

<b>General information</b>		
Course leader	<b>Daniel Bele, Lecturer</b>	
Course title	<b>Advanced mobile programming</b>	
Study programme		
Course status	Elective	
Year	Year 1, semester 1	
Number of credits and mode of teaching delivery	ECTS student workload coefficient	5
	Number of hours (L+E+S)	60 (30 P + 30 V + 0 S)

<b>COURSE DESCRIPTION</b>
<i>1.1. Course objectives</i>
<b>Introducing students to the possibilities and limitations of platforms for mobile application development. Students will be introduced to some of the most commonly used patterns in application and solution development, as well as relevant technologies, software frameworks, and development tools.</b>
<i>1.2. Conditions for enrolment in the course</i>
<b>No formal conditions. Student should be able to write programs comfortably in any object-oriented programming language.</b>
<i>1.3. Expected learning outcomes of the course</i>
<ul style="list-style-type: none"> <li>• <b>L01 - Acquire knowledge about the specifics of different platforms and devices, and develop an application that properly uses them</b></li> <li>• <b>L02- Critically evaluate individual patterns of mobile application architecture, propose and develop the most appropriate</b></li> <li>• <b>L03- Analyse, recommend and develop different types of animations and data presentations for the purpose of superior user experience</b></li> <li>• <b>L04- Evaluate and develop advanced graphical interface elements to adapt to application needs</b></li> <li>• <b>L05- Research, recommend and use embedded and external programming frameworks in solving advanced problems of mobile ecosystems</b></li> <li>• <b>L06- Identify the need for advanced use of databases on mobile platforms, and develop a solution</b></li> <li>• <b>L07- Implement asynchronous communication with various Internet services</b></li> </ul>
<i>1.4. Course content</i>
<b>Development environment and tools for design, development and debugging</b> <b>Customize the application to your mobile device</b> <b>Mobile application architecture patterns</b> <b>Connecting graphical interface, data and functionality</b> <b>Data and functionality on the start screen</b>

**Animating graphical interface elements**  
**Advanced graphical interface elements**  
**Advanced access to local databases**  
**Access to web services**  
**Access to cloud services**  
**Application testing**  
**Hardware access**

1.5. *Teaching delivery modes:*

- lectures
- seminars and workshops
- exercises
- remote learning
- field work

- independent work
- multimedia and network
- laboratory
- mentoring
- other

1.6. *Comments*

1.7. *Student obligations*

**STUDENT ATTENDANCE**

**Class attendance is mandatory in the percentage prescribed by the Studies and examination regulations.**

**PASSING THE EXAM**

**The course has defined learning outcomes. In order for a student to pass the course, he/she must achieve a minimum of 50% of the points available for each learning outcome and collect a minimum of 50.01 points out of a possible 100 points per course.**

1.8. *Monitoring<sup>1</sup> student work*

Class attendance		Activity during class		Seminar paper		Experimental work	
Written exam		Oral exam		Essay		Research	
Project	100%	Continuous assessment of knowledge		Student report		Practical work	
Portfolio		Homework					

1.9. *Assessment and evaluation of student work during classes and the final exam*

**A grading system based is on a credit accumulation model combined with a defined sub-model, providing a model of the grading method and checking the satisfaction of learning outcomes used in this course.**

**CONCRETE REVIEW OF EVALUATION METHODS**

<sup>1</sup> IMPORTANT NOTES: Next to each method of monitoring student work it is necessary to insert an adequate share of each activity in ECTS credits, so the total number of ECTS credits corresponds to the credit value of the course. You can use empty fields for additional activities.

The maximum number of points that a student can earn in a course is 100. Grades are calculated according to the following criteria table within which the distribution of passing grades in terms of the number of points is applied.

Points	Grade
0,00 - 50,00	(1) unsatisfactory
50,01 - 58,00	(2) sufficient
58,01 - 75,00	(3) good
75,01 - 92,00	(4) very good
92,01 - 100,00	(5) excellent

The method of accumulating points is determined in this course in accordance with the elements of scoring as follows:

Criterion	Maximum points
Project	100
TOTAL	100

The way of taking the colloquiums, the learning outcomes it covers, as well as the implementation of exams and remedial exams are defined by the "Instructions for attending and taking the course".

1.10. *Required reading (at the moment of submitting the joint study programme report)*

- **Bill Phillips, Chris Stewart, Brian Hardy, Kristin Marsicano: Android Programming: The Big Nerd Ranch Guide, Big Nerd Ranch Guides, 2015**

1.11. *Additional reading (at the moment of submitting the joint study programme report)*

1.12. *Number of copies of required reading in relation to the number of students who currently attend a course*

<i>Title</i>	<i>Number of copies</i>	<i>Number of students</i>

1.13. *Methods of quality monitoring that ensure the acquisition of knowledge, skills and competencies.*

Monitoring the fulfilment of the desired learning outcomes is an important element of assessment because learning outcomes are the "guarantees" that the school gives to students, but also to employers and the wider community. Learning outcomes represent

**the minimum threshold that each student must achieve in order to pass the course. For a passing grade, the student must satisfy all the learning outcomes with the demonstrated knowledge, which corresponds to 50% of the points achieved for each learning outcome. The method of scoring based on learning outcomes is presented in the document "Instructions for attending and taking the course".**