Name of the subject: Advanced methods in the analysis of natural disasters
Teacher(s): Branko Ristanović, Minučer Mesaroš
Status of the subject: elective
Number of ECTS points:15
Condition: -
Goal of the subject: Enabling students to independently apply advanced geoinformatics methods (remote sensing, GIS ...) in determining natural disasters.
Outcome of the subject: Improving the skills of using advanced spatial analyzes in GIS to solve specific problems that require quantification of criteria and results of geohazard zoning.
Content of the subject: *Theoretical lectures:* Introduction to natural disasters. Assessment and zoning of disasters and risks of earthquakes, landslides, landslides, torrential floods, droughts, storm with thunder and hail. Application of zoning hazards of earthquakes, landslides, landslides, torrential floods, droughts, storm with thunder and hail. Methods of zoning hazards of earthquakes, landslides, landslides, torrential floods, droughts, storm with thunder and hail. *Practical lectures:* Landslide identification - stereoscopic landslide analysis. Application of quantitative methods in determining the degree of intensity of erosive processes during torrential floods. Data entry and data organization in GIS. Input data for geospatial analyzes of natural disasters (earthquakes, landslides, landslides, torrential floods, droughts, storm with thunder and hail) in GIS (inventory map, morphological factors) and their mapping. Spatial analyzes in GIS - creation of derived maps (geological and anthropogenic factors).

Recommended literature: Fell, R., Whitt, G., Miner, A. Flentje, P. N. (2007). Guidelines for landslide susceptibility, hazard and risk zoning for land use planning. University of Wollongong, Faculty of Engineering and Information Sciences, Australian Geomechanics Journal, 42 (1), 13-36; Saunders, W, & P. Glassey (Compilers) 2007. Guidelines for assessing planning, policy and consent requirements for landslide-prone land, GNS Science Miscellaneous Series 7; Burrough P. A., McDonnell R. A. (2006). Принципи Географских информационих система, Грађевински факултет Универзитета у Београду; Pourghasemi, H.R., Rossi M. (eds.) (2019). Natural Hazards GIS-Based Spatial Modeling Using Data Mining Techniques, Springer International Publishing.

Number of active classes:	**Theory:** 5	**Practice:** 5
Methods of delivering lectures: Lectures, individual consultations, work in GIS laboratory, project tasks.		
Evaluation of knowledge (maximum number of points 100): Project task 50 points Oral exam 50 points		