SYLLABUS

1. Information regarding the programme

1.1 Higher education institution	Babeş Bolyai University
1.2 Faculty	Faculty of Mathematics and Computer Science
1.3 Department	Department of Computer Science
1.4 Field of study	Computer Science
1.5 Study cycle	Master
1.6 Study programme / Qualification	Software Engineering

2. Information regarding the discipline

2.1 Name of the	Tame of the discipline Decision Support Systems							
2.2 Course coor	2.2 Course coordinator Lecturer Professor PhD. Prejmerean Vasile							
2.3 Seminar coordinator			Lec	turer Professor Ph	D. Pı	rejmerean Va	asile	
2.4. Year of	2	2.5	3	2.6. Type of	E	2.7 Type of	Optional	1
study		Semester		evaluation		discipline		

3. Total estimated time (hours/semester of didactic activities)

3.1 Hours per week	4	Of which: 3.2 course	2	3.3 seminar/laboratory	1sem
					+1pr.
3.4 Total hours in the curriculum	56	Of which: 3.5 course	28	3.6 seminar/laboratory	28
Time allotment:					
Learning using manual, course support, bibliography, course notes					28
Additional documentation (in libraries, on electronic platforms, field documentation)					
Preparation for seminars/labs, homework, papers, portfolios and essays					28
Tutorship					14
Evaluations					21
Other activities:					

3.7 Total individual study hours	119
3.8 Total hours per semester	175
3.9 Number of ECTS credits	7

4. Prerequisites (if necessary)

4.1. curriculum	 Ability to work with an integrated development environment
4.2. competencies	• Average programming skills in a visual programming language

5. Conditions (if necessary)

5.1. for the course	An LCD projector
5.2. for the seminar /lab activities	 Laboratory with twelve computers; high level programming
	language environment

6. Specific competencies acquired

	•	Ability to apply knowledge of computing and mathematics appropriate to the discipline;
ional	•	Ability to analyze a problem, and identify and define the computing requirements appropriate to its solution;
Professional competencies	•	Ability to identify and to specify computing requirements of an application and to design, implement, evaluate, and justify computational solutions;
H CC	•	Ability to use current techniques and skills to integrate available theory and tools necessary for applied computing practices.
al	•	Ability to apply mathematical foundations, algorithmic principles, and computer science theory;
Transversal competencies	•	Ability to apply design and development principles in the construction of software systems;
ans	•	Ability to acquire knowledge properly in an application domain in the modeling and design;
Tr	•	Ability to work effectively in a team.

7. Objectives of the discipline (outcome of the acquired competencies)

7.1 General objective of the	Good understanding of hands-on applications;
discipline	• Be able to identify meaningful applied computing problems;
	• Be able to apply theories, principles and concepts with technologies to
	design, develop, and verify computational solutions;
7.2 Specific objective of the	Knowledge about general theory and specific DSS theory;
discipline	• Systematic knowledge about what the designer of a DSS needs to know;

8. Content

8.1 Course	Teaching methods	Remarks
1. The concept of <i>Decision Support Systems</i> (DSS)	Expositions : description, explanation,	
- The Steps of Decision Support, Classification of	introductive lectures,	
Problems	Other methods: case study; company	
- The Components of a DSS.	examples.	
- Some Computerized Tools for Decision Support	-	
2. Computerized Decision Support	Expositions: description, explanation,	
- Decision Making - Rational Decisions, Definitions	class lectures,	
of Rationality, Bounded Rationality and Muddling	Use of problems: use of problem	
Through	questions, problems and problem	
- Models, The Facilities of Models, Phases of the	situations.	
Decision-Making Process	Other methods: company examples.	
3. The Nature of Managers, Appropriate Data Support,	Expositions : description, explanation,	
Information Processing Models.	dialog-based lectures, current lectures,	
Group Decision Making	Use of problems: problems and	
	problem situations.	
4. Decisions and Decision Modeling - Types of	Expositions : description, explanation,	
Decisions.	class lectures, dialog-based lectures,	
- Human Judgment and Decision Making.	current lectures.	
- Modeling Decisions. Components of Decision	Other methods: case study; company	
Models	examples, discussion of material.	
5. Normative Systems	Expositions : description, explanation,	
- Normative and Descriptive Approaches.	class lectures, dialog-based lectures,	

