

Level: bachelor			
Course title: General Astronomy			
Status: elective			
ECTS: 6			
Requirements:			
Learning objectives			
Acquiring general and specific knowledge in astronomy as the basis for attending the advanced and specific courses in the field of astronomy and astrophysics.			
Learning outcomes			
After attending the course and passing the exam, a student should have developed:			
- General abilities:			
The student is familiar with basic phenomena and concepts in astronomy and astrophysics, knows basic physical laws and understands the basic physical processes that take place on various celestial bodies, primarily the stars and planets. The student also has knowledge about structure and dynamics of the systems of celestial bodies.			
- Subject-specific abilities:			
The student is able to solve basic problems in astronomy and attend advanced courses in astronomy and astrophysics.			
Syllabus			
<i>Theoretical instruction</i>			
Spherical Astronomy: Celestial sphere and its elements. Coordinate systems. Specific positions of celestial bodies in the celestial sphere. Apparent motion of the Sun, Moon, and the planets. Phenomena that alter the apparent position of the celestial body (refraction, parallax, light aberration, precession, nutation, proper motion).			
Time scales: Sidereal time. Mean time (zonal, official). The irregularities of the Earth's rotation. Ephemeris time. Atomic time. Dynamical time scales. Proper and coordinate time. Universal time. Calendars.			
Celestial bodies and systems of celestial bodies: Planets, asteroids, comets, stars, solar system, star associations and clusters, galaxies, Milky Way.			
Basics of celestial mechanics: Newton's law of universal gravitation. Kepler's laws of planetary motion. Problems of two and three bodies. Disturbances of planetary orbits and stability of the solar system. The influence of relativistic effects - motion of the perihelion of Mercury's orbit.			
<i>Practical instruction</i>			
Transformations of the coordinate systems. Calculation of rising, setting and transit times. Determination of the apparent motion of inner and outer planets. Calculation of the effects of refraction, parallax, light aberration, precession, nutation and proper motion on the apparent positions of celestial bodies.			
Weekly teaching load			Other:
Lectures: 3	Exercises: 2	Other forms of teaching:	