Study programmes: Bachelor studies – Astronomy and Astrophysics

Course name: History of astronomy

Lecturers: Dejan Urošević

Status: Compulsory

ECTS: 5

Attendance prerequisites: None

Course aims: Acquiring basic knowledge in history of astronomy

Course outcome: At the end of the course student has basic knowledge in history of astronomy. Student is trained to unite through historical perspective, all of his knowledge which he gathered during the studies.

Course content: Beginning of astronomical science in China, Egypt and Mesopotamia. Stonehenge. Astronomy of ancient Greeks in conclusion with Aristotle. Alexandrian school (Aristarchus, Apollonius, Eratosthenes, Hipparchus, Ptolemy). Medieval astronomy (Arabic astronomy, west Europe and Byzantine astronomy). Revival in astronomical science (Copernicus, Tycho, Kepler, Galileo, Huygens, Newton). Beginning of rapid evolution of practical astronomy (Romer, Halley, Flamsteed, Bradly, Maillard, Lacaille, Maskelyne). Beginning of theoretical astronomy (Bernoulli, Euler, Clairaut, d'Alembert, Lagrange, Laplace). Measuring Earth. Determining astronomical unit. Beginnings of stellar astronomy (Herschel). Discovering new giant planets (Herschel, Adams, Le Verrier, Loewy, Tombaugh) and small planets (Piazzi, Gauss, Olbers, Kirkwood, Kuiper). Development of meteor astronomy (Chladni, Stojković). Development of telescopes: refractors (Dollond, Fraunhofer, Foucault, Clark) and reflectors (Gregory, Newton, Herschel), all way to the present days (adaptive optics, multiple mirrors, satellite telescopes). Further development of observational astronomy (Bessel, Struve, Pickering). Further development of celestial mechanics (Adams, Le Verrier, Newcomb, Poincare). Beginning of astrophysics (Kirchhoff, Draper, Lockyer, Janssen). Beginning of galactic astronomy (Leavitt, Shapley, Oort, Baade). Improvement of studying Sun (Schwabe, Carrington, Hale, Babcock). Beginning of extragalactic astronomy (Hubble, Humason, Baade, Sandage, Schmidt). Beginning of theory of stellar structure and evolution (Schwarzschild, Saha, Eddington, Payne-Gaposchkin, Chandrasekhar, Bethe). Development of radio astronomy (Jansky, Reber, Hey, Hulst). Development of satellite astronomy, Astronautic era. Development of non-optical astronomy. Development of cosmology (Kant, Laplace, Jeans, Oparin, Alfen, contemporary hypothesis). Development of scientific cosmology (Gamow, Dicke, Peebles, Gutt, Linde). Astronomical Nobel prize winners for physics. Short review of astronomy development in Serbs.

Literature:

1. Panekuk: Istorija astronomii, Mir,Moskva, 1973
2. Milutin Milanković: Istorija astronomske nauke od njenih prvih početaka do 1727., Naučna knjiga , Beograd, 1979
3. B. Ševarlić: Istorija od Njutnova doba, Naučna knjiga, Beograd,1980
4. Nenad Dj. Janković: Astonomija u starim srpskim rukopisima, SANU, Beograd, 1989

Number of hours: 4	**Lectures: 4**	**Tutorials: 0**

Teaching and learning methods: Frontal, Group work, Exercises

Assessment (maximal 100 points)

Course assignments	**points**	**Final exam**	**points**
Lectures	50	Written exam	
Exercises / Tutorials		Oral exam	50
Colloquia			
Essay / Project			