



## Subject card

Subject name and code	Mobile multimedia technologies, PG_00047763						
Field of study	Informatics						
Date of commencement of studies	October 2024	Academic year of realisation of subject			2025/2026		
Education level	second-cycle studies	Subject group			Optional subject group Subject group related to scientific research in the field of study		
Mode of study	Part-time studies	Mode of delivery			at the university		
Year of study	2	Language of instruction			Polish		
Semester of study	3	ECTS credits			4.0		
Learning profile	general academic profile	Assessment form			exam		
Conducting unit	Department of Geoinformatics -> Faculty of Electronics, Telecommunications and Informatics						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Przemysław Falkowski-Gilski				
	Teachers		dr inż. Przemysław Falkowski-Gilski				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	12.0	0.0	9.0	6.0	0.0	27
	E-learning hours included: 0.0						
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study plan		Participation in consultation hours		Self-study	SUM
	Number of study hours	27		10.0		63.0	100
Subject objectives	The goal of the subject is to familiarize the students with technologies applicable to mobile multimedia application development.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K7_W04] Knows and understands, to an advanced extent, the principles, methods and techniques of programming and the principles of computer software development or programming devices or controllers using microprocessors or programmable elements or systems specific to the field of study, and organisation of systems using computers or such devices	Students are able to identify key elements of computer systems architecture, particularly mobile devices.	[SW1] Assessment of factual knowledge
	[K7_W02] knows and understands, to an increased extent, selected laws of physics and physical phenomena, as well as methods and theories explaining the complex relationships between them, constituting advanced general knowledge in the field of technical sciences related to the field of study	Students are able to properly design and implement appropriate algorithms.	[SW2] Assessment of knowledge contained in presentation
	[K7_W03] knows and understands, to an increased extent, the construction and operating principles of components and systems related to the field of study, including theories, methods and complex relationships between them and selected specific issues - appropriate for the curriculum	Students are able to choose appropriate methods, tools, as well as hardware and software layer, depending on the specificity of the analyzed problem.	[SW3] Assessment of knowledge contained in written work and projects
	[K7_U02] can perform tasks related to the field of study as well as formulate and solve problems applying recent knowledge of physics and other areas of science	Students are able to properly design and implement the software layer of a mobile application.	[SU3] Assessment of ability to use knowledge gained from the subject
	[K7_U05] can plan and conduct experiments related to the field of study, including computer simulations and measurements; interpret obtained results and draw conclusions	Students are able to use appropriate tools and programming languages to study selected problems.	[SU2] Assessment of ability to analyse information
Subject contents	1. Multimedia on mobile devices.  2. Video processing on mobile devices.  3. Mobile games.  4. Unity3D environment  5. Open GL ES  6. Augmented Reality		
Prerequisites and co-requisites	Object-oriented programming.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Project	50.0%	60.0%
	Written Exam	50.0%	40.0%

Recommended reading	Basic literature	<p>A. Munshi, D. Ginsburg, D. Shreiner: OpenGL ES 2.0 Programming Guide, Addison-Wesley, 2010.</p> <p>Wright R. S., Haemel N., Sellers G., Lipchak B., "OpenGL SuperBible", Addison-Wesley, 2010.</p> <p>Hellman E., "Platforma Android – Nowe wyzwania", Helion, 2014.</p>
	Supplementary literature	C. Morales, D. Nelson: Mobile 3D Game Development: From Start to Market; Charles River Media, 2007
	eResources addresses	Adresy na platformie eNauzanie:
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	