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 – Mathematics
1.5 Study cycle	Undergraduate
1.6 Study programme / Qualification	Computer Science, Mathematics

2. Information regarding the discipline

2.1 Name of the discipline	Object Oriented Programming				
2.2 Course coordinator	Oltean Mihai				
2.3 Seminar coordinator	Oltean Mihai				
2.4. Year of study	1	2.5 Semester	2	2.6. Type of evaluation	P	2.7 Type of discipline	Compulsory

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	2
3.4 Total hours in the curriculum	56	Of which: 3.5 course	28	3.6 seminar/laboratory	28

Time allotment:	hours
Learning using manual, course support, bibliography, course notes	20
Additional documentation (in libraries, on electronic platforms, field documentation)	20
Preparation for seminars/labs, homework, papers, portfolios and essays	20
Tutorship	2
Evaluations	2
Other activities:	2

3.7 Total individual study hours	60
3.8 Total hours per semester	116
3.9 Number of ECTS credits	6

4. Prerequisites (if necessary)

4.1. curriculum	• Algorithms
4.2. competencies	• Algorithms, Computer Programming

5. Conditions (if necessary)

5.1. for the course	• Projector, Internet access
5.2. for the seminar /lab activities	• Computers for each student

6. Specific competencies acquired

Professional competencies	Transversal competencies
Ability to create computer programs in a high level language. Understanding of object oriented programming principles.	

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

7.1 General objective of the discipline	To teach object oriented programming principles.
7.2 Specific objective of the discipline	• After following this class, the students should be able to solve a small and medium size problem by using OOP principles.

8. Content

8.1 Course

Course	Teaching methods	Remarks
1. Administrivia; Introduction; Resources	Exposure: description, explanation, examples, discussion of case studies	
2. Basic elements of the C++ language	Exposure: description, explanation, examples, discussion of case studies	
3. Data structures	Exposure: description, explanation, examples, discussion of case studies	
4. Pointers	Exposure: description, explanation, examples, discussion of case studies	
5. Classes, methods	Exposure: description, explanation, examples, discussion of case studies	
6. Overloading operators	Exposure: description, explanation, examples, discussion of case studies	
7. Overloading operators	Exposure: description, explanation, examples, discussion of case studies	
8. Inheritance, derived classes	Exposure: description, explanation, examples, discussion of case studies	
9. Streams	Exposure: description, explanation, examples, discussion of case studies	
10. Polymorphism	Exposure: description, explanation, examples, discussion of case studies	
11. UI library	Exposure: description, explanation, examples, discussion of case studies	
12. UI library	Exposure: description, explanation, examples, discussion of case studies	
13. Templates	Exposure: description, explanation, examples, discussion of case studies	

examples, discussion of case studies	Discussions
14. Advanced examples (C++ 11)	Discussions

8.2 Seminar / laboratory	Teaching methods	Remarks
1. Basic problems in C/C++	Discussion	
2. Basic problems in C/C++	Discussion	
3. Basic problems with classes	Discussion	
4. Overloading operators	Discussion	
5. Overloading operators	Discussion	
6. Polymorfism	Discussion	
7. Templates	Discussion	

References:

1. http://www.cplusplus.com/, The C++ Resources network.
2. http://en.cppreference.com/
3. https://www.wxwidgets.org/

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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

10. Evaluation

Type of activity	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Share in the grade (%)
10.4 Course	Knowing principles of OOP	Practical	50%
	Knowing principles of OOP		
10.5 Seminar/lab activities		Practical	50%
10.6 Minimum performance standards			

Date .... Signature of course coordinator Signature of seminar coordinator

......Oltean Mihai.... ......Oltean Mihai............

Date of approval .... Signature of the head of department

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