

Subject code	Credits
INF4026	4

Title

TINKLO PASLAUG INŽINERIJA

Title in English

WEB SERVICE ENGINEERING

Subject goal and annotation

Course aim is to introduce network service organization using Web services; Web services architecture and functioning principles; XML basics; message styles and protocols; SOAP structure and application principles; web service definition language (WSDL) application methods; UDDI registry technology; intermediaries models; web services publishing and search mechanisms; REST technology principles.

Prerequisites

Undergraduate courses: Computer Architecture and operating Systems. Fundamental of Computer Programming and information technology. Internet technology.

Relationship between the learning outcomes of the Programme and learning outcomes of the subject

Learning outcomes of the Programme	Learning outcomes of the subject	Criteria for measuring the achievement of learning outcomes
3. Knowledge of basic and advanced computer science and its application. 10. Analysis, design and development of advanced Internet systems. 12. Analysis, design and development of diverse software systems.	Identify and define the Web services in the Internet space	Students are able to identify and define different Web services
	Adapt Web services for providing the required information, by using appropriate software tools	Students demonstrate their skills in using software tools when applying web services for extraction of required information
	Use of XML for information storage and data exchange	Students know and are able to apply XML for information storage and exchange
	Apply Web services exchange model standards and protocols	Students demonstrates the ability to apply Web services exchange model standards and protocols
	Make use of design principles of Web services exchanges between the portals interface	Students complies with the design principles when creating the Web services exchanges between the portals interface
	Apply Web services design methods	Students create Web services applying appropriate design methods

Subject content

	Lecture topics and contents	Hours
1.	Network service organization by Web services.	3
2.	Web services architecture and functioning principles.	3
3.	XML basics and application.	3
4.	Message styles and protocols.	3
5.	SOAP role, structure and usage principles.	3
6.	WSDL language principles. WSDL document types. Application examples.	3

7.	UDDI technology. UDDI registry types.	3
8.	Web service agent roles. Web service agent models.	3
9.	Web services publishing and search mechanisms.	3
10.	REST technology and its application when designing WEB services.	3
	Total	30

Practical work contents

Practical work consists of analyzing existing in the Internet space web services, designing an appropriate web service by selecting its methods and implementing it using suitable software tools.

Evaluation of study results

Final written exam (50%), mid-term written exam (17%), and assessments of laboratory (practical) work (33%).

Distribution of subject study hours

Lectures	30
Laboratory work in computer class	30
Individual studies (including studies in groups, preparation for the mid-term and final exams)	48
Total	108

Recommended literature

No	Authors of publication and title	Number of copies available		
		<i>in the Library of VMU</i>	<i>in specialized publication collections at VMU</i>	<i>in other libraries</i>
Basic materials				
1.	Eric Newcomer. Understanding Web Services: XML, WSDL, SOAP and UDDI. ISBN 0-201-75081-3, Addison Wesley. Canada. 2002		1	
2.	Ethan Cerami. Web Services Essentials. O'Reilly 2002		1	
Supplementary materials				
1.	Patrick McKeown. Information Technology and the Networked Economy. The Global Text Project is funded by the Jacobs Foundation, Zurich, Switzerland. This book is licensed under a Creative Commons Attribution 3.0 License. 2009			
2.	Henry C. Lucas, Jr. Information Technology for Management. The Global Text Project is funded by the Jacobs Foundation, Zurich, Switzerland. This book is licensed under a Creative Commons Attribution 3.0 License. 2009			

Subject prepared and coordinated by

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