

**Research Master - M2**  
**Computational Mathematics and Control theory with Applications in AI**  
**2026-2027**

<b>Semester 3</b>	<b>Course</b>			
	<b>Code</b>	<b>Title</b>	<b>Credits</b>	<b>Hours</b>
	<b>Common Courses</b>			
	RMSE 500	Research Methodology and Scientific English	2	24
	NUMA 500	Numerical analysis and Approximation Methods for Mathematical Models	4	28
	<b>Fundamental courses</b>			
	CMCA 500	Observability, Exact Controllability and Applications	5	35
		<b>A fundamental course from the other master</b>	5	35
	<b>Specialised courses (2 courses of 4c and 2 courses of 3c)</b>			
	CMCA 501	Mathematical Modeling Approaches in AI and Machine Learning	4	28
	CMCA 502	Control Theory and Optimal Control	4	28
	CMCA 503	Mathematical Modeling in Medicine and Biology	3	21
	CMCA 504	Advanced Topics in Qualitative Solution Theory	3	21
	<b>Additional List of Specialized Courses</b>			
	CMCA 505	Numerical methods for solving the hyperbolic systems of conservation laws	3	21
	CMCA 506	Parameter Reconstruction in Elliptic Differential Operators	3	21
	CMCA 507	Dynamical systems and applications in Biology	4	28
	CMCA 508	Functional Analysis and Applications to the Navier–Stokes Equations with Numerical Algorithms	4	28
	<b>Total</b>		<b>30</b>	<b>318</b>

<b>Semester 4</b>	<b>Course</b>			
	<b>Code</b>	<b>Title</b>	<b>Credits</b>	<b>Hours</b>
	CMCA 580	<b>Master Thesis</b>	30	
	<b>Total</b>		<b>30</b>	