



Subject card

Subject name and code	Internet Applications Evaluation in Medicine, PG_00047857						
Field of study	Biomedical Engineering						
Date of commencement of studies	October 2023	Academic year of realisation of subject			2025/2026		
Education level	first-cycle studies	Subject group			Optional subject group Subject group related to scientific research in the field of study		
Mode of study	Full-time studies	Mode of delivery			at the university		
Year of study	3	Language of instruction			Polish		
Semester of study	6	ECTS credits			5.0		
Learning profile	general academic profile	Assessment form			exam		
Conducting unit	Department of Biomedical Engineering -> Faculty of Electronics, Telecommunications and Informatics						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Anna Węsierska				
	Teachers		dr inż. Anna Węsierska				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	15.0	0.0	45
	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	45		5.0		75.0	125
Subject objectives	The aim of the course is to get the student's knowledge and skills in basic methods and techniques for developing web applications						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K6_U04] can apply knowledge of programming methods and techniques as well as select and apply appropriate programming methods and tools in computer software development or programming devices or controllers using microprocessors or programmable elements or systems specific to the field of study	The effect of education is the acquisition of skills: - installing and configuring the programming environment for the programming language (Java, PHP, HTML), - installing and configuring a web server environment with basic services, - write a program in Java, - write a program launched in the WWW browser environment, - creating a well-formed XML and HTML document, - writing a simple PHP program run on the server side and generating dynamic content of websites, - write a simple program in JavaScript.	[SU1] Assessment of task fulfilment
	[K6_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	The student has gained knowledge in the field of: - installing and configuring the programming environment for the programming language (Java, PHP, HTML), - installing and configuring a web server environment with basic services, - write a program in Java, - write a program launched in the WWW browser environment, - creating a well-formed XML and HTML document, - writing a simple PHP program run on the server side and generating dynamic content of websites, - write a simple program in JavaScript.	[SW1] Assessment of factual knowledge
Subject contents	1. Internet application in medicine - principles 2. Protocols and services used in WWW technology 3. WWW Server architectures 4. WWW Server configuration 5. WWW Server integration with other services 6. Security of internet applications in medicine 7. Programming languages, client side - JavaScript 8. Programming languages, client side - development of JavaScript components 9. Programming languages, server side - PHP 10. Programming languages, server side - libraries of PHP 11. Programming languages, client/server side - Ruby 12. Programming languages, client/server side - Ruby and objects programming 13. Programming languages, client/server side - Ruby on Rails 14. Content Management Systems in www services 15. Content Management Systems - overview 16. Advanced programming techniques of www services - Ajax technology principles 17. Advanced programming techniques of www services - Ajax technology 18. Advanced programming techniques of www services - Ajax technology - components 19. Web services technology 20. Web services and Ajax technology 21. Data bases in www services 22. J2EE internet applications 23. Internet applications problems: access control, sessions, data validation 24. Interactive internet services www in e-learning 25. Interactive internet services www in medicine diagnostic - telediagnostic 26. Warning systems based on internet applications 27. Elderly patient wireless monitoring 28. Electronic patient records technologies 29. Wireless technologies 30. Wireless technologies - mWLAN for mobile devices 31. Application design for mobile devices		
Prerequisites and co-requisites	Methods and techniques of programming 1. The construction program in the programming of structural 1.1. Variables, data types, functions 1.2. Control statements 1.3. Compilation and execution of programs 1.4. Basic data structures 1.5. Ability to move from ideas by the algorithm to 2. Construction of the program in object-oriented programming 2.1. Designing and writing classes 2.2. Creating and using objects 2.3. Elements of object-oriented paradigm (abstraction, encapsulation, inheritance, polymorphism) 2.4. The use of class libraries High-level programming languages 1. Java Programming 2. Programming in JavaScript 3. Fundamentals of Programming in PHP		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Lecture - tests/exam	51.0%	40.0%
	Project	51.0%	60.0%
Recommended reading	Basic literature	Ballard P., Moncur M., Ajax, JavaScript i PHP. Intensywny trening, Helion 2009 Eckel B., Thinking In Java, edycja polska, Helion 2006 W3C, Rekomendacje XML i HTML, www.w3.org Welling L., Thomson L., PHP i MySQL. Tworzenie stron WWW. Vademecum profesjonalisty, Helion 2005	
	Supplementary literature	No requirements	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		