

DESCRIPTION OF A STUDY COURSE – SYLLABUS

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|---|---|---------------------------------|--|---------------------|---|
| Title of a course | Web Applications Safety | | | | |
| Study programme | Specialist professional graduate study of Information Technology in Business Systems – Major: Software Engineering in Business Systems | | | | |
| Status of a course | Obligatory | | | | |
| Year of study | 2 | Semester (Winter/Summer) | W | ECTS credits | 4 |
| Goals of a course | | | | | |
| The aim of the course is to familiarize students with the most common security issues related to web application security. Apply methods and techniques to raise the security of web applications through practical examples. | | | | | |
| Conditions for enrolling course | | | | | |
| No conditions | | | | | |
| Learning outcomes on a level of a study programme which includes course | | | | | |
| Outcome 8: Apply methods and techniques for managing security and data protection in information and communication systems. Outcome 13: Analyse security threats when using web applications and services, and define and implement appropriate countermeasures. Outcome 15: Analyse and recommend the use of IT tools within a business organization. Outcome 16: Assess the place and role of ICT in the context of organization, management and business processes. Outcome 17: Present development and software solutions within a business organization. | | | | | |
| Expected learning outcomes on a level of a course | | | | | |
| <ol style="list-style-type: none"> 1. Assess security risks to use the organizational and technical elements of web application security. 2. Describe security levels by network layers. 3. Describe the attacks and common vulnerabilities of web applications. 4. Describe the basic security mechanisms of web applications. 5. Apply vulnerability testing software tools and tools to help protect web applications. | | | | | |
| Content of a course | | | | | |
| Introduction to web services, definition of web services, web scripts with web services. Security, basic terms and aspects (reliability, integrity, non-rejection, authenticity, authorization, accessibility). Security presentation for each network layer. New challenges and threats for web services. XML signature. XML encryption. SAML. Assigning authorization-permission (XACML), XKMS. Modern technological specifications (Pass-port, Liberty project). Influence of UDDI on enhanced safety. Legal aspects of security and protection of web services and applications. Destructive activities on web applications. Training all users of IT in security. Security implementation. | | | | | |
| Teaching modes | <input checked="" type="checkbox"/> lectures <input type="checkbox"/> auditory exercises <input checked="" type="checkbox"/> seminars and workshops <input type="checkbox"/> distance learning <input type="checkbox"/> field classes | | <input checked="" type="checkbox"/> individual assignments <input type="checkbox"/> multimedia and network <input type="checkbox"/> laboratory <input type="checkbox"/> supervisor's work <input type="checkbox"/> other _____ | | |
| Grading, evaluation and monitoring of students' work continuously during lectures and exams | | | | | |
| Grading is based upon evaluation course's learning outcomes' adoption. Grading is performed continuously during lectures and/or during exam, in compliance with the provisions of Regulation on the assessment of students. | | | | | |