

MATHEMATICAL MODELING APPLIED TO ECONOMICS AND FINANCE

Codes	MASTER 1 - Full Time Program	Volume of Hours	Credits	Semester
EC410	UE : Economics Fundamentals		8	
EU4100	• Introduction to economics	30h	2	S1
EU4101	• Microeconomics	50h	3	S1
EU4102	• Macroeconomics	50h	3	S1
EC411	UE : Financial Markets		4	
UE4110	• Capital markets	25h	2	S1
UE4111	• Derivative products market	25h	2	S1
EC412	UE : Programming language		4	
UE4120	• C++	25h	2	S1
UE4121	• Python	25h	2	S1
EC413	UE : Interaction Between Economic Agents		4	
UE4130	• Information and uncertainty economics	30h	2	S1
UE4131	• Game theory	30h	2	S1
EC414	UE : Econometrics		6	
UE5330	• Linear econometrics and generalisation	40h	2	S1
UE5330	• Various uni time series	30h	2	S1
UE5330	• Econometrics of qualitative variables	30h	2	S1
EC4115	UE : Stochastic Processes		4	
UE41150	• Stochastic calculus	30h	2	S1
UE41151	• Modeling stochastic processes	30h	2	S1
EC420	UE : Data analysis		30	
UE4200	• Probabilistic and inferential statistics	40h	2	S2
UE4201	• Business intelligence databases	40h	3	S2
UE4102	• Data mining and business intelligence statistics	40h	3	S2
EC421	UE : Algorithmic Analysis		4	
UE4210	• Algorithms	40h	3	S2
UE4211	• Advanced algorithms	40h	3	S2
EC422	UE : Optimisation		6	

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UE4220	• Dynamic optimisation	40h	2	S2
UE4221	• Numerical methods	40h	2	S2
EC423	UE : Finance		4	
UE4230	• Market finance	35h	2	S2
UE4231	• Corporate finance	25h	2	S2
EC423	UE : Contemporary Economic Issues		8	
UE4240	• Economic growth	25h	2	S2
UE4241	• Unemployment	25h	2	S2
UE4242	• Financial and economic crises	25h	2	S2
UE4243	• Economic policy	25h	2	S2
	Total	900h	60	

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Codes	Master 2 - Full Time Program	Volume Horaire	Crédits	Semestre
EC530	UE : Information Systems and Databases		6	
UE5300	• Information systems	40h	3	S3
UE5301	• Database management systems and introduction to Big Data	40h	3	S3
EC531	UE : Numerics and Economic Modeling		10	
UE5310	• Digital economy	40h	2	S3
UE5311	• Microeconomic modelling	25h	2	S3
UE5312	• Macroeconomic Modelling I and II	25h*2	4	S3
UE5313	• Applied Economics (your choice) (Institutions/Environment and natural resources/Human resources/Welfare economics/Development economics)	25h	2	S3
EC532	UE : Advanced Econometrics		8	
UE5320	• Multi-varied time series	40h	3	S3
UE5321	• Econometrics of panel data	40h	3	S3
UE5322	• Practical econometric software	30h	2	S3
EC533	UE : Computational Finance		6	
UE5330	• Mathematical tools applied to finance	30h	2	S3
UE5331	• Portfolio Management	25h	2	S3
UE5332	• Monetary and financial economics	25h	2	S3
EC541	UE : Professional Practice and Research		30	
UE5410	• Research methodology	30h	2	S4
UE5412	• Internship report and dissertation	460h	28	S4
	Total	900h	60	