

Double degree between Master in Numerical Methods in Engineering at Barcelona School of Civil Engineering (UNIVERSITAT POLITÈCNICA DE CATALUNYA) and Laurea Magistrale (Master's Degree) in Mathematical Engineering (UNIVERSITÀ DEGLI STUDI DI PADOVA)

Study plan / double degree itinerary consisting of 5 semesters: UPC students: 146 ECTS; UNIPD students: 143ECTS

SEMESTER 1		SEMESTER 2		SEMESTER 3		SEMESTER 4	
UPC students at UPC	UNIPD students at UNIPD	UPC students at UPC	UNIPD students at UNIPD	UPC students at UNIPD	UNIPD students at UPC	UPC students at UNIPD	UNIPD students at UPC
Compulsory modules: Numerical Methods for PDEs (5 ECTS) Finite Elements (5 ECTS) Continuum Mechanics (5 ECTS) Advanced fluid mechanics (5 ECTS)	Compulsory modules: Analytical & Stochastic Mathematical Methods for Engineering (12 ECTS) Introduction to Partial Differential Equations (9 ECTS)	Compulsory modules: Computational solid mechanics (5 ECTS) Computational structural mechanics and dynamics (5 ECTS) Finite Elements in fluids (5 ECTS) Internship (15 ECTS)	Compulsory modules: Numerical methods for HPC (6 ECTS) Numerical Methods for Continuous Systems (6 ECTS) Mathematical Physics II (6 ECTS) One of the following elective modules: Statistical Mechanics of complex systems (9 ECTS) Systems Identification & Data Analysis (9 ECTS)	Compulsory module: Mathematical physics I (6 ECTS) Other elective courses of the study plan (21 ECTS) Transversal compulsory modules: English (3 ECTS)	Compulsory modules: Advanced fluid mechanics (5 ECTS) Transversal compulsory modules: Communication skills 1 (5 ECTS) Communication skills 2 (5 ECTS) Entrepreneurship (5 ECTS) Internship (15 ECTS)	Compulsory modules: Mathematical physics II (6 ECTS) Numerical methods for HPC (6 ECTS) One of the following elective modules: Statistical Mechanics of complex systems (9 ECTS) Systems Identification & Data Analysis (9 ECTS)	Compulsory modules: Computational solid mechanics (5 ECTS) Computational structural mechanics and dynamics (5 ECTS) Finite Elements in fluids (5 ECTS)
35 ECTS	36 ECTS	30 ECTS	27 ECTS	30 ECTS	35 ECTS	SEMESTER 5	
						MASTER THESIS (30 ECTS)	MASTER THESIS (30 ECTS)
						51 ECTS	45 ECTS

UPC compulsory module modules	Equivalent UNIPD modules (covered by)
Computational Mechanics tools (5 ECTS)	Mathematical physics (12 ECTS)
Domain decomposition and large scale computing (5 ECTS)	Numerical methods for HPC (6 ECTS)
Continuum mechanics (5 ECTS)	Mathematical physics (12 ECTS)
Numerical Methods for PDEs (5 ECTS)	Numerical Methods for Differential Equations (6 ECTS)
Finite Elements (5 ECTS)	Numerical Methods for Continuous Systems (6 ECTS)