

Discipline Status	Selective
Level of Higher Education	First (bachelor's)
Language of Instruction	English
Cemecrp	–
Discipline Volume, ECTS Credits	8,0
Forms of education for which the discipline is taught	Full-time (day)

Learning results. After studying the discipline, the student must know the principles of building Android applications, the component life cycle, tools for creating a user interface, working with events, databases, the network and multimedia; have practical skills in working with Android Studio, Java and Kotlin languages, asynchronous processing tools, Retrofit, ExoPlayer and Google Maps API libraries; be able to design, develop, test and optimize mobile applications; make a reasoned choice of technologies and tools; demonstrate the ability to self-study, work in a team and make effective engineering decisions.

Content of the academic discipline. Using Java and Kotlin for developments mobile applications. Graphic interface user mobile applications, elements markup. Adapters and lists, creation multi-page mobile applications. Work mobile applications with bases data SQLite. Parsers, multithreading and asynchrony. Services, broadcast message. Work mobile applications with multimedia. Work mobile applications with Google Maps.

Planned learning activities: The minimum amount of study hours in one ECTS credit of an academic discipline for the first (bachelor's) level of higher education in full-time education is 10 hours per 1 ECTS credit.

Forms (methods) of learning: lectures (using visualization methods, problem-based and interactive learning, motivational techniques, information and communication technologies); practical classes (using instruction, demonstration, solving typical and applied problems, case analysis, situational tasks, discussion elements, etc.); independent work (studying theoretical material, preparing for practical work, current and final control, performing individual and homework), using information and computer technologies and distance learning technologies.

Forms of assessment of learning outcomes: laboratory work, current control work, presentation of the results of individual tasks.

Type of semester control: credit.

Educational resources:

1. Murphy, M. L. Exploring Android. FINAL Edition [Electronic resource]. – CommonsWare, 2020. – Available at: <https://commonsware.com/AndExplore/AndExplore-FINAL.pdf> (accessed 06 October 2025).
2. Murphy, M. L. Elements of Android R. FINAL Version [Electronic resource]. – CommonsWare, 2021 (to be released under Creative Commons Attribution-ShareAlike 4.0 license on 01 Nov 2024). – Available at: <https://commonsware.com/R/R-FINAL.pdf> (accessed 06 October 2025).
3. Meike, G., Schiefer, L. Inside the Android OS: Building, Customizing, Managing and Operating Android System Services [Electronic resource]. – Boston: Addison-Wesley Professional, 2021. – Available at: <https://ebook.app.hcu.edu.gh/wp-content/uploads/2022/05/Android-Deep-Dive-G.-Meike-Lawrence-Schiefer-Inside-the-Android-OS-Building-Customizing-Managing-and-Operating-Android-System-Services-Addison-Wesley-Professional-2021.pdf> (accessed 06 October 2025).
4. Kodeco Inc. Android Apprentice: Beginning Android Development with Kotlin. 4th Edition [Electronic resource]. – Kodeco Inc., 2021. – Available at: <https://dokumen.pub/android-apprentice-fourth-edition-beginning-android-development-with-kotlin-4nbsped-1950325393-9781950325399.html> (accessed 06 October 2025).
5. ResearchGate. Developing Your First Android App: A Complete Guide for Beginners [Electronic resource]. – ResearchGate, 2024. – Available at: https://www.researchgate.net/publication/380012065_Developing_Your_First_Android_App_A_Complete_Guide_for_Beginners (accessed 06 October 2025).
6. Google Developers. Android Kotlin Fundamentals [Electronic resource]. – Android Developers, 2020. – Available at: <https://developer.android.com/courses/kotlin-fundamentals/unit-2> (accessed 06 October 2025).
7. Google Developers. Android Developers: Documentation and Training [Electronic resource]. – Android Developers, 2020–2025. – Available at: <https://developer.android.com/> (accessed 06 October 2025).
8. Google Developers. Jetpack Compose Tutorial [Electronic resource]. – Android Developers, 2020–2024. – Available at: <https://developer.android.com/develop/ui/compose/tutorial> (accessed 06 October 2025).
9. JetBrains. Kotlin Documentation [Electronic resource]. – Kotlinlang.org, 2023–2025. – Available at: <https://kotlinlang.org/docs/> (accessed 06 October 2025).
11. Modular learning environment. Access to the resource: <https://msn.khmnu.edu.ua/course/view.php?id=6922>
12. University electronic library. Access to the resource: <http://library.khmnu.edu.ua/>

Teachers: Ph.D. in E. S., As. Prof. Mazurets O.V.,
 Assist. of the CS Department Zalutsk O.O.,
 Assist. of the CS Department Klimenko V.I.