Studying programmes: Astronomy and Astrophysics - PhD studies	
Course name: Selected Topics of Galactic Astronomy	
Lecturers: Bojan Arbutina	
Status: Optional	
ECTS: 9	
Attendance prerequisites: None	
Course aims: Obtaining general and specific knowledge in galactic astronomy.	

Course outcome: After finishing the course, PhD student will have basic knowledge concerning the Milky Way and become qualified for future research in this field.

Course content: History. Milky-Way Structure concerns the Milky-Way statistics and kinematics. Methods of three-dimensional star counts and derivation of spatial-distribution law. Distance of the Sun to the Milky-Way centre. Mass and metallicity distributions of stars. Phase space. Solar motion, velocity ellipsoid, partial centroid. Subsystems. Rotation curve.
Milky-Way dynamics in the solar neighborhood. Dynamical constants. Interpretation of rotation curve. Potential of the Milky Way. Central massive black hole, dark matter, orbits around the centre of the Milky Way.
Local Group of Galaxies. Subgroups of the Milky way and Andromeda Nebula. Missing mass in the Local Group.

Literature:
Binney, J. & Merrifield, M. 1998, Galactic Astronomy, Princeton Univerity Press, Princeton, New Jersey
Binney, J. & Tremaine, S. 2008, Galactic Dynamics – 2nd Edition, Princeton Univerity Press, Princeton, New Jersey
Maročnik, L. S. Сучков А. А. Галактика, 1984, Москва (in Russian).

Number of hours: **10**	Lectures: **4**	Tutorials: **6**

Teaching and learning methods: Frontal, practical

Assessment (maximal 100 points)			
Course assignments	**points**	**Final exam**	**points**
Lectures	10	Written exam	
Exercises / Tutorials	30	Oral exam	60
Colloquia			
Essay / Project			