Study programmes: Bachelor studies – Astronomy and astrophysics, Mathematics	
Course name: General astronomy 1	
Lecturers: Bojan Novaković	
Status: Compulsory	
ECTS: 5	
Attendance prerequisites: No prerequisites	
Course aims: Obtaining general and specific knowledge from spherical and positional astronomy.	
Course outcome: Upon course completion, a student has the necessary skills and knowledge in general astronomy. He understands basic terms such as: spherical triangle, celestial sphere, celestial coordinate system, time systems, universal time, constellations, true and apparent movements of celestial bodies, etc. Student is able to solve exercises from spherical and positional astronomy and he could find objects on the sky, and he is able to follow more advanced courses in astronomy.	

Course content:

Spherical trigonometry: basic formulas. Polar spherical triangle. Coordinate systems (alt-azimuth system, equatorial coordinate systems, ecliptic and galactic systems). Solutions of spherical triangle PnZΣ. Rising and setting, meridian circle, the greatest elongation, first vertical circle. Rate of change of zenith distance and azimuth. Stars (brightness, magnitude, spectral type) and star systems. Constellations (circumpolar, seasonal). Star charts. Sidereal time. Universal time. Movement of Earth poles. Irregularities in Earth rotation rate. Ephemeris time. Atomic time. New time systems: TDT and TDB. Proper and coordinate time. Year (types and definition). Julian and Bessel year. Calendars. Solar System. Terrestrial planets (Mercury, Venus, Earth, Mars), Jovian planets (Jupiter, Saturn, Uranus, Neptune). Moon and satellites of other planets. Meteors and meteorites. Comets. Asteroids. TNOs. Ticius – Bode progression. Apparent annual movement of the Sun and its consequences. Apparent movement of the Moon. Copernicus heliocentric system. True movement of the Earth, Moon, and other Solar System bodies. Orbital elements. Polar coordinates of planets. Kepler's equation. Ephemeris of the planets. Occultations.

Literature:

1. S. Šegan, N. Pejović , *Osnovi astronomije* (http://astro.matf.bg.ac.rs/osnovi.pdf);
2. B. Ševarlić, Z. Brkić, *Opšta astronomija*, Naučna knjiga, Beograd, 1981
3. R. Green, *Spherical Astronomy*, Cambridge Univ. Press, 1977.
4. V. Mišković, *Zbirka rešenih zadataka iz opšte astronomije,* 1956, Beograd
(http://elibrary.matf.bg.ac.rs/handle/123456789/650)

Number of hours: 6	Lectures: 2	Tutorials: 2	Laboratory: 1	Research: -

Teaching and learning methods: Frontal, Interactive, Tutorial, Lectures, Exercises

Assessment (maximal 100 points)				
Course assignments	**points**	**Final exam**		**points**
Lectures	-	Written exam		25
Exercises / Tutorials	-	Oral exam		50
Colloquia	25	Written-oral exam		
Essay / Project	-			