

## Track 5 Science and Discovery

	A	B	C	D	E
<b>Quarter 1</b>	6a. 5CTA0 Statistical signal processing		1. 5ARB0 Data acquisition and analysis	3. 5ARA0 Software engineering for artificial intelligence	2. 5ARC0 Human and ethical aspects of AI
		T3 2AMM20 Research topics in data mining		T4 3MT170 Machine learning for fluid mechanics	T1 3MS010 Advanced fluid dynamics
		T2 3MA010 Computational and mathematical physics		T1 4MM10 Advanced computational continuum mechanics	T2 34PMS Physics Modelling and Simulations
<b>Quarter 2</b>	4b. 5ARD0 Control principles for linear systems			5a. 5SSD0 Bayesian machine learning and information processing	
		T1 3MS020 Soft matter physics	T1 4EM40 Heat and flow in microsystems	T1 4BM60 Interfacial transport phenomena in engineering flows	
			T3 5LMA0 Model reduction	T2 4SC000 Optimal control and reinforcement learning	
			T1 4SE200NL Microscale modeling of heat storage materials		
	5XSLO Fundamentals of machine learning		5LIQ0 Linear systems, signals and control		2DL70 Probability and Statistics
<b>Quarter 3</b>		6a. 5CTA0 Statistical signal processing		4a. 4CM40 Physical and data-driven modelling	
		6b. 4DM20 Engineering optimization			
	T1 4EM30 Scientific computing for Mechanical Engineering			T1 3MT100 Chaos	T2 3MT120 Advanced Computational Fluid and Plasma Dynamics
	T3 2DI66 Advanced simulation				
	5EPD0 Physics for EE			JBI050 Data management for data analytics	
			Team Internship		
<b>Quarter 4</b>			5b. 1BM120 Decision making with artificial and computational intelligence		
	5EZB0 Math 2				T4 4AI000 Machine learning for multi-physics modeling and design
	Team Internship				

**Legend:**

- Core courses
  - Specialization courses
  - Homologation
  - Team Internship
- T1 Domain-specific knowledge    T2 AI in Engineered Systems    T3 Data Cultivation    T4 Learning and Intelligence

This is an online course, with exam scheduled in timeslot C

The specialization courses and the core course 6a 5CTA0 Statistical signal processing can be taken in Year 2 as well.  
Keep in mind that the graduation project AI&ES is scheduled in Q2-Q4 Year 2.