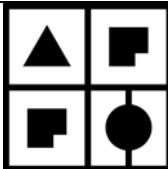


	UNIVERSITY OF BANJA LUKA				
	Bachelor academic studies Geodesy				
Course title	Cartography 3				
Acronym	Status	Semester	Number of lectures	Number of tutorials/practical	ESPB
K3	mandatory	7	3	2	6
Lecturer	prof. dr Gordana Jakovljević				
Prerequisites			Type of prerequisites		
Cartography 1			Passed		
Aim of the course					
Understanding the basic sources of 3D cartographic data, their analysis and processing, and the principles of cartographic representation, as well as the use of open-source technologies for the creation and distribution of digital maps.					
Learning outcomes					
Students are trained to apply different methods of collecting and processing digital spatial data, perform analyses for generating cartographic information, and distribute it through various media.					
Course content					
LECTURES: Fundamentals of digital cartography. Digital 3D cartographic data. Use of attribute data in cartography. Cartographic databases. The need for and tasks of map projection transformation in digital cartography; datum transformation. PROJ4 library. Digital visualization of cartographic information. 3D visualization. Terrain visualisation (Voronoi diagram, Deleuney triangulation, interpolation methods). CityGML, BIM. Standards. BIM2GIS. Cartographic generalization in the production of digital maps. Map design. Geoservices. Web cartography. EXERCISES: Development of a digital thematic map project. Definition of the project objective. Analysis and selection of appropriate cartographic data sources. Collection of cartographic data through automatic interpretation of remote sensing data. Datum transformation. Analysis and selection of methods for processing and visualizing cartographic data. Project implementation.					
Teaching methods					
Teaching is conducted through lectures and computer-based exercises. During the course, students are required to prepare a report (elaborate) of the graphic exercises. Students are also required to complete knowledge assessments (two theoretical midterm tests).					
Literature					
Jakovljevic, G., Govedarica, M., Brovelli, M.A., Introduction to GEOAI, AGGF, 2026. Grafarend, W. E. и Krumm, W. F.: Map Projections - Cartographic Information Systems, Springer-Verlag Berlin Heidelberg, 2006; Серапинас, Б.Б.: Математическая картография, ACADEMA, Москва, 2005; Јовановић, В.: Математичка картографија, Војногеографски институт, Београд, 1983.					
Methods of knowledge assessment and grading					
Activity		Pre-exam obligations		Exam	
5		65		30	
Note					

Students are required to attend classes and two theoretical midterm tests. The midterms may be retaken once. Students are also required to complete the Elaborate in a timely manner, in accordance with the assessment plan, and the report must be completed and approved before the semester. Final exams are held during official examination periods, in accordance with regulations. A student who is unjustifiably absent from more than 20% of classes must re-enroll in the course in order to gain the right to take the exam. Modernization of course through the activities of the ERASMUS project SKILL2SUSTAIN.

Name of lecturer that prepared syllabus
prof. dr Gordana Jakovljević