6. Data Component Characteristics of Information. Databases to Support Decision Making. Database to Support Decision Making. Database Management Systems 7. Data Warehouses. Data Mining and Intelligent Agents 8. Model Component Models, Representation, Methodology 9. Model Based Management Systems, Access to Models, and Understandability of Results. Integrating Models, Sensitivity of a Decision Models, and Understandability of Results. Integrating Models, Sensitivity of a Decision Support Systems Programming Reasoning Backward Chaining Reasoning and Forward Chaining Reasoning Chaining Reasoning Champer of Model Construction and Model Analysis. Support for Model Construction and Model Analysis. Support for Model Construction and Model Analysis. Support for Both Choice and Optimization of Decision Variables Decision Variables Decision Variables Decision For DSS Design 10. Modeling and Analysis. Support for Model Construction and Model Analysis. Support for Model Construction and Model Construction of Decision Support Systems Support for Model Construction and Model Analysis. Support for Model Construction and Model Construction of Decision Support Systems Support for Model Construction and Model Analysis. Support for Model Construction and Model Construction of Decision Support Systems. Support for Model Construction and Model Construction of Decision Support Systems. Support for Model Construction and Model Construction of Decision Support Systems. Support for Model Construction and Model Construction of Decision Support Systems Systematize and synthesize knowledge Consolidation, conversations to Systematize and synthesize support of Mail Management. Integration of Mail Management. Integration of Mail Management. Integration of Mail Management. Support for Model Construction Systems Systematize and Synthesize Systematize and Synthesize Systematize and Synthesize Systematize and Synthesize Systematics and Synthesize Systematics and Synthesize Systematics and Synthesize Systematics Systematics Systematics System	- Decision-Analytic Decision Support Systems.	lectures. Other methods : discussion of material.
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8.2 Sem	ninar	Teaching methods	Remarks
2.	The first two seminars are dedicated to surveying information sources available on Internet and Intranet, and planning of the papers and projects.	Expositions: description, explanation, introductive lectures. Conversations: debate, dialog, introductive conversations. Other methods: individual study, exercise, homework study.	
3.	The next seven seminars (from three to nine) are dedicated to paper presentations.	Conversations: debate, dialog, introductive conversations,	
4.		conversations for knowledge consolidation, conversations to systematize and synthesize knowledge.	
5.		Use of problems: use of problem questions, problems and problem	
6.		situations. Discovery : directed and independent	
7.		rediscovery, creative discovery, deductive discovery, discovery by documenting.	
8.		Other methods: case study; cooperation, individual study, exercise,	
9.		homework study, company examples, discussion of material.	
10.	The project design:	Conversations: debate, dialog. Discovery: experimental discovery,	

11.	 Design a project with specific goals, specific tasks, and specific outcomes; Set specific beginning and ending dates for your project, set precise deadlines; 	discovery by documenting. Other methods: discussion of material.
13.	The project demos will be scheduled in the last two seminars.	Conversations: debate, dialog. Use of problems: use of problem questions. Discovery: experimental discovery, discovery by documenting. Other methods: discussion of material.

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9. Corroborating the content of the discipline with the expectations of the epistemic community, professional associations and representative employers within the field of the program

- This course exists in the curriculum of many universities in the world;
- The results of course are considered by companies of software particularly useful and topical.

10. Evaluation

Type of activity	10.1 Evaluation criteria	10.2 Evaluation	10.3 Share in the			
		methods	grade (%)			
10.4 Course	- know the basic elements and concepts of an Dss;	Written exam	50%			
10.5 Seminar	- complexity, importance and degree of timeliness of the synthesis made	Paper presentation	15%			
Project	apply the course conceptsproblem solving	Project presentation	35%			
10.6 Minimum performance standards						
➤ At least grade 5 at written exam, paper presentations and project realised.						

Date	Signature of course coordinator	Signature of seminar coordinator	
April 22, 2018	Lect. Dr. PREJMEREAN Vasile	Lect. Dr. PREJMEREAN Vasile	
Date of approval	Signature of the head of department		