



Subject card

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|---|---|--|---|-------------------------------------|--|------------|-----|
| Subject name and code | Digital Documents, PG_00047982 | | | | | | |
| Field of study | Informatics | | | | | | |
| Date of commencement of studies | October 2023 | | Academic year of realisation of subject | | 2026/2027 | | |
| 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 -> 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. | | | | | | |

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| Learning outcomes | Course outcome | Subject outcome | Method of verification |
| | [K6_U43] can analyse data 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 | [SU1] Assessment of task fulfilment [SU3] Assessment of ability to use knowledge gained from the subject |
| | [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_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_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. | [SU1] Assessment of task fulfilment [SU3] Assessment of ability to use knowledge gained from the subject |
| | [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), 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. Identification 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 |
| | Project | 50.0% | 30.0% |
| | final test | 50.0% | 60.0% |
| | Activity/attendance | 0.0% | 10.0% |
| 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 Lampion 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 | | |

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