



MINISTERUL EDUCAȚIEI
UNIVERSITATEA „AUREL VLAICU” DIN ARAD
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SYLLABUS

1. Study programme

1.1. Higher education institution	„Aurel Vlaicu” University of Arad
1.2. Faculty	of Exact Sciences
1.3. Department	Department of Mathematics and Computer Science
1.4. Field of study	Informatics
1.5. Study level	2024-2025
1.6. Ciclul de studii	Bachelor
1.7. Study programme / Qualification	Computer Science
1.8. Form of education	Full – Time study

2. Course details

2.1. Name of the course	GIAS4008 Mobile applications Development
2.2. Course coordinator	dr. Bejan Crina-Anina
2.3. Seminar/laboratory/project coordinator	drd. Lupuți Antonio-Marius-Flavius
2.4. Study year	2
2.5. Semester	2
2.6. Evaluation type	ES
2.7. Course type	Ob

3. Estimated total time (hours per semester)

3.1. Hours per week	4
3.2. Lecture hours per week	2
3.3. Seminar/laboratory/project hours per week	2
3.4. Total hours per curriculum	56
3.5. Lecture hours per semester	28
3.6. Seminar/laboratory/project hours per semester	28
Time division [hrs]	
3.4.1. Independent study from textbooks, course support, bibliography and notes	20
3.4.2. Additional reading (libraries, specialized electronic platforms and field research)	25
3.4.3. Preparing of seminars/laboratories/projects, homework, papers, portfolios and essays	20
3.4.4. Tutorial coaching	0
3.4.5. Examinations	4
3.4.6. Other activities	0
3.7. Total individual study hours	69
3.8. Total hours per semester	125
3.9. Number of ECTS credits	5

4. Prerequisites (if applicable)

4.1. Curriculum related	
4.2. Competence related	

5. Conditions (if applicable)

5.1. for the lecture	Lecture room, equipped with laptop, video projector and appropriate software.
5.2. for the seminar	
5.3. for the laboratory	Laboratory room, properly equipped: computers, network, Internet connection, appropriate software.
5.4. for the project	

6. Specific educational objectives (competences to be acquired)

6.1. Competențe profesionale	C1.Programming in high level programming languages; C2.Development and maintenance of computer applications; C3.Using computer tools in interdisciplinary context; C4.Using the theoretical bases of computers and formal models; C7. Using modern technologies to ensure information security.
6.2. Competențe transversale	CT1.Applying the rules of organized and efficient work, of responsible attitudes towards teaching-scientific field, to value the own creative potential, while respecting the principles and norms of professional ethics. CT2.Efficient conduct of the activities organized in an inter-disciplinary group and developing the personal communication skills, networking and collaboration with various groups; CT3.Using of efficient methods and techniques for learning, informing, research and development of the capacity to value knowledge, adapting to the requirements of a dynamic society and communicating in English and in an Internationally widespread language.

7. Course outcomes (resulting from the specific educational objectives to be acquired)

7.1. General outcomes	Students learn the concepts of procedural programming problems and algorithm design and analysis. To develop students' ability to apply correctly the knowledge acquired and to develop their analytical skills.
7.2. Specific outcomes	Students will be able to: - Identify the appropriate algorithm for a given problem; - Design, implement and optimize an algorithm as a solution to a given problem; - Perform complexity calculations for a given algorithm.

8. Outline (if applicable)

8.1 Lecture Outline	Teaching methods	Remarks
Introducere în dezvoltarea aplicațiilor mobile	interactive exposition, heuristic conversation, exemplification	3 hrs
Structure of mobile apps	interactive exposition, heuristic conversation, exemplification	3 hrs
JAVA for mobile applications	interactive exposition, heuristic conversation, exemplification	3 hrs
Mobile Application Interface, XML	interactive exposition, heuristic conversation, exemplification	5 hrs
Emulators	interactive exposition, heuristic conversation, exemplification	3 hrs
Alternative mobile app development environments	interactive exposition, heuristic conversation, exemplification	4 hrs
Mobile app testing	interactive exposition, heuristic conversation, exemplification	3 hrs
Mobile app security	interactive exposition, heuristic conversation, exemplification	4 hrs
8.2 Lecture References 1. Rob Whitaker, Developing Inclusive Mobile Apps: Building Accessible Apps for iOS and Android, Apress, ISBN-13:9781484258132, 2020 2. Kishan Takoordyal, Beginning Unity Android Game Development: From Beginner to Pro, Apress, ISBN-13: 9781484260012,2020 3. Ian Darwin, Android Cookbook, 2e, O'Reilly, ISBN-13: 9781449374433, 2017 4. Octavian Dospinescu, Marian Perca, Aplicații mobile pe platforma android, Editura Tehnopress, ISBN: 9789737029614, 2013 5. COSMIN STRILETCHI, LIGIA D. CHIOREAN, MIRCEA F. VAIDA, ADRIANA STAN, STEFAN DRAGOS, Tehnologii Javaorientate spre aplicații cross-platform, Casa Cartii de Stiinta, ISBN:9786061716104, 2020 6. GEORGE BERKOWSKI, Cum sa crezi o aplicatie de un miliard de dolari, ACT si Politon, ISBN: 9786069132050, 2017		
8.3 Seminar Outline	Teaching methods	Remarks
8.4 Seminar References		
8.5 Laboratory Outline	Teaching methods	Remarks

Introducere în dezvoltarea aplicațiilor mobile	debate, problem-solving, exercise, application	3 hrs
Structure of mobile apps	debate, problem-solving, exercise, application	3 hrs
JAVA for mobile applications	debate, problem-solving, exercise, application	3 hrs
Mobile Application Interface, XML	debate, problem-solving, exercise, application	5 hrs
Emulators	debate, problem-solving, exercise, application	3 hrs
Alternative mobile app development environments	debate, problem-solving, exercise, application	5 hrs
Mobile app testing	debate, problem-solving, exercise, application	3 hrs
Mobile app security	debate, problem-solving, exercise, application	4 hrs
8.6 Laboratory References 1. Rob Whitaker, Developing Inclusive Mobile Apps: Building Accessible Apps for iOS and Android, Apress, ISBN-13:9781484258132, 2020 2. Kishan Takoordyal, Beginning Unity Android Game Development: From Beginner to Pro, Apress, ISBN-13: 9781484260012, 2020 3. Ian Darwin, Android Cookbook, 2e, O'Reilly, ISBN-13: 9781449374433, 2017 4. Octavian Dospinescu, Marian Perca, Aplicații mobile pe platforma android, Editura Tehnopress, ISBN: 9789737029614, 2013 5. COSMIN STRILETCHI, LIGIA D. CHIOREAN, MIRCEA F. VAIDA, ADRIANA STAN, STEFAN DRAGOS, Tehnologii Javaorientate spre aplicații cross-platform, Casa Cartii de Stiinta, ISBN:9786061716104, 2020 6. GEORGE BERKOWSKI, Cum sa crezi o aplicatie de un miliard de dolari, ACT si Politon, ISBN: 9786069132050, 2017 9786069132050, 2017		
8.7 Project Outline	Teaching methods	Remarks
8.8 Project Outline		

9. Correlation of course outline with the expectations of the epistemic community, professional associations and representative employers within the field of the program

The content of the subject is in line with the content of similar subjects in other universities in the country and abroad. In order to better adapt the content of the subject to the requirements of the labour market, meetings were held with employers - representatives of the business environment and with mathematics and computer science teachers from the preuniversity education in Arad.

10. Evaluation / Grading (if applicable)

Activity type	Evaluation criteria	Evaluation methods	Percentage of the final grade
10.1. Lecture	Accuracy and completeness of knowledge. Logical consistency. Degree of assimilation of specialist language.	Oral assessment (final in the exam session): -Presentation of a final project - Free student presentation - Evaluation conversation - Oral questionnaire.	50%
10.2. Seminar			
10.3. Laboratory	Ability to operate with assimilated knowledge. Ability to apply in practice.	Oral assessment (final in the examination session): -Completion and presentation of the final project	30%
10.4. Project	Homeworks.	Oral evaluation.	20%
10.5 Minimal performance standard Learning fundamental concepts, using specialist language, making a simple application.			

Course coordinator
Conf.univ. dr. Bejan Crina-Anina

Seminar/laboratory/project coordinator
drd. Lupuți Antonio-Marius-Flavius

Head of the Department
Lector Popa Lorena

Dean
Prof.univ.dr. Sorin Florin Nădăban