



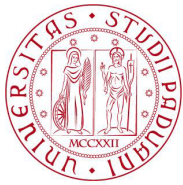
ANNEX II. Study Programme for a UBONN student willing to pursue a Double Degree with UNIPD with residence of one or two semesters.

Option for students starting in the Fall term (semester 1 = Fall, semester 2 = Spring); Semester number must be swapped if starting in the Spring term.

UBONN Master of Science in Physics of the Earth and Atmosphere					UNIPD Master's Degree in Geophysics for Natural Risks and Resources				
Exam number	Course title	ECTS credits	Year	Semester	Exam number ³	Course title	ECTS credits	Year	Semester
1 ⁴	Prognostic Modelling	6	1	1	1	Solid Earth Geophysics	9	1	1
2	Physics of Porous Media	6	1	1	2	Applied Geophysics	6	1	1
3	Inverse Modelling	6	1	2	3	Mathematical physics for the Earth System	6	1	1
4	Geodynamics	6	1	2	4	Geology for Geophysics	6	1	1
5/6/7 three exams required	Atmospheric Dynamics	6	1	1	5	Earthquake Geology and Fault Mechanics	6	1	1
	Statistical Data Analysis in Geosciences	6	1	1		Geophysics for Cultural Heritage and Civil Engineering	6	1	2
	Climate Dynamics	6	1	1	Applied Geodesy	6	1	2	
	Land Surface Processes	6	1	1	Numerical Methods for Geosciences	6	1	2	
	Tectonophysics	6	1	1	Petrophysics	6	1	2	
	Electrical Imaging	6	1	1	-	-	-	-	-
	General Hydrodynamics	6	1	2	6	Electromagnetism	6	1	2
	Theoretical Synoptics	6	1	2	7	Georesources	6	1	2
	Radar Polarimetry	6	1	2		Structure and composition of the deep earth	6	1	2
	Hydrogeophysics	6	1	2	-	-	-	-	-
	Exams from Master PEA Uni Cologne	6 or 9	1	1 or 2	8	Applied Hydrology	6	1	2
8	Research Skills and Expertise	15	1	2		Geotechnics	6	1	2
				Physics Data Analysis		6	1	2	
				Management and analysis of physics datasets		6	1	2	
				Statistical Mechanics of Complex Systems		6	1	2	
				Advanced statistics for physics analysis		6	1	2	

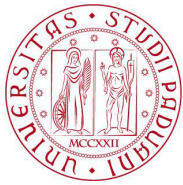
³ If more than one course listed, a choice is required among the offered courses.

⁴ In red are the mandatory courses.



						Numerical methods for continuous systems	6	1	2
						Numerical methods for high performance computing	6	1	2
-	-	-	-	-	only pass/fail	Digital data processing	6	1	2

Exam number	Course title	ECTS credits	Year	Semester		Exam number	Course title	ECTS credits	Year	Semester
9	Research Methods and Project Planning	15	2	1		9	Solid Earth Geophysics	9	2	1
							Applied Geophysics	6	2	1
							Mathematical physics for the Earth System	6	2	1
							Geology for Geophysics	6	2	1
							Earthquake Geology and Fault Mechanics	6	2	1
							Environmental and Engineering Geophysics	6	2	1
							Geothermics	6	2	1
							Exploration Seismology	6	2	1
							Advanced Geodynamics	6	2	1
							Physics of the Atmosphere	6	2	1
							Geophysics for Cultural Heritage and Civil Engineering	6	2	2
							Applied Geodesy	6	2	2
							Numerical Methods for Geosciences	6	2	2
10	Atmospheric Dynamics	6	2	1		10	Seismic response of built structures	6	2	1
							High level programming	6	2	1
							Programmable hardware devices	6	2	1
							Machine Learning	6	2	1
							Tectonophysics	6	2	1
							Numerical methods for differential equations	6	2	1



							Georesources	6	2	2
	Electrical Imaging	6	2	1			Structure and composition of the deep earth	6	2	2
	General Hydrodynamics	6	2	2			Applied Hydrology	6	2	2
	Theoretical Synoptics	6	2	2			Geotechnics	6	2	2
	Radar Polarimetry	6	2	2			Physics Data Analysis	6	2	2
	Hydrogeophysics	6	2	2			Management and analysis of physics datasets	6	2	2
	Exams from Master PEA Uni Cologne	6 or 9	2	1 or 2			Statistical Mechanics of Complex Systems	6	2	2
							Advanced statistics for physics analysis	6	2	2
							Numerical methods for continuous systems	6	2	2
							Numerical methods for high performance computing	6	2	2
							Digital data processing	6	2	2
11	Two exams at free choice	12	2	1 or 2		11	Two exams at free choice	12	2	1 or 2
-	Thesis	30	2	1 or 2	UBONN or UNIPD	-	Thesis	30	2	1 or 2