

Syllabus of the educational discipline

« SOFTWARE TECHNOLOGY FOR MOBILE PLATFORMS »

Cycle of Higher Education	<i>First cycle of higher education (Bachelor's degree)</i>
Field of Study	<i>12 Information Technologies</i>
Specialty	<i>123 Computer engineering</i>
Educational program	<i>Computer systems and networks</i>
Discipline status	<i>Compulsory</i>
Teaching language	<i>English</i>
Year of studies, semester	<i>4 year (7 semester, 8 semester)</i>
Number of credits ECTS	<i>8,5 credits</i>
Distribution by types of trainings and hours of study	<i>Lectures, Laboratory studies, Independent training</i>
Form of final assessment	<i>Test, test</i>
Teacher	<i>Mulesa O.Yu., Doctor of technical sciences, Professor of the department of computer systems and networks</i>
Teacher's contacts	<i>oksana.mulesa@uzhnu.edu.ua</i>
Course Schedule	<i>According to the timetable</i>
<p><i>The purpose of the course is to acquire theoretical knowledge of mobile operating systems, the study of the functionality of hardware and software components of mobile devices and the implementation of software applications.</i></p> <p><i>As a result of studying the discipline the student must:</i></p> <p><i>know:</i></p> <ul style="list-style-type: none"> <i>- impact of technical solutions in the societal, economic, social, and environmental context.</i> <i>- latest technologies in the field of computer engineering.</i> <p><i>be able to:</i></p> <ul style="list-style-type: none"> <i>- develop components of software systems and databases, using modern tooling environments and programming technologies when working with mobile platforms</i> 	
<p>Prerequisites for learning</p> <p>OOP, Computer Architecture, System Programming</p>	
<p>Content of the educational discipline</p> <p>Topic 1. Basic mobile operating systems</p> <p>Topic 2. Process and stream management</p> <p>Topic 3. The xCode development environment</p> <p>Topic 4. Specifics of Objective C syntax. Fundamentals of Swift</p> <p>Topic 5. Collections. Comparing and copying objects</p> <p>Topic 6. Working with Memory</p> <p>Topic 7. Stream and property management</p> <p>Topic 8. Categories and Extensions, Structures</p> <p>Topic 9. Blocks and classes</p> <p>Topic 10. Closure and Universal Patterns</p> <p>Topic 11. Threads and GCDs</p> <p>Topic 12. Basics of User Interfaces</p> <p>Topic 13. AutoLayout</p> <p>Topic 14. Controller Specifics</p> <p>Topic 15. Containers and tables</p> <p>Topic 16. Collections and messages. Animations</p> <p>Topic 17. Networking</p>	
Course page on the Moodle platform (personal training system)	<i>Syllabus of the educational discipline, hyperlinks to electronic publications of the discipline, recommended literature, students' attendance, lecture materials, presentations, questions for self-control, methodical materials for laboratory works, tests, tasks for</i>

checking students' knowledge. <https://moodle.uzhnu.edu.ua>

Recommended literature

1. *Maier Ali iPhone SDK Programming: Developing Mobile Applications for Apple iPhone and iPod touch.* - Wiley; 1st edition, 2009. - 396p.
2. *Robert C. Martin Clean Code: A Handbook of Agile Software Craftsmanship.* - Pearson; 1st edition, 2008. - 464p.
3. *Matt Neuburg iOS 14 Programming Fundamentals with Swift: Swift, Xcode, and Cocoa Basics.* - O'Reilly Media; 1st edition, 2020. - 708p.

Assessment system of learning outcomes

The ECTS grade that a student receives after studying a credit module of a discipline is determined according to the student's rating. A student's credit module rating consists of the points the student receives during the semester for the following types of work:

1. Modular control work (MCW) duration of 2 acad. hours each. The maximum number of points for the MCW is 50 points.
2. Performance of laboratory works.

During the semester, students perform laboratory works(maximum number of points - 40)

Scores on individual and independent work of students are awarded for: preparation of essays, modernization of tasks, creative approach to task performance, performance of tasks to improve didactic materials on the discipline: 0-10 points for each module.

Each module is assessed a maximum of 100 points. At the end of the discipline a rating score is derived as the arithmetic average of the points from the two modules.

ECTS and national grading scale

Mark scale	ECTS	Exam	Test
90 - 100	A	Excellent	Satisfied
82 - 89	B	Good	
74 - 81	C		
64 - 73	D	Satisfactory	
60 - 63	E		
35 - 59	FX	“Unsatisfactory” with possibility to pass the exam again	“Not satisfied” with possibility to pass the exam again
1 - 34	F	“Unsatisfactory” with obligatory repeated study of the discipline	“Not satisfied” with obligatory repeated study of the discipline