

Study program: Environmental Protection			
Course title: Information Systems			
Professor/assistant: Miloš B. Stojanović			
Type of course: elective			
ECTS credits: 6			
Pre-requisites: -			
Aims of the course: Prepare students to: become familiar with the basic methodology of the development of information systems such as SCRUM, OUP, MSF and others, introduce the concept of service-oriented modelling of the business processes, within which they will be taught to use the BPMN language, at the same time learning about basic concepts such as SOA, BPM and WS, learn possibilities of the BPEL language and the appropriate tools, understand the techniques and principles of objective-oriented analysis and information system design, use the Rational Software Architect tool in class, and solve tasks during lectures, define system architecture, recognize the appropriate design patterns, analysis and design of the overall system by using the UML language, introduce with pre-existing business solutions which are mostly implemented in large organizations (ERP, CRM, SCM, PLM).			
Learning outcomes: Student will be able to: model business processes using the DFD, IDEF0 and UML standards, understand information systems from various angles, from the aspect of implemented developed solutions, from the aspect of the development of specific systems, as well as solve any current problems in the IT domain which any modern institution may face.			
Syllabus			
<u>Theoretical part</u> The basic concepts of information systems. The methodology of the development of information systems (MSF, RUP, SCRUM, OUP). Modelling business processes (DFD, IDEF0, UML). Service-oriented modelling of business processes (SOA, BPM, WS, BPMN). Executing business processes (BPEL, ESB). An objective-oriented analysis of information systems. The design of information systems. The implementation and introduction of information systems. Business solutions (ERP, CRM, SCM, PLM). Intelligent business systems. Managing master data.			
<u>Practical part</u> Learning to use the Rational Software Architect tool. The use diagram. The activity diagram. The sequence diagram. The state diagram. The class diagram. The distribution diagram. The BPMN diagram. Using the RSA – added functionality, the component diagram.			
Literature			
<ol style="list-style-type: none"> 1. Petrović. S., <i>Informacioni sistemi proizvodnje</i>, Niš,2000. 2. Craig. L., <i>Applying UML and Patterns: An Introduction to Object-Oriented Analysis and Design and Iterative Development (3rd Edition)</i>, Prentice Hall, 2004. 3. Njeguš. A., <i>Poslovni informacioni sistemi</i>, Univerzitet Singidunum, Beograd, 2009. 			
Number of active classes			Other forms of teaching:
Lectures: 2	Practical classes: 2	Research work:	
Teaching methods Combined and interactive approach with practical problem solving.			
Grading system (maximum 100 points), grading scale from 5 to 10: below 51 points grade 5, grade 6 from 51-60 points, grade 7 from 61-70 points, grade 8 from 71-80 points, grade 9 from 81-90 points, grade 10 from 91-100 points.			
Pre-exam obligations	points	Final exam	points
activity during theoretical lectures	10	written exam	30
practical training	-	oral exam	-
colloquium(s)/seminar papers	40/20		
Sum	70	Sum	30