Master in BranchMathematical analysis and applications

Speciality *Mathematics*

BRIEF

This Master offers in-depth training in areas related to pure and applied mathematics. The laureates can ensure teaching tasks at the secondary and university level. They can also apply for a doctorate in Mathematics, particularly in Classical Analysis, Ordinary Differential Equations, Partial and Fractional Derivatives, as well as image processing and artificial vision.

Field	Branch	Speciality
Sciences and Technologies	**Mathematical analysis and applications**	***Mathematics***

First Semester

Teaching unit	Matter	Credit	Coefficient	C	TD	TP	Volume (hour)
Fundamental Unit	Topology and Functional Analysis	6	3	3h00	1h30		63h00
	Distribution Theory	4	2	1h30	1h30		42h00
	Introduction to image processing	4	2	1h30	1h30		42h00
	Ordinary differential equations	4	2	1h30	1h30		42h00
Methodological unit	Continuous optimization	5	3	1h30	1h30	1h30	63h00
	Scientific calculation	4	2		1h30	1h30	42h00

Teaching unit	Matter	Credit	Coefficient	C	TD	TP	Volume (hour)
Transversale Unit	Basic English	2	1		1h30		21h00
	Scientific communication	1	1			1h30	21h00

Second Semester 2

Teaching unit	Matter	Credit	Coefficient	Courses	TD	Practical Work	Volume (hour)
Fundamental Unit	Fourier analysis	6	3	3h00	1h30		63h00
	Holomorphic and meromorphic functions	4	2	1h30	1h30		42h00
	computer vision	4	2	1h30	1h30		42h30
	Differential inclusions	4	2	1h30	1h30		42h00
Methodological unit	Convex optimization	5	3	1h30	1h30	1h30	63h00
	Fractional calculation	4	2	1h30	1h30		42h00
Transversale Unit	Scientific English	2	1		1h30		21h00
	Corruption and Work Ethics	1	1	1h30			21h00

Third Semester

Teaching unit	Matter	Credit	Coefficient	C	TD	TP	HV
Fundamental Unit	Spectral theory of operators and semigroups	6	3	3h00	1h30		63h00
	Fractional Differential Equations	6	3	3h00	1h30		63h00

Teaching unit	Matter	Credit	Coefficient	C	TD	TP	HV
	Advanced models for image processing	6	3	3h00	1h30		63h00
Methodological unit	Differential inclusion and optimal control	6	3	3h00	1h30		63h00
	Numerical analysis for differential equations	3	2	1h30	1h30		42h00
Transversale Unit	Scientific Calculus for Differential Equations	2	1			1h 30	21h00
	Seminar	1	1		1h30		21h00

Semester 4

Internship in a company sanctioned by a thesis and a defense.

	VHS	Coef.	Credit
UEF4 : Memoiry	330	16	30
Total Semester 4	330	16	30