 1.1. The graduate can use procedural languages, object-oriented languages, declarative languages in dealing with a theoretical and applied computer problem; L.O. 1.2. The graduate can frame a problem in a studied theoretical framework; L.O. 1.3. The graduate can apply modern programming methods and techniques to solving a wide range of problems. C3. Deepening of cutting-edge methodologies and technologies used in the software industry or with clear prospects of being used in the near future. L.O. 3.1. The graduate can present the historical evolution of the computer concepts and theories in which he specialized; L.O. 3.2. The graduate can convey well-organized computer knowledge to an auditory public; L.O. 3.3. The graduate is able to make interconnections between different computers fields; L.O. 3.4. The graduate can produce synthesis materials on a theoretical or applied subject; L.O. 3.5. The graduate can frame a problem in a studied theoretical framework. C4. Establishes data processes, manages data collection systems, develops data processing applications, implements data quality processes, performs data mining L.O. 4.1 The graduate uses ICT tools to apply mathematical, algorithmic or other data manipulation processes to create information. L.O. 2 The graduate develops and manages methods and strategies used to maximize data quality and statistical efficiency in data collection, to ensure that collected data is optimized for further processing.
Transversal competences	CT.1. Communication and cooperation in professional contexts L.O. 1.1. The graduate uses a specific repertoire of communication with interlocutors belonging to different cultures, promoting intercultural communication. L.O. 1.2. The graduate uses communication and relationship techniques in the virtual environment. L.O. 1.3. The graduate can cooperate and integrate in professional work teams in the educational field and in interdisciplinary teams. L.O. 1.4. The graduate adapts his language and communication repertoire to the particularities of the interlocutors. L.O. 1.5. The graduate can give presentations and public communications to promote knowledge and professional values. CT. 2. Career development and management L.O. 2.1. The graduate documents himself and identifies opportunities for continuing professional training. L.O. 2.2. The graduate formulates career development objectives and identifies action strategies in this regard. L.O. 2.3. The graduate self-evaluates and reflects on his own career, identifying strategies for regulating and overcoming professional difficulties. L.O. 2.4. The graduate possesses strategies to regulate and control professional and personal stress. L.O. 2.5. The graduate knows and applies professional and personal time management techniques.

7. Course objectives (resulting from the specific competences to be acquired)

7.1 General course objective	• Knowledge and application of software development concepts, principles and techniques • Training and development of skills in the use of software engineering support techniques
7.2 Specific objectives	• Knowledge of the development models of a Web project • Developing the skills of using modeling languages in the analysis and design

	of complex IT systems • Knowledge of the management stages of a software project

8. Content

8.1 Course	Teaching methods	Number of hours	Remarks
1. Elements of the general theory of software systems	Lecture, explanation	2	
2. Software development methodologies	Lecture, explanation	2	
3. Information systems with automated components	Lecture, explanation	2	
4. The activities associated with the development of a Web application	Lecture, explanation	2	
5. SWOT analysis of a software project	Lecture, explanation	2	
6.UML modelling language	Lecture, explanation	2	
7. Types of UML diagrams	Lecture, explanation	2	
8. State diagrams	Lecture, explanation	2	
9. Communication diagrams	Lecture, explanation	2	
10. Activity charts	Lecture, explanation	2	
11. Class diagrams	Lecture, explanation	2	
12. Visual Paradigm as a UML tool	Lecture, explanation	2	
13. Defining a test-case template	Lecture, explanation	2	
14. Designing a Web application	Lecture, explanation	2	
Bibliography Maylor, H., 2010. Project Management (4th ed.). Pearson, Harlow, England Wysocki, R. K., 2011, October. Effective Project Management: Traditional, Agile, Extreme (6, illustrated ed.). John Wiley & Sons, New York, NY, USA. Villafiorita A., Introduction to Software Project Management, CRC Press, 2016. Peters Lawrence J., Software Project Management: Methods and Techniques, CRC Press, 2024.			
8.2 Seminar/ laboratory/ project	Teaching-learning methods	Number of hours	Remarks
1.Using the Visual Paradigm tool for the analysis and design of a Web application	Examples, case study	2	
2. State diagrams	Examples, case study	2	
3. Communication diagrams	Examples, case study	2	
4. Activity diagrams	Examples, case study	2	
5. Class diagrams	Examples, case study	2	
6. Web interface design	Examples, case study	2	
7. Web client development	Examples, case study	2	
Bibliography Maylor, H., 2010. Project Management (4th ed.). Pearson, Harlow, England Wysocki, R. K., 2011, October. Effective Project Management: Traditional, Agile, Extreme (6, illustrated ed.). John Wiley & Sons, New York, NY, USA. Villafiorita A., Introduction to Software Project Management, CRC Press, 2016. Peters Lawrence J., Software Project Management: Methods and Techniques, CRC Press, 2024.			

9. Correlation of course content with the demands of the labour market (epistemic communities, professional associations, potential employers in the field of study)

10. Evaluation

Activity type	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage of the final grade
10.4 Course	Testing the ability to use the concepts presented in the analysis and design stages of a web application	Grid test	50%
10.5 Seminar/ laboratory/ project	Individual project presentation	Correct writting of the project, in accordance with the requirements	50%
10.6 Minimal performance standard			
• Ability to use the concepts presented in the analysis and design stages of a web application • Quality of the project presentation			

This course outline was certified in the Department Board meeting on 26.09.2024 and approved in the Faculty Board meeting on 26.09.2024.

Conf. dr. Ion Gabriel Stan Dean	Conf dr. Nicușor **Minculete** Head of Department
Lect.dr. Nicoleta Enache-David Course holder	Lect.dr. Nicoleta Enache-David Holder of seminar/ laboratory/ project

Note:

1) Field of study – select one of the following options: Bachelor / Master / Doctorat (to be filled in according to the forceful classification list for study programmes);

2) Study level – choose from among: Bachelor / Master / Doctorat;

3) Course status (content) – for the Bachelor level, select one of the following options: FC (fundamental course) / DC (course in the study domain)/ SC (speciality course)/ CC (complementary course); for the Master level, select one of the following options: PC (proficiency course)/ SC (synthesis course)/ AC (advanced course);

4) Course status (attendance type) – select one of the following options: CPC (compulsory course)/ EC (elective course)/ NCPC (non-compulsory course);

5) One credit is the equivalent of 25 study hours (teaching activities and individual study).