Elective Advanced Lectures: Modern Astrophysics - astro850

Module No.	**astro850**
Category	Elective
Credit Points (CP)	
Semester	1.-2.

Module: Elective Advanced Lectures: Modern Astrophysics

Module Elements:

Nr	Course	Course No.	CP	Artkurz	Teaching hours	Semester
1	Radio and X-Ray Observations of Dark Matter and Dark Energy	astro8503	4	Lect. + ex.	2+1	WT
2	Star Formation (MA)	Star Formation	3	Lect. + ex.	2	WT
3	Galaxy Dynamics (MA)	Galaxy Dynamics	4	Lect. + ex.	2+1	WT
4	Astrophysics II (MA)	Astrophysics II	8	Lect. + ex.	4+1	WT
5	Astrophysics Courses from Cologne marked "MA"	see catalogue	3-8	see catalogue		WT/ST
6	Lecture on Advanced Topics in Modern Astrophysics	astro8504	4	Lect. + ex.	2+1	WT/ST
7	Internships in the Research Groups	astro831	4	internship		WT/ST
8	The Physics of Dense Stellar Systems as the Building Blocks of Galaxies	astro8531	6	Lect. + ex.	3+2	WT
9	Selected 85* courses from catalogue	astro85*	3-6	see catalogue		WT/ST
10	Also possible classes from M.Sc. in Physics					
11	Stellar and Solar Coronae	astro851	4	Lect. + ex.	2+1	ST
12	Gravitational Lensing	astro852	4	Lect. + ex.	2+1	ST
13	Numerical Dynamics	astro854	4	Lect. + ex.	2+1	ST
14	Quasars and Microquasars	astro856	3	Lecture	2	WT
15	Star Formation	astro857	4	Lect. + ex.	2+1	WT
16	Nucleosynthesis	astro858	6	Lect. + ex.	3+1	ST
17	The cosmic history of the intergalactic medium	astro859	4	Lect. + ex.	2+1	WT
18	Binary Stars	astro8501	4	Lect. + ex.	2+1	ST
19	Physics of Supernovae and Gamma-Ray Bursts	astro8502	4	Lect. + ex.	2+1	WT

Requirements for Participation:

Form of Examination: written examination

Content: This module contains a number of lectures on various astrophysical phenomena, from stars to the largescale structure of the universe

Aims/Skills: The student shall acquire deeper knowledge of a variety of astrophysical phenomena, from stars through large-scale structure to cosmological aspects. The physical mechanisms and mathematical tools

required to understand these phenomena shall be conveyed, complementing what is being treated in the compulsory astrophysics courses

Course achievement/Criteria for awarding cp's: see with the course

Length of Module: 1 semester

Maximum Number of Participants: ca. 100

Registration Procedure: s. https://basis.uni-bonn.de u. http://bamawww.physik.uni-bonn.de

Note: The students must obtain 18 CP in all out of the modules astro840 and astro850.