

MESIO UPC-UB. Suggested elective subjects according to intensifications.

Q1	Compulsory	Software for statistics and optimization Operations Research Models and Methods Pathway 1 Pathway 2 Advanced statistical inference Foundations of statistical inference			
	Compulsory by pathway				
	Intensifications:	Biostatistics and Bioinformatics (BIO)	Business and Social Statistics (EMP)	Operations Research (IO)	Data Science (DS)
	Electives by intensification	Lifetime data analysis Clinical trials Foundations of bioinformatics Spatial epidemiology	Risk quantification Statistics for business management Econometric analysis	Continuous optimisation Simulation Optimization in data science # Optim. in energy systems & markets #	Linear and generalized linear models Optimization in data science # Spatial epidemiology <i>Subjects from MIRI-DS</i>
Other related electives	Mathematics (for pathway 2) Linear and generalized linear models	Mathematics (for pathway 2) Linear and generalized linear models	Linear and generalized linear models	Mathematics (for pathway 2) Foundations of bioinformatics Simulation Statistics for business management Risk quantification	
Q2	Compulsory by pathway	Pathway 1 Pathway 2 Probability and stochastic processes Multivariate data analysis			
	Intensifications:	BIO	EMP	IO	DS
	Electives by intensification	Advanced exp. design in clinical research Advanced topics in survival analysis Epidemiology Longitudinal data analysis Omics data analysis	Actuarial statistics Financial statistics Time series Quantitative marketing techniques Social indicators Simul. for business decision making	Large scale optimization Discrete network models# Simul. for business decision making Stochastic optimization	Statistical programming and data bases Statistical learning Time series Multivariate data analysis (for pathway 1) Quantitative marketing techniques <i>Subjects from MIRI-DS</i>
	Other related electives	Bayesian analysis Multivariate data analysis (for pathway 1) Time series	Bayesian analysis Multivariate data analysis (for pathway 1) Longitudinal data analysis	Statistical programming and data bases Multivariate data analysis (for pathway 1) Time series Statistical learning Bayesian analysis	Bayesian analysis Longitudinal data analysis Omics data analysis Simul. for business decision making

Only 2 of these 3 subjects are offered every course