**Module title**
Astrophysics

**Abbreviation**
11-A4-141-m01

**Module coordinator**
Managing Director of the Institute of Theoretical Physics and Astrophysics

**Module offered by**
Faculty of Physics and Astronomy

**ECTS**
6

**Method of grading**
numerical grade

**Only after succ. compl. of module(s)**
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**Duration**
1 semester

**Module level**
undergraduate

**Other prerequisites**
Certain prerequisites may have to be met to qualify for admission to assessment: a) approx. 50% of exercises (approx. 6 to 12 exercise sheets; time to complete: 1 to 2 weeks each) to be completed correctly or b) preparing and delivering a seminar presentation or c) preparing a report on the progress and/or results of a project (approx. 8 to 10 pages).

**Contents**
History of astronomy, coordinates and time measurement, the solar system, size scales in outer space, telescopes and detectors, stellar structure, stellar atmospheres, stellar evolution, final stages of stellar evolution, inter-stellar medium, structure of the Milky Way, local universe, expanding space-time, galaxies, active galactic nuclei, large-scale structure of the universe, Friedmann World Models, thermodynamics of the early universe, primordial nucleosynthesis, cosmic microwave background radiation, structure formation, inflation

**Intended learning outcomes**
The students are familiar with the modern world view of Astrophysics. They know methods and tools for astrophysical observations and evaluations. They are able to use these methods to plan and analyse own observations. They know the structure of the universe, e.g. of stars and galaxies and understand the process of their development.

**Courses**
V + S (no information on SWS (weekly contact hours) and course language available)

**Method of assessment**
(a) written examination (approx. 120 minutes, for modules with less than 4 ECTS credits approx. 90 minutes; unless otherwise specified) or b) oral examination of one candidate each or oral examination in groups (approx. 30 minutes per candidate, for modules with less than 4 ECTS credits approx. 20 minutes) or c) project report (8 to 10 pages, time to complete: 1 to 4 weeks) or d) presentation/seminar presentation (approx. 30 minutes)

**Allocation of places**
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**Additional information**
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**Referred to in LPO I** (examination regulations for teaching-degree programmes)
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**Module appears in**
Bachelor' degree (1 major) Aerospace Computer Science (2014)