

Study programme: Bachelor of Science Geoinformatics			
Course title: Web-GIS (GIS403)			
Professor: PhD Marija Cimbajević			
Status of the course: Required			
ECTS credits: 6			
Prerequisite: none			
Course objectives The aim of the course is to learn the principles, concepts, techniques and importance of the application of Web-GIS technology.			
Course deliverables Students will be able to critically assess the development and impact of web-GIS technology from the perspective of today's user expectations and from the perspective of modern and flexible web architecture. At the same time, students will be practically trained to work with online layers, maps, tools and applications.			
Course content <i>Theoretical teaching</i> The emergence and development of the web and GIS. Basics of web technology. Basic web-GIS architecture and components. "Thin" and "thick" client architecture and user environment design. Functions of geospatial web services. Types of web services. Interoperability, standards and optimization of web services. Geospatial "mashups" - content, functions, design and implementation. Mobile GIS and web-GIS. Geoportals - concept, functions, architecture and examples of good practice. National geospatial data infrastructure in the Web 3.0 era. Volunteer geographic information and web-GIS. Challenges and opportunities of web-GIS. <i>Practical teaching</i> <i>ArcGIS</i> Online layers, maps, tools and applications. Maps as a service and weather animations. Work in different types of web applications. <i>Web AppBuilder</i> for ArcGIS. Online spatial analysis and geoprocessing services. ArcGIS API for JavaScript. <i>Collector</i> for ArcGIS. 3D web applications.			
Literature 1. Јовановић, В., Ђурђевић, Б., Срдић, З., Станковић, У. (2012). <i>Географски информациони системи</i> . Универзитет у Новом Саду. Природно-математички факултет, Универзитет Сингидунум; Нови Сад, Београд. 2. Fu, P. & Sun, J. (2010). <i>Web GIS: principles and applications</i> . Esri Press. Redlands. 3. Fu, P., & Pinder, E. (2016). <i>Getting to Know Web GIS: Second Edition</i> . Esri Press. Redlands.			
Teaching hours: 5	Lectures: 3	Practical instruction: 2	
Teaching methods Method of oral presentation Illustrative-demonstrative method (computer work) Practical teaching			
Assessment (maximum number of points 100)			
Pre-exam obligations	points	Final exam	points
Lecture preparation	5	written exam	
Practical instruction	5	oral exam	45
Midterm exam	20-40	
Presentation of the project	5		