

Double degree between Master in Numerical Methods in Engineering at Barcelona School of Civil Engineering (UNIVERSITAT POLITÈCNICA DE CATALUNYA) and Master in Mechanical Engineering – Computational Mechanics at ÉCOLE CENTRALE DE NANTES, FRANCE (double degree itinerary consisting of 130 ECTS)

First year at UPC, second year at EC Nantes

At UPC (MMNE: Master of Numerical Methods in Engineering)		At ÉCOLE CENTRALE DE NANTES		
Q1	Q2	Q3	Q4	
Advanced Fluid Mechanics (5 ECTS)	Computational Solid Mechanics (5 ECTS)	Model Reduction (3 ECTS) ¹	Master Thesis (30 ECTS)	
Communication Skills 1 (5 ECTS)	Computational Structural Mechanics and Dynamics (5 ECTS)	Domain Decomposition and Iterative Solvers (4 ECTS) ¹		
Continuum Mechanics (5 ECTS)		Extended Finite Element Method and Level Set Techniques (3 ECTS) ²		
Entrepreneurship (5 ECTS)	Finite Elements in Fluids (5 ECTS)	Numerical Methods for Simulation of Coupled Problems (3 ECTS) ²		
Finite Element Methods (5 ECTS)	Practical Training (15 ECTS)	Numerical Methods for Uncertainty Quantification (3 ECTS) ³		
Numerical Methods Partial Differential Equation (5 ECTS)	Programming for Engineers and Scientists (5 ECTS)	Computational Configurational Mechanics (3 ECTS) ³		
Communication Skills 2 (5 ECTS)		Computational Methods for Incompressible Flows (3 ECTS) ⁴		
TOTAL 35 ECTS	TOTAL 35 ECTS	Physical Modeling of Fluids (4 ECTS) ⁴		
		French as Foreign Language (4 ECTS)		TOTAL 30 ECTS
		TOTAL 30 ECTS		
TOTAL 70 ECTS		TOTAL 60 ECTS		
TOTAL 130 ECTS				

1 - Equivalence to Domain Decomposition and Scientific Computing (compulsory subject at MMNE, hence equivalent courses are mandatory)

2 - Equivalence to Coupled problems (elective course at MMNE)

3 - Equivalence to Advanced Discretization Methods (elective course at MMNE)

4 - Equivalence to Computational Mechanics Tools (compulsory subject at MMNE, hence equivalent courses are mandatory)