

<b>Study programme:</b> Master Academic Studies – Astronomy and Astrophysics			
<b>Course name:</b> Stellar systems			
<b>Lecturers:</b> Nadežda Pejović			
<b>Status:</b> Optional			
<b>ECTS:</b> 9			
<b>Attendance prerequisite:</b> None			
<b>Course aims:</b> Study the characteristic of stars, stellar clusters, interstellar medium, galaxies and galactic clusters.			
<b>Course outcome:</b> Understanding the principles of stellar kinematics and dynamics of stellar systems. Apart from understanding stellar motions, the student develops knowledge of galaxy structure and galactic clusters.			
<b>Course content:</b> Milky Way. Statistical methods. Galactic coordinate system. Photometric system of star sizes. Spectral classification of stars. Bolometric star sizes. Stellar parallaxes (trigonometric, dynamic and spectral parallaxes). Stellar luminosity. H-R diagram. Photometric distances and parallaxes. Proper motion and radial velocity of a star. Mass of stars. Mass-luminosity relation.. Interstellar matter, extinction, absorption. Sources of radiation (gamma, X-ray, UV, radio). Spatial velocities of stars and their components. Movement of the Sun. Methods for determining Sun's motion. Determination of the Solar apex motion. Statistical parallax. Peculiar star velocities and their distribution. Galaxies. Structure and classification of galaxies. Luminosity function. Stellar clusters. Open clusters. Stellar associations. Grouping of young stars. Spiral structure of the galaxy. Halo stars. Globular cluster. Stellar density function. Galaxy mass. Populations in a galaxy. Apparent distribution of galaxies. Evolution of galaxies. Galaxy groups. Stability of stellar systems.			
<b>Literature:</b> Binney, J. Tremaine, S.: 1987, Galactic Dynamics, Princeton University Press. P.G. Kulikovskii, Star Astronomy, Moscow, 1985 Exercise materials ( <a href="http://poincare.matf.bg.ac.rs/~rviktor/">http://poincare.matf.bg.ac.rs/~rviktor/</a> )			
<b>Number of classes of active teaching:</b> 7	<b>Theoretical:</b> 3	<b>Lab and practical work:</b> 2+2	
<b>Teaching methods:</b> Frontal, practical, SRI			
<b>Assessment (maximal 100 points)</b>			
<b>Course assignments</b>	<b>points</b>	<b>Final exam</b>	<b>points</b>
Lectures	30	Written exam	
Exercises / Tutorials		Oral exam	35
Colloquia		Written-oral exam	
Essay / Project			
Lectures	35	Written exam	