Master's Degree in Mathematics and Applications

Academic Offer Course 2019/2020

Information

The Master is organized into two courses, M1 and M2. M2 has two specializations: Introduction to Research and Applications of Mathematics.

To achieve each specialization the student must complete a minimum of 12 credits on specialization subjects and must take a third subject either of the same specialization or of the other one. In any case, the Master's Thesis (18 credits) will fit the chosen specialization.

Module M1: Complementary training (60 credits)
M1 is a complementary training module which are determined individually according to student's previous studies. Graduates in Mathematics or equivalent international degrees should not take this module. The remaining students will study the subjects individually determined according to previous training.

In M2, the two Master's specializations have a common module in the first semester which is followed by another specialization module in the second semester to be chosen according to the desired specialization:

Module M2.1: common to both specializations (24 credits)
Designed to provide advanced training in several areas of Mathematics. In this module, the student must take three subjects of 8 credits each.

Module M2.2-Re: specialty in Introduction to Research (18 credits)
Mainly for students who wish to course a Doctorate in fundamental Mathematics. In this module, the student must take three subjects of 6 credits each.
Among the three subjects to be taken in this specialization, students may also choose a maximum of one subject from the module in Applications of Mathematics (M2.1-AM).

Module M2.2-AM: specialization in Applications of Mathematics (18 credits)
For students who wish to deepen in the use and in the introduction to research of Mathematics in industry, technology, finance and other fields of application. In this module, the student must choose 3 subjects of 6 credits each.
Among the three subjects to be taken in this specialization, students may also choose a maximum of one subject from the module in Introduction to Research (M2.2-Re).

Curriculum

Code	Subject	Semester	Status	ECTS	Module
30065	Partial Differential Equations in Science and Engineering	1	Option	8	M2/ Common
30066	Stochastic Processes	1	Option	8	M2/ Common
30067	Foundations of Mathematical Analysis	1	Option	8	M2/Common
30068	Numerical Analysis	1	Option	8	M2/Common

30069	Algebraic Curves	1	Option	8	M2/Common
30070	Differential Geometry	1	Option	8	M2/Common
32929	Advanced Course Geometry	2	Option	6	M2/ Intro to Research
32930	Advanced Course Analysis	2	Option	6	M2/ Intro to Research
32931	Advanced Course in Partial Differential Equations	2	Option	6	M2/ Intro to Research
32932	Advanced Course in Statistics	2	Option	6	M2/ Intro to Research
32933	Advanced Research Seminar	2	Option	6	M2/ Intro to Research
32934	Cryptography	2	Option	6	M2/ Appl's of Mathematics
32936	Wavelets and Signal Treatment	2	Option	6	M2/ Appl's of Mathematics
32937	Financial Risk Management	2	Elective	6	M2/ Appl's of Mathematics
32939	Advanced Applied Seminar	2	Option	6	M2/ Appl's of Mathematics
32940	Final Master's Thesis	1-2	Mandatory	18	Common

Those specializations that do not have a minimum number of applications before the end of the first term of the admission procedure might not be taught. It will be informed before the second term.

According to the agreements of the Committee on Postgraduate Studies at UAM, those elective subjects having less than five students enrolled, may not be taught. Involved students will be advised for relocation and enrollment in other subjects.

The offer of optional subjects could suffer minor changes before the start of lessons for reasons of adjustments in Master's teaching organization, in which case, it will be properly announced.