Study programmes: Bachelor studies – Astronomy and astrophysics, Mathematics	
Course name: General astronomy 2	
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: deep sky objects (nebulas, galaxies etc.), astronomy refraction, parallax, aberration, precession, nutation and proper movement. Student understands basic laws of gravitation and movement of planets. Student is able to solve exercises in this area and he could find objects on the sky, and he is able to follow more advanced courses in astronomy.

Course content:

Astronomical refraction and its influence on coordinates of the stars. Twilights. Diurnal and annual parallax and influence on coordinates. Diurnal and annual aberration. Luna-solar precession. Planetary precession. General precession. Milanković's cycles. Nutation and its influence of apparent position of the stars. The proper motion of the stars. Radial velocity. Mean, true and apparent position. Secular and annual changes. Reduction of coordinates. Astronomical yearbooks. Star catalogues. Systematic errors in the star catalogues. Two body problem. Newtonian law of the gravity. Equations of the movement of the planets. Kepler's laws. Determination of the masses of the planets, Moon and Sun. The N-body problem. Disturbing function. Tides. Meridian circle: general description. Instrumental error: azimuth, level and collimation error. Sundial watch. The measurement of declination and right accession. Astrophotography. Telescopes: optical, radio telescopes, Hubble telescope. Cosmic missions. Our galaxy. Deep sky objects (star systems, nebulas, galaxies, quasars, black holes, etc.).

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	-			