

Study programs: Bachelor studies – Informatics			
Course name: Basics of astronomy			
Lecturers: Bojan Novaković			
Status: Elective			
ECTS: 6			
Attendance prerequisites: No prerequisites			
Course aims: Acquiring general and specific knowledge in astronomy.			
Course outcome: Upon completion of the course, the student has a basic astronomy knowledge. Student understands terms: celestial sphere, celestial coordinate systems, Solar systems, planets, asteroids, stars, galaxies. He is able to use his computer science knowledge in order to visualize and solve different astronomical problems.			
Course content:			
1. Coordinate systems and motion of the celestial bodies. Basic elements of the celestial sphere. Apparent motion of the celestial sphere. Constellations. Apparent motion of the Sun. Ecliptic. Coordinate systems (alt-azimuth, equatorial, ecliptic). Basic equations of spherical trigonometry. Special positions of the bodies on the celestial sphere. Distances and annual parallax. Kepler's laws and motion of the planets. Time systems.			
2. Celestial bodies: Solar system (Sun, planets, comets, asteroids). Extrasolar planets (detection methods, statistic of discovered planets, basic properties). Stars (spectra, temperature, brightness, evolution). Galaxy.			
3. Computers in astronomy. Applying computers in order to visualize problems. Overview of basic packages. Programming languages JAVA and Flash and their application in astronomy: examples and development of concrete solutions (application).			
4. N-body problem. Basics of theoretical aspects. Solving N-body problem with numerical simulation. Modeling of the Solar system.			
Literature:			
1. B. Ševarlić, Z. Brkić, Opšta astronomija, Naučna knjiga, Beograd, 1981			
2. The Nebraska Astronomy Applet Project(http://astro.unl.edu/naap/)			
3. S. Šegan, N. Pejović, Osnovi astronomije (http://www.matf.bg.ac.rs/astronomija/spe07.htm)			
4. V. Mišković, Zbirka rešenih zadataka iz opšte astronomije, Beograd, 1957			
5. B. Novaković, Planetarna astronomija, Beograd, 2014, lecture notes			
Number of hours: 5	Lectures: 2	Tutorials: 3	Laboratory: -
Research: -			
Teaching and learning methods: Frontal, Interactive, Tutorial, Lectures, Exercises			
Assessment (maximal 100 points)			
Course assignments	points	Final exam	points
Lectures	10	Written exam	-
Exercises / Tutorials	-	Oral exam	-
Colloquia	30	Written-oral exam	60
Essay / Project	-		