COURSE DESCRIPTION

1. Information about the programme

1.1 Institution of higher education	**Alexandru Ioan Cuza University of Iasi**
1.2 Faculty	**Faculty of Economics and Business Administration**
1.3 Department	**Department of Accounting, Information Systems and Statistics**
1.4 Field of study	**Business Informatics**
1.5 Level	**Master**
1.6 Study programme/ Qualification	**Software Development and Business Information Systems**

2. Information about the course

2.1 Course name	**Mobile Applications**						
2.2 Course coordinator	**Octavian Dospinescu**						
2.3 Seminar coordinator	**Octavian Dospinescu**						
2.4 Year of study	I	2.5 Semester	II	2.6 Type of assessment	P	2.7 Discipline status	**C**

** C – Compulsory / E - Elective*

3. Total estimated time (hours alloted to didactic activity per semester)

3.1 Total number of hours per week	3	of which: 3.2 lecture	2	3.3 seminar/lab	1
3.4 Total number of hours in the curriculum	42	of which: 3.5 lecture	28	3.6 seminar/lab	14

Time distribution	hours
Study of the handbook, coursebook, bibliography and notes	45
Additional research in the library, online and on the knowledge field	25
Preparation of seminars/labs, homeworks and projects	20
Tutorials	15
Assessment	3
Other activities.....	

3.7 Total number of self-study hours	108
3.9 Total number of hours per semester	150
3. 10 Number of credits	6

4. Prerequisites (if applicable)

4.1 curriculum-based	• Computer Programming (or similar)
4.2 competence-based	• Not applicable

5. Conditions (if applicable)

5.1. for lectures	• Lecture rooms shall be provided with video projector and wireless internet connection

	• Students will attend lectures.
5.2. for seminars/labs	• IT services of the faculty will provide a real or virtual machine with Android Development Environment (ADT) and Android Studio • Students are invited to bring and use their own laptops; ADT and Android Studio could be installed on local computers and the students can work in collaboration • Labs will have enough computers for students not owning a laptop • Lab computers will have installed an ADT environment and network infrastructure in order to connect to the Internet • In the online scenario, the students must have computers and internet connection. The computers must support the tools used during the teaching process.

6. Assimilated specific competences

Professional competences	• C1.3 Combine and adapt the tools, methods and techniques for analysis, design and testing of information systems based on functional and technological requirements of the system (0.5 credits) • C3.4 Develop detailed architectural and technical solutions to be implemented, in terms of layers, modules and services, according to system requiremens (4 credits) • C4.4 Define the most appropriate solutions for data and modules integration, in order to meet the organizational requirements towards information integrity and security (1 credit)
Transversal competences	• CT3 – Continuous improvement of specific skills and knowledge towards approaching information systems, development of new software technologies and management of information systems (0.5 credits)

7. Discipline objectives (provided by the assimilated specific competences grid)

7.1 The general objective of the discipline	• To provide the core knowledge in order to combine and adapt the tools, methods and techniques for analysis, design and testing of mobile information systems
7.2 Specific objectives	• Knowledge of mobile applications architectures • Skills for developing Android applications • Ability to develop geo-applications in mobile environments • Ability to develop mobile business applications • Knowledge of mobile systems integration

8. Content

8. 1 Lecture	Teaching methods	Observations
Mobile Platforms – architectures and a general view	PPT presentation, explanation, conversation, questioning.	1 lecture
Mobile Applications Fundamentals	PPT presentation,	1 lecture

	code execution, explanation, conversation, questioning.	
Mobile Android Concepts: Activity, Intents, Fragments, Permissions, Broadcast Receivers	PPT presentation, code execution, explanation, conversation, questioning. Case study.	2 lectures
GSM Capabilities	PPT presentation, diagrams, explanation, conversation, questioning. Case study.	1 lecture
Mobile User Interfaces	PPT presentation, diagrams, explanation, conversation, questioning. Case study.	1 lecture
Networking and remote in mobile applications: Threads, Asyncs, Alarms, Networking	PPT presentation, diagrams, explanation, conversation, questioning. Case study.	1 lecture
Sensors in mobile applications	PPT presentation, code execution, explanation, conversation, questioning. Case study.	2 lectures
Locations and maps in mobile applications	PPT presentation, code execution, explanation, conversation, questioning. Case study.	2 lectures
Data management in mobile environments	PPT presentation, code execution, explanation, conversation, questioning. Case study.	1 lecture
Services for mobile applications	PPT presentation, code execution, explanation, conversation, questioning. Case study.	1 lectures
Trends in mobile applications	PPT presentation,	1 lecture

	code execution, explanation, conversation, questioning.	

Bibliography
Neil Smyth, Android Studio 4.2 Development Essentials - Java Edition: Developing Android Apps Using Android Studio 4.2, Java and Android Jetpack, Payload Media Publisher, 2021
Ben Carlson, The Master Guide To Mobile Application Development: A Beginners And Advanced Guide In Understanding Mobile Application Development, ISBN 979-8778467064, 2021
John Horton, Android Programming for Beginners, 2nd Edition, Packt Publishing, 2018
Deitel P., Android for Programmers: An App-Driven Approach (2nd Edition), Prentice Hall; 2 edition, 2014
Dospinescu O., 2014, Mobile Applications – Case Studies UAIC, FEAA, Iaşi, (available on FEAA’s portal and Google Drive)
Scott Mr., Hecht L., Android from A to D, CreateSpace Independent Publishing Platform; 1st edition, 2014
www.aplicatii-mobile.ro

8. 2 Seminar/lab	Teaching methods	Observations
Mobile Platforms and Mobile Android Concepts: Activity, Intents, Fragments, Permissions, Broadcast	Demonstration, Scripts and code execution, Questioning	1 lab
GSM Capabilities	Demonstration, Scripts and code execution, Questioning	1 lab
Mobile User Interfaces	Discussion, Scripts and code execution	1 lab
Networking and remote in mobile applications: Threads, Asyncs, Alarms, Networking	Demonstration, Scripts and code execution, Questioning	1 lab
Sensors in mobile applications	Discussion, Scripts and code execution	1 lab
Locations and maps in mobile applications	Discussion, Scripts and code execution	1 lab
Data management and services in mobile environments	Demonstration, Scripts and code execution, Questioning	1 lab

Bibliography
Neil Smyth, Android Studio 4.2 Development Essentials - Java Edition: Developing Android Apps Using Android Studio 4.2, Java and Android Jetpack, Payload Media Publisher, 2021
Ben Carlson, The Master Guide To Mobile Application Development: A Beginners And Advanced Guide In Understanding Mobile Application Development, ISBN 979-8778467064, 2021
John Horton, Android Programming for Beginners, 2nd Edition, Packt Publishing, 2018
Deitel P., Android for Programmers: An App-Driven Approach (2nd Edition), Prentice Hall; 2 edition, 2014
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9. Corroboration of the discipline content with the expectations of epistemic community representatives, professional associations as well as of representative employers in the programme related field.

- The content of this discipline has been decided upon by taking into account both the curricula of some prestigious Western Universities and the demands of the economic environment provided by potential employers, either in the public or in the private IT companies.

10. Assessment

Type of activity	10.1 Assessment criteria	10.2 Assessment methods	10.3 Share of final grade
Individual case study	An individual case study on a specific area of mobile applications	Presentation, code execution, discussion of each student’s solution	25%
Final project (team of 2-3 students)	Real-world application, complexity, validity	Presentation of the application, discussion of each team’s solution	75%
Minimum performance standard			
• S= 25% Case study + 75% Final project condition: S>=5.00			

Date of completion
23.09.2022

Lecture Coordinator
Octavian Dospinescu

Seminar Coordinator
Octavian Dospinescu

Date of approval within the department

Head of Department
Prof. Florin Dumitriu, Ph.D.