



COURSE DATASHEET

Semester:	2013/14/1
Course:	History of Cosmology
Code:	VEMKFISV12K
Responsible department:	Institute of Physics and Mechatronics
Department code:	MKFI
Responsible instructor:	dr. Csaba Németh

Course objectives:

This course is intended to be a science history focusing the developing theories concerning our universe. The main objectives are: to help understand the thinking methods in different ages and cultural backgrounds with following the ideas about the universe in chronological order. In the mirror of the life of some outstanding scientist you can learn about the psychology of scientific research.

Course content:

1. The universe and the thinking man. Science, history of science. 2. The mythological beginning - the Turtle, the Giant and the Gods. 3. That wonderful Greeks! – the birth of science. 4. Long Dark Middle Age – Copernicus put the Sun in its right place. (Geocentric and heliocentric models.) 5. The Silvernose, the Pocky and the Prisoner – Brahe, Kepler, Galilei. 6. The word had put in the right place - Newton put it there. 7. Einstein makes the space-time to curve – from the speed of light to the general relativity. 8. Universe models after the general relativity. The developing of the telescopes – Observation but what and how? 9. Expanding universe - Hubble and the galaxies. 10. The Yelm and the C-field – the primordial soup of Gamow and Hoyle's Steady State Universe. 11. Where the little and the big reach each other – the alchemy of the Universe. 12. The short story of the radio astronomy. The CMB – the guano and the Nobel prize. 13. Lumps in the (primordial) soup - the discontinuity in the CMB. Inflationary Universe - Big Bang reloaded. 14. The beginnings and the ends – scenarios for the Universe. 15. Dark matter, dark energy, multiversum – the endless boundaries of our ignorance.

Requirements, evaluation and grading:

exam

Required and recommended readings:

Simon Singh: A nagy bumm, Park, Könyvkiadó, Budapest, 2007. Arthur Koestler: Alvajárók, Európa Kiadó, 2007. Simonyi Károly: A fizika kultúrtörténete, Gondolat Kiadó, 1978. Timothy Ferris: A vörös határ, Gondolat Kiadó, Budapest, 1985. <http://tudasbazis.csillagaszat.hu/> Wikipedia (<http://hu.wikipedia.org/wiki/>; <http://en.wikipedia.org/wiki/>)