



Master in Pure and Applied Logic

This program joins the forces of the University of Barcelona (UB) and the Polytechnic University of Catalonia (UPC), with the expertise of the Artificial Intelligence Research Institute (IIIA) of the Spanish National Research Council (CSIC), thus creating Spain's largest cluster of internationally recognized experts and passionate lecturers in the field.



Structure

Introduction to

mathematical

logic · 5EC

This oficial master has a duration of two years and consists of 90 European Credits of which 40 ECs of optional courses, 30 ECs of mandatory courses and 20ECs for the final master thesis.

Non Modal **CLASSICAL** logic · 5EC Non **LOGICS** classical Many valued logics · 6EC $logics \cdot 5EC$ Abstract Orders, lattices and Algebraic algebraic Boolean algebras · logic · 5EC logic · 5EC 5EC Universal ALGEBRAIC Algebra · 5EC LOGIC COMPUTATION Algorithms for very large scale integration Computational 20EC complexity · 6EC · 6EC Combinatorial problem Computability · 6EC solving · 6EC **PROOF** Proof **THEORY** Automatic theorem theory · 6EC proving · 5EC Mathematical logic · 6EC SET **THEORY** Basic set theory · 6EC Models of set theory · 5EC Combinatory set theory · 5EC Developement of formal logic · 5EC Advanced model Basic model theory · 5EC Model theory · 6EC **THEORY**

Logic is everywhere. From the most profane circuit design of a computer chip to the most esoteric considerations on the foundations of our thought and of mathematics.

This master focusses almost exclusively on formal logic and aspiring students are required to have a good training in symbolic manipulation as, for example, in mathematics.

Contact

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Courses in a rectangular frame are mandatory and courses in an oval frame are optional. Regular arrows indicate a strong recommendation/prerequisite between the two courses and dashed arrows represent a suggestion/weak recommendation. We tried to organise the courses in thematic blocks. As with any classification, some courses fall out the scope of the classification and those courses are outside the thematic blocks or on a separation line.