GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Digital Documents, PG_00047982					
Field of study	Informatics					
Date of commencement of studies	October 2020		Academic year of realisation of subject		2023/2024	
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	4		Language of instruction		Polish	
Semester of study	7		ECTS credits		2.0	
Learning profile	general academic profile		Assessment form		assessment	
Conducting unit	Faculty of Electronics, Telecommunications and Informatics					
Name and surname of lecturer (lecturers)	Subject supervisor		dr Magdalena Godlewska			
	Teachers		dr Magdalena Godlewska			

Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	0.0	15.0	0.0	30
	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	30	2.0	18.0	50

Subject objectives	1. Review basic concepts of modeling and implementation of digital and electronic documents. 2. Assess key standards and formats for representing documents in a computer-readable form. 3. Develop practical skills for developing document processing applications.

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[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	Students understand the concepts of modeling and implementation of digital and electronic documents, and current standards for document representation in parsable form.	[SW1] Assessment of factual knowledge
	[K6_U42] can apply tools and methods of designing, optimization, monitoring, management, increasing reliability and protection from safety hazards in local and distributed information systems and applications	They are able to implement their own document processing systems for various levels of representation and standards, including security standards.	[SU3] Assessment of ability to use knowledge gained from the subject [SU1] Assessment of task fulfilment
	[K6_W41] Knows and understands, to an advanced extent, the operation and evaluation criteria of data processing, storage and transfer methods, including computational algorithms, artificial intelligence and data mining	Students know the most important standards for identifying digital objects in dynamic distributed repositories.	[SW1] Assessment of factual knowledge
	[K6_W05] Knows and understands, to an advanced extent, methods of supporting processes and functions, specific to the field of study	Students understand the concepts of modeling and implementation of business processes using digital and electronic document exchange, as well as current standards for the specification and implementation of these processes.	[SW1] Assessment of factual knowledge
	[K6_U43] can analyse date and formulate, apply and assess appropriate formal models and algorithms for solving problems in the field of information systems and applications	Students have practical skills in designing and coding applications for processing document content and using supporting tools	[SU3] Assessment of ability to use knowledge gained from the subject [SU1] Assessment of task fulfilment

Subject contents	1. Document engineering: data and process models 2. Document representation methods: structure and content 3. Binary formats for document presentation 4. PostScript - device independent print-page description 5. PDF - system independent document description format 6. RTF - document representation format for text processor interoperability 7. Tex/Latex - document assembly format; bibliography (BibTex), index, glossary 8. Document content transformation (XSL), formatting (XSL:FO), tranclusion (Xpath, Xpointer, XLink). 9. Document content internationalization; text coding systems 10. EbXML registry, collaboration protocol profile (CPP) and agreement (CPA) documents 11. JAVA/XML Data Binding tools (JAXB, XMLbeans) 12. XML schema languages 13. Workflow design patterns and description languages 14. Standard document architectures (eJustice, eGovernment, eHealth, eCommerce) 15. Dentification of dynamic objects: PURL, URN, DOI, XRI.
Prerequisites and co-requisites	No requirements

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Activity/attendace	0.0%	10.0%
	final test	50.0%	60.0%
	Project	50.0%	30.0%

Recommended reading	Basic literature	UBL : http://docs.oasis-open.org/ubl/os-UBL-2.0.zip JAXB : http://jaxb.dev.java.net FreebXML: http://www.freebxml.org/ Glushko, R.J., Tim McGrath, T.: Document Engineering, Analyzing and Designing Documents for Business Informatics and Web Services, The MIT Press, 2005 Wilde, E., Lowe, D.: XPath, XLink, XPointer, and XML; Addison-Wesley, 2003 Gibb, B., Damodaran, S.: ebXML, Concepts and Application, Wiley, 2002 Lamport L.: LATEX - podręcznik i przewodnik użytkownika; WNT, Warszawa, 2004;
	Supplementary literature	No requirements
	eResources addresses	Adresy na platformie eNauczanie: Dokumenty Cyfrowe - 2023/24 - Moodle ID: 29630 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=29630

Example issues/ example questions/ tasks being completed	1. Definition of a selected document type (XML-Schema) 2. Document unmarshalling into Java objects (JaxB, XMLbeans, Java) 3. Automatic generation of dokument content (JaxB, XMLbeans)
Work placement	Not applicable