## uc3m Universidad Carlos III de Madrid

**COURSE:** Programming

DEGREE: Bachelor's Degree in Data Science and Engineering

TERM: 1st

	WEEKLY PLANNