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	**Computers and Information Technology**
1.5 Study cycle	**Bachelor**
1.6 Study programme / Qualification	**Information Engeneering**

2. Information regarding the discipline

2.1 Name of the discipline	**Project: Development of applications for mobile platforms**				
2.2 Course coordinator	Lect. Eng. Ph.D. Greblă Horea Adrian				
2.3 Seminar coordinator	Lect. Eng. Ph.D. Greblă Horea Adrian				
2.4. Year of study	**3**	2.5 Semester	**5**	2.6. Type of evaluation	**C**	2.7 Type of discipline	**Compulsory DS**

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

3.1 Hours per week	2	Of which: 3.2 course	0	3.3 seminar/laboratory	2 P
3.4 Total hours in the curriculum	28	Of which: 3.5 course	0	3.6 seminar/laboratory	28

Time allotment:	hours
Learning using manual, course support, bibliography, course notes	8
Additional documentation (in libraries, on electronic platforms, field documentation)	6
Preparation for seminars/labs, homework, papers, portfolios, and essays	6
Tutorship	1
Evaluations	1
Other activities:	-

3.7 Total individual study hours	22
3.8 Total hours per semester	50
3.9 Number of ECTS credits	2

4. Prerequisites (if necessary)

4.1. curriculum	·
4.2. competencies	·

5. Conditions (if necessary)

5.1. for the course	·

5.2. for the seminar /lab activities	·

6. Specific competencies acquired

Professional Competencies	**C1.3 Building models for various components of computing systems.** **C1.5 Providing theoretical background for the characteristics of the designed systems.** **C6.3 Use of simulation and programming environments to process signals and model solutions to problem classes.**
Transversal Competencies	**CT1 Honorable, responsible, ethical behavior, in the spirit of the law, to ensure a professional reputation.** **CT3 Demonstrating initiative and proactive behavior for updating professional, economical, and organizational culture knowledge.**

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

7.1 General objective of the discipline	· Knowledge of key base concepts for developing mobile applications.
7.2 Specific objective of the discipline	· Learn the Android platform. · Learn JavaScript frameworks for mobile development.

8. Content

Project	Teaching methods	Remarks
1-2. Getting Started Discussing project themes. Choosing a project. Discuss the CRUD and Bonus assignments.	Exposure: description, examples, discussion of case studies, live demo	
3-4. Specification evaluation. The students should present a proposal for a mobile application that will cover at least all 4 CRUD operations. The user data should be persisted locally on the mobile device and on a remote server.	Exposure: description, discussion. Evaluation.	
5-6. Evaluate the UI module - Native App. Only the UI implementation is needed in one of the native platforms (Android or iOS).	Exposure: description, discussion. Evaluation.	
7-8. Evaluate the UI module - Non-Native App. Only the UI implementation is needed. Here, the students can use any multi-platform frameworks (they should agree in advance with the lab instructor if feasible).	Exposure: description, discussion. Evaluation.	
9-10. Evaluate the local persistence logic. The students will select only one variation (native or non-native) to implement the local persistence part.	Exposure: description, discussion. Evaluation.	
11-12. Evaluate the network/online communication logic. The communication with the server will be	Exposure: description,	

	discussion. Evaluation.	
implemented in the same variation selected at lab. 5 (either native or non-native). Bonus problem.	discussion. Evaluation.	
13-14. Project evaluation. Evaluate the bonus feature (The feature that the students created extra to the CRUD features)	Exposure: description, discussion. Evaluation.	

Bibliography
- Android Development. http://developer.android.com/index.html
- React Native. https://facebook.github.io/react-native
- Flutter. https://flutter.io/docs
- Vogella. Android Development Tutorials. http://www.vogella.com/android.html

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 Curricula Recommendations for Computer Science studies.
- The course exists in the studying program of all major universities in Romania and abroad.
- The content of the course is considered the software companies as important for average programming skills.

10. Evaluation

Type of activity	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Share in the grade (%)
10.5 Project	- be able to implement course concepts and algorithms - apply techniques for different classes of programming languages	-Project presentation	100 %

10.6 Minimum performance standards
➢ At least grade 5 for the project.

Date	Signature of course coordinator	Signature of seminar coordinator
May 2022	Lect. Eng Ph.D. Grebla Horea Adrian	Lect. Eng Ph.D. Greblă Horea Adrian

Date of approval   Signature of the head of department

Prof. Ph.D. Laura Silvia Diosan

24.05.2022