

Lecturers	Federico Felici (FF), Antoine Merle (AnM), Adriano Mele (AdM), Holger Reimerdes (HR), Alessandro Pau (AP), Cristian Galperti (CG)				
Assistants group 1	Adriano, Francesco P, Jean-Pierre, Sara, Reinart, Pedro				
Assistants group 2	Cassandre, Cosmas, Antonia, Guillaume, Michele, Lili				
Assistants group 3	Yoeri, Cristina, Francesco C.				
Control & Operations of Tokamaks 2025 - Preliminary Schedule (v1.4, 12.02.2025)					
Date/Time	Session ID	Description	Room	Lecturer/Assistants	exam material
Pre-course					
		Control prerequisite exercises		Adriano Mele	
Week 1					
Monday 3.2.2025					
9:00-9:45	Lecture 0	General Introduction	CO2	Federico Felici	*
9:45-11:00	Lecture 0	Basic control recap	CO2	Adriano Mele	*
11:00-12:30	Lecture 1	Magnetic Control 1: Currents & Fields	CO2	Federico Felici	*
13:30-15:15	Lecture 1	Magnetic Control 1: Currents & Fields	CO2	Federico Felici	*
15:30-17:30	Exercise 1	Exercise 1: PF coil current control	CO4, 5 & 6	Assistants Group 1	*
Tuesday 4.2.2025					
9:00-10:45	Lecture 2	Magnetic control 2: Ip control & Mag Measurements	CO2	Federico Felici	*
11:00-12:30	Exercise 2	Exercises: Ip control / plasma reconstruction	CO4, 5 & 6	Assistants Group 1	*
13:30-15:00	Exercise 2	Exercises: Ip control / plasma reconstruction	CO4, 5 & 6	Assistants Group 1	*
15:00-17:45	Lecture 3	Magnetic control 3: RZ control	CO2	Federico Felici	*
Wednesday 5.2.2025					
9:00-10:45	Lecture 3	Magnetic control 3: RZ control	CO2	Federico Felici	*
11:00-12:30	Exercise 3	Exercises: R,Z control	CO4, 5 & 6	Assistants Group 1	*
13:30-15:30	Exercise 3	Exercises: R,Z control	CO4, 5 & 6	Assistants Group 1	*
15:30-17:00	Lecture 4	Magnetic control 4: Grad-Shafranov equations & Free boundary inverse solvers	CO2	Antoine Merle	*
17:00-17:30	Lecture 4	MEQ suite of codes, FBT & LIUQE	CO2	Antoine Merle	*
Thursday 6.2.2025					

9:00-11:00	Exercise 4	Equilibrium code exercises: FBT & LIUQE	CO4, 5 & 6	Assistants Group 2	*
11:00-12:30	Lecture 5	MHD limits and MHD control	CO2	Antoine Merle	*
13:30-15:30	Lecture 6	Technology lecture	CO2	Cristian Galperti	
15:30-16:45	Poster session	Mini poster session	BC Hall	Sara + Cosmas	
17:00-18:30	Visit	TCV/SPC visit	TCV / PPH	Cassandre	
19:30-?	Social event	Social event: Dinner at Chalet Suisse	Chalet Suisse	Pedro Molina	
Friday 7.2.2025					
9:00-11:00	Exercise 5	Free time for exercises	CO4, 5 & 6	Assistants Group 1+2	
11:00-12:30	Lecture 6	Kinetic control actuators & diagnostics, 0D kinetic control	CO2	Federico Felici	
13:30-15:45	Lecture 7	Divertor heat flux control	CO2	Holger Reimerdes	
16:00-17:45	Exercise 6	0D kinetic control exercise	CO4, 5 & 6	Assistants Group 1+2	
Saturday 8.2.2025		Optional Snow Activity		Reinart Coosemans + Pedro Molina	
Week 2					
Monday 10.2.2025					
9:00-10:30	Exercises	Free time for exercises	CO5 & 6	Assistants Group 1 + 2	
10:30-12:30	Lecture 8	Magnetic control 5: Free boundary evolution & pulse planning	CO2	Federico Felici	*
13:30-15:00	Exercise 7	Free boundary evolution exercise	CO2		
15:00-17:30	Lecture 8b	Equilibrium evolution control + MPC	CO2	Adriano Mele	
Tuesday 11.2.2025					
9:00-11:00	Lecture 9a	1D profile dynamics and control	CO2	Federico Felici	*
11:30-12:45	Lecture 9b	State observers and applications to density control	CO2	Francesco Pastore	
14:00-14:30	Lecture 9c	Kinetic Pulse Planning on TCV	CO2	Cassandre Contré	
14:30-15:00	Exercise 8	RAPTOR/TORAX exercise intro	CO5 & 6	Cassandre Contré	
15:00-17:30	Exercise 8	RAPTOR/TORAX exercise	CO5 & 6	Assistants Group 1 + 2	
Wednesday 12.2.2023					
9:00-11:30	Lecture 11a	Machine Learning for plasma control	CO2	Alessandro Pau	*
11:30-12:30	Lecture 11b	Magnetic control of TCV through deep Reinforcement Learning	CO2	Federico Felici	

13:30-16:00	Exercise 9	ML for fusion exercise	CO5 & 6	Assistants Group 3	
16:00-17:30	Lecture 10	Emerging topics: supervisory control & actuator management, needs for ITER, etc	CO2	Federico Felici	
Thursday 13.2.2023					
9:00-11:30	Exercise	Free time for exercises	CO5 & 6	Assistants Group 1+2+3	
11:30-12:30	Exercise	Free time for exercises	CO5 & 6	Assistants Group 1+2+3	
13:30-15:00	Exercise	Free time for exercises	CO5 & 6	Assistants Group 1+2+3	
15:00-16:00	Exercise	Free time for exercises	CO5 & 6	Assistants Group 1+2+3	
16:00-17:30	Exercise	Free time for exercises	CO5 & 6	Assistants Group 1+2+3	
Friday 14.2.2023					
AM	Exercise	Free time for exercises Oral Exams	CO5 & 6	Assistants Group 1+2+3	
PM	Exercise	Free time for exercises Oral Exams	CO5 & 6	Assistants Group 1+2+3	