SYLLABUS

DEVELOPMENT OF MOBILE APPLICATION
2024-2025

1. Program General Data

1.1. University	**„1 Decembrie 1918" of Alba Iulia**
1.2. Faculty	**Faculty of Informatics and Engineering**
1.3. Department	**Informatics, Mathematics and Electronics Department**
1.4. Area	**Computer Science**
1.5. Level	**Undergraduate**
1.6. Specialization	**Computer Science** **ESCO-08: 2511/ Systems Analyst, 2512/ Software developers Analyst 251201** **Computer System Programmer 251204** **Computer System Engineer 251203**

2. Subject General Data

2.1. **Subject**	*MOBILE PROGRAMMING*		2.2. **Code**		CSE303
2.3. **Course holder/ Lecturer/** Instructor's Name	Șteau Claudiu				
2.4. Teaching Assistant's Name	Șteau Claudiu				

2.5. Year	**III**	2.6. Semester	**I**	2.7. Evaluation form (E – final exam/C-examination /VP)	**E**	2.8. Status (**C**– Compulsory, **Op** – optional, **F -** Facultative)	**C**

3. Course Structure (Weekly number of hours)

3.1. Weekly number of hours	**4**	3.2. course	*2*	3.3. seminar, laboratory	*2*
3.4. Total number of hours according to the curricula	**56**	3.5. course	*28*	3.6. seminar, laboratory	*28*
Time distribution:					Hours
Individual study using the lecture notes					*30*
Documentation (library)					*20*
Homework, Essays, Portfolios					*30*
Tutoring					*-*
Evaluation (exams)					*14*
Other activities…….					*-*

3.7 Total number of hours for individual study	**94**
3.8 Total number of hours according to the curricula	**56**
3.9 Total number of hours per semester	**150**
3.10 Credits	**6**

4. Prerequisites

4.1. Curricula prerequisites	*Imperative and procedural programming*
	Object Oriented Programming
4.2. according to the general competencies	*Algorithms and data structures*

5. Conditions

| 5.1. Conditions to support teaching | *Room equipped with video projector/board.* |
| 5.2. Conditions for supporting seminar/laboratory activities | *Laboratory – computers. Software: BorlandC, Internet acces.* |

6. Competenţe specifice acumulate (cele alese de titular din grila de competente)

| Professional competences | - Introductory graduate level course with focus on mobile computing. Research in mobile computing straddles diverse areas such as operating systems, development platforms and programming languages.
- Solve different problems using Java for Android and Swift for Apple devices. |
| Transversal competences | **Cognitive skills:** acquisition of basic and specific knowledge about the concept of mobile computing; the ability to identify the applicability of the studied in real problems; understanding the need of using mobile Java and Swift programming when addressing problems from that perspective; acquiring basic knowledge on the concept of mobile applications.
Affective skills: develop the capacity of analysis and understanding the highly complex real problems and effectively address it from an mobile process perspective. Team spirit: encouraging students to work in design, analysis and programming teams. Awareness of the importance of the knowledge and thoroughly study of Java and Swift utility in that's problems. |

7. Course objectives

| 6.1 General course objectives | *- Learning basic about parallel an concurrent programming.*
- Develop algorithmic thinking and skills using one or more processors for multiple processes. |
| 6.2 Specific course objectives | *- Knowledge of types of Java Treads and their development methods.*
- Use of an advanced programming language for implementing the studied methods.
explain the importance of exploiting parallelism in programs;
-explain fundamental concepts and solutions in concurrent programming;
- recognize issues and challenges in developing concurrent programs;
-apply common techniques used in implementing concurrent programs;
-describe shared memory and message passing approaches to parallel programming;
-write a program using features of a language that supports concurrent programming; and
-recognize and apply design patterns for concurrent programming. |

8. Course contents

Lectures	Didactic methods used	Observații
1. Introduction to mobile device programming 2. Differences between standard programming and mobile device programming 3. Programming Android devices, interfaces 4. Programming Android devices, Java mobile specifications. 5. Programming Android devices, using data bases 6. Packaging and distribution of applications (Android Market) 7. Introducing iOS, MacOS 8. Swift language, basics 9. Swift language, services and interfaces 10. Swift language, data bases 11. Cross platforms for mobile devices, comparitions 12. Cross platforms for mobile devices, developing software 13. Cross platforms for mobile devices, examples 14. Projects	*Lecture, discussions, examples*	
References Jakob Iversen, Michael Eierman, Learning Mobile App Development: A Hands-on Guide to Building Apps with iOS and Android, Addison-Wesley Professional, 2013 Daniela Nagy-Onița, Ovidiu Domșa. "DEZVOLTAREA APLICAȚIILOR MOBILE. Note de curs și aplicații practice", Ed. Seria didactica, 2024.		
Seminars-laboratories	**Didactic methods used**	
1. Presentation of development environments 2. Access device, orientation, interfaces 3. Android programming 4. Projects 5. Introducing iOS, MacOS 6. Swift programming 7. Projects 8. Cross platforms for mobile devices 9. Projects	*laboratory works*	
References https://developer.mozilla.org https://developer.android.com/index.html https://developer.apple.com/ https://www.w3schools.com/ https://caniuse.com https://stackoverflow.com Daniela Nagy-Onița, Ovidiu Domșa. "DEZVOLTAREA APLICAȚIILOR MOBILE. Note de curs și aplicații practice", Ed. Seria didactica, 2024.		

9. Corroborating Course content expectations to the epistemic community representatives, professional associations and employers representative for the curricula

- *Not applicable.*

10. Assessment

Activity	10.1 Evaluation criteria	10.2 Evaluation methods	10.3 Percentage from the final mark
10.4 Course	*Final evaluation*	*Final project*	50 %
	-	-	-
10.5 Seminar/laboratory	*Continuous assessment*	*Portfolio of laboratory*	50 %
10.6 Minimum performance standard: 5.00			

Completion date   Instructor's signature   Teaching assistant's signature

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Date of approval within the department   Head of departament's signature

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