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	**High Performance Computing and Big Data Analytics**

2. Information regarding the discipline

2.1 Name of the discipline	**Research Project in High Performance Computing and Big Data Analytics**					
2.2 Course coordinator	**Assoc. Prof. Niculescu Virginia**					
2.3 Seminar coordinator	**Assoc. Prof. Niculescu Virginia**					
2.4. Year of study	**2**	2.5 Semester	**4**	2.6. Type of evaluation	**C**	2.7 Type of discipline	**Compulsory**

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

3.1 Hours per week	3	Of which: 3.2 course	0	3.3 seminar/ laboratory	3
3.4 Total hours in the curriculum	42	Of which: 3.5 course	0	3.6 seminar/ laboratory	42

Time allotment:	hours
Learning using manual, course support, bibliography, course notes	14
Additional documentation (in libraries, on electronic platforms, field documentation)	100
Preparation for seminars/labs, homework, papers, portfolios and essays	0
Tutorship	30
Evaluations	6
Other activities:	-

3.7 Total individual study hours	100
3.8 Total hours per semester	150
3.9 Number of ECTS credits	4

4. Prerequisites (if necessary)

4.1. curriculum	• Computer Science Research Methodology
4.2. competencies	•

5. Conditions (if necessary)

5.1. for the course	• -

5.2. for the seminar /lab activities	• None

6. Specific competencies acquired

Professional competencies	• Analysis, design, and implementation of software systems for high performance computing • Methods for advanced data analysis • Proficient use of methodologies and tools specific to programming languages and software systems
Transversal competencies	• Professional communication skills; concise and precise description, both oral and written, of professional results

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

7.1 General objective of the discipline	The research project activity represents the individual work the student performs with the purpose to realise a scientific report on a given topic.
7.2 Specific objective of the discipline	At the completion of this course, the student should: - have documentation abilities on an established topic - be able to design the table of contents of the dissertation - know how to write a technical document (dissertation) in many iterations

8. Content

8.1 Course	Teaching methods	Remarks
8.2 Seminar / laboratory	Teaching methods	Remarks
1. Establishing the research title/topic - due week 3	Conversation, debate, case studies	
2. Bibliographical documentation - due week 5	Conversation, debate, case studies	
3. Table of contents: version 1.0 - due week 6	Conversation, debate, case studies	
4. Relevance of the bibliographical sources and their assignment to the designed structure - due week 8	Conversation, debate, case studies	
5. Detecting possible original contribution; discussion and decision on practical part – due week 9	Conversation, debate, case studies	
6. Translation of selected documents and writing the paper – first draft of the report – due week 12	Conversation, debate, case studies	
7. Final form of the report – due week 14	Evaluation	
Bibliography - to be decided by student based on his/her research topic - Internet resources on software projects and on the particular topics of the projects		

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

- The course respects the IEEE and ACM Curriculla Recommendations for Software Engineering studies;
- The course exists at the major universities in Romania offering similar study programs;
- Graduating a master program assumes experience in developing a research project

10. Evaluation

Type of activity	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Share in the grade (%)
10.4 Course			
10.5 Seminar/lab activities	Each of the activities has a due date and a corresponding mark, on a 10-point scale. A penalty of 1pt per week are considered for delays. The weights are as follows:	Portofolio, research report	
	1. title (10%)		10%
	2. documentation (20%)		20%
	3. contents v1.0 (10%)		10%
	4. assigning sources to structure (20%)		20%
	5. final version of the paper (40%)		40%
10.6 Minimum performance standards			
✶ At least grade 6 (from a scale of 1 to 10)			

Date   Signature of course coordinator   Signature of seminar coordinator

30.03.2016   Conf. Dr. Niculescu Virginia   Conf. Dr. Niculescu Virginia

Date of approval   Signature of the head of department

....   Prof. Dr. Anca Andreica