GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Digital Documents, PG_00047982						
Field of study	Informatics						
Date of commencement of studies	October 2025		Academic year of realisation of subject	2028/2029			
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	Department Of Intelligent Interactive Systems -> Faculty Of Electronics Telecommunications And Informatics -> Wydziały Politechniki Gdańskiej						
Name and surname of lecturer (lecturers)	Subject supervisor		prof. dr hab. inż. Bogdan Wiszniewski				
	Teachers		prof. dr hab. inż. Bogdan Wiszniewski				
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_U09] can carry out a critical analysis of the functioning of existing technical solutions and assess these solutions, as well as apply experience related to the maintenance of technical systems, devices and facilities typical for the field of studies, gained in the professional engineering environment	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
[K6_W44] knows and understands, to an advanced extent, architecture, design principles and methods of hardware and software support for local and distributed information systems, including computing systems, databases, computer networks and information applications, as well as the principles of human-computer interaction, the operation and evaluation criteria of data processing, storage and transfer methods, including computational algorithms, artificial intelligence and data mining as well as standards and methods of IT systems administration, monitoring of processes and robustness to undesirable phenomena and activities	Students know the most important standards for identifying digital objects in dynamic distributed repositories.	[SW1] Assessment of factual knowledge
[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

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), 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	40.0%	10.0%
final test	40.0%	30.0%
Project	50.0%	60.0%

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:

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

Document generated electronically. Does not require a seal or signature.