Universidad Carlos III de Madrid

SUBJECT: ACTUARIAL COMPUTER TOOLS		
MASTER DEGREE: ACTUARIAL SCIENCE	ECTS: 6.0	QUARTER: 2

TIMETABLE FOR THE SUBJECT

WEEK	SESSION	DESCRIPTION OF EACH SESSION	GROUP (X mark)		Indicate if a different lecture room is needed (computer, audiovisual, etc.)	HOMEWORK PER WEEK		
			1	2		DESCRIPTION	ATTENDING HOURS	HOMEWORK Max. 7H/WEEK
1	1	VBA. Editor environment. Objects and subroutines	x			Identify main objects and write basic subroutines	3	6
2	1	VBA. Variables: scope, types and memory use.	x			Create subroutines involving various types of variables	3	6
3	1	VBA. Conditional sentences and loops	x			Basic programs involving conditional sums and products	3	6
4	1	VBA. Matrices and arrays. Link to Excell	x			Understanding cells calculations as array algebra	3	6
5	1	VBA. Mathematical functions: built-in, user-defined and external libraries	x			Production of several mathematical complex functions	3	6

6	1	VBA. Design of interfaces: objects and events.	x			Examples of various interfaces	3	6
7	1	VBA. Pseudo-code and use-cases	x			Design a couple of projects and render use-cases	3	6
8	1	SQL. Introduction. Basic queries.	X			Interaction with data bases: analytics using SQL	3	6
9	1	SQL. Advanced queries.	X			Interaction with data bases: analytics using SQL	3	6
10	1	PYTHON. Introduction	X			Create a project in PYTHON	3	6
11	1	SEMINAR I ON STUDENTS PROJECTS. Structure and topics	X			Students presentations using VBA editor and ppts	3	6
12	1	SEMINAR II ON STUDENTS PROJECTS. Mathematical core	X			Students presentations using VBA editor and ppts	3	6
13	1	SEMINAR III ON STUDENTS PROJECTS. Interfaces	X			Students presentations using VBA editor and ppts	3	6
14	1	SEMINAR IV ON STUDENTS PROJECTS. Use-cases	X			Students presentations using VBA editor	3	6

						and ppts		
TOTAL HOURS								