

Study programme: Bachelor with honours in Geography Teaching, Bachelor with honours in Geography, Integrated Academic Studies			
Course title: Mathematical Geography with basics of Astronomy			
Teacher(s): dr Dragan M Dolinaj			
Status: compulsory			
ECTS: 6			
Recuirements: none			
Learning objectives Introduction to basic astronomic processes, as well as analysis of planetary movements and interplanetary gravitation influences.			
Learning outcomes Expanding knowledge about the basic characteristics of the Universe, Solar system, interplanetary processes and movement of the Earth. The knowledge of the Planetary characteristics, Earth's movements, time units, thermal bands, shift the annual home timer zones, local and world time, the geographic coordinate system and the calendars. This is of great importance for the understanding the physical and socio-geographical phenomena.			
Syllabus <i>Theoretical part:</i> Mathematical Geography: definition, subject, aim and tasks: basic planetary characteristics of the Earth and astronomical surroundings; Kepler's laws and laws of gravitation; Stars: evolution, physical and chemical characteristics; Galaxies, radio galaxies and quasars; Solar system: the Sun (physical, chemical characteristics, composition), planets: Earth type planets, and Jupiter type planets, satellites, Moon (dimensions, relief, movement and consequences – librations, Sun and Moon eclipse), comets and asteroids. A brief history of the study of the basic characteristics of the Earth as a planet. Analysis of the shape of the Earth, its size and movement of the Earth. Disturbances in the movement of the Earth. The consequences of shape and movement of the Earth. Shifts day and night, angular speed, time zone, world time, heat belts ... Elements of geographic coordinate system, latitude and longitude, saving time, day, month, year. History and types of calendars, assembling calendars. Cosmic impacts on natural processes on Earth. <i>Practilac part:</i> Visit to the Petrovaradinska Fortress, where the orientation is explained. Visit to the provincial Planetarium. Students are introduced to segments of the star planetarium in Belgrade.			
Literature 1. Đere, K. i Bugarski, Dragoljub (1996): Matematička geografija. Univerzitet u Novom Sadu, PMF, Institut za geografiju, Novi Sad: 1-99. 2. Dolinaj, D. 2014. Osnovi astronomije za geografe. Prirodno-matematički fakultet, Novi Sad. 3. Rakićević, T. (1978): Opšta fizička geografija. Naučna knjiga, Beograd. 4. Tadić, M. (2005): Matematička geografija. ZZIU RS, Beograd.			
Weekly teaching load 5 (75)	Lectures 3	Exercises 2	
Methods of Teaching Lectures, illustration and demonstration, practical skills			
Grading method (maximu 100 points)			
Pre-examination assignments	points	Final examination	points
Activities during lectures	0-5	Written examination	
Activities during exercises	0-5	Oral examination	30-45
Colloguia	20-40	
Seminar paper	0-5		