Physics of Compact Objects
Thomas Tauris
AAU, autumn 2023

Course Table

Week	Date	Topic	Activity
36		1. Introduction to Compact Objects (self study!)	
37	11 Sept.	2. Degenerate Fermi Gases Aud. 2.115 @ 08:15-10:00	Lecture: 2 hours Chapter 2 Monday Exercises: #20, 22
38	18 Sept.	3. Structure of White Dwarfs (Cold Eq. of State Below Neutron Drip) Aud. 2.115 @ 08:15-12:00	Lecture: 2 hours Chapter 2/3 Monday Exercises: #21
39	25 Sept.	4. Cooling of White Dwarfs Aud. 2.115 @ 08:15-12:00	Lecture: 2 hours Chapter 4 Monday Exercises: #23, 24
40	2 Oct.	5. Structure of Neutron Stars Aud. 2.115 @ 08:15-10:00	Lecture: 2 hours Chapter 8/9 Monday Exercises: #5, 6, 12, 14
41	9 Oct.	6. Radio Pulsars, Magnetars + Spin and B-field Evolution of Neutron Stars Aud. 2.115 @ 08:15-10:00	Lecture: 2 hours Monday Chapter 10 + notes Exercises: #1-4
42	16 Oct.	Autumn break Autumn break	
43	23 Oct.	7. X-ray Binaries Aud. 2.115 @ 08:15-10:00	Lecture: 2 hours Monday Tauris & van den Heuvel: Chapter 6/7/9/10/11 Exercises: # 9-11, 16
44	30 Oct.	8. Recycling Millisecond Pulsars + Accretion Physics Aud. 2.115 @ 08:15-12:00	Lecture: 2 hours Monday Tauris & van den Heuvel: Chapter 7/14 Exercises: #13, 15, 19
45	6 Nov.	9. Introduction to Black Hole Spin Aud. 2.115 @ 08:15-10:00	Lecture: 2 hours Monday McClintock et al. (2013), Chapter 12 (14) Tauris & van den Heuvel: Chapter 7 Exercises: #17, 18, + 4 phases of accretion
46	13 Nov.	10. Gravitational Waves: Sources and Detection Aud. 2.115 @ 08:15-12:00	Lecture: 2 hours Monday Riles (2013), Chapter 16 Tauris & van den Heuvel: Chapter 15 Exercises: #7, 8 + evaluation
47	~~20 Nov.~~ Oct. 31	Course summary Aud. 2.115 @ 10:15-11:00	(Lecture)
48	27 Nov.	Study for exam (in groups / on your own)	
49	4 Dec.	Study for exam (in groups / on your own)	
50	11 Dec.	Study for exam (Question hour 09:15-10:30)	
51	14 Dec.	Exam	Oral Exam, Dec.14: 9:00-12:00 (alphabetic order by last name)
52-Jan			

Lectures: Mondays usually 08:15-10:00, room 2.115 (see Moodle / course webpage for info)
Exercises: Mondays usually 10:15-12:00, student room