DESCRIPTION OF STUDY MODULE[*]

Study programme	**Applied Informatics and Programming**		

Study module	**WEB SERVICES**	**Credits in total**	**4**

Learning outcomes
- Able to explain Web service possibilities and application. - Able to use the software for Web services testing. - Able to prepare the Web service documentation. - Manage to create one's Web service. - Able to integrate Web services of different systems.
Aims of study module
The objective of the study subject is to provide students with knowledge of the Web services, their application possibilities and to develop students' skills in creating Web services. At the end of the course, students learn to program Web services using PHP and JavaScript programming languages and to prepare their documentation.
Annotation of a study module
The course provides students with knowledge of Web services application, their integration into systems and their programming in PHP and JavaScript languages. The course also involves analysis of the most popular Web services, practice of using them in order to discover the possibilities they provide. At the end of the course, students work on programming their own Web service and preparation of its documentation. Practical activities of the course develop students' practical skills in performing the assigned tasks and developing their own project, namely their own unique Web service.
Topics of the subject
1. Introduction to Web services. 2. Types of Web services. 3. Web services testing environments. 4. Integration of Web services. 5. Twilio API integration. 6. Web services integration using PHP. 7. Web services integration using JavaScript. 8. Web services programming. 9. Web services documentation.
Procedure for assessment of knowledge and competences
Applicable ten-point scale and criterion-cumulative assessment scheme. Progress-check tests (PT1, PT2) consists of 0.15, individual homework (H) (development of Web service) - 0.2 and 0.5 of the final exam (E) assessment score, which is calculated by the weighted average method. Subject uptake final rating is calculated only if all self-employment (individual homework) assignment and progress-check tests are assessed the positive point. $F = PT1 * 0.15 + PT2 * 0.15 + H * 0.2 + E * 0.5$
Main literature
1. Lorna Jane Mitchell (2013). *PHP Web Services: APIs for the Modern Web*. 118 p. 2. Iman Saleh (2015). *Formalizing Data-Centric Web Services*. 144 p. 3. Bernhard Thalheim, Klaus-Dieter Schewe, Andreas Prinz, Bruno Buchberger (2015). *Correct Software in Web Applications and Web Services*. 346 p.

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[*] Short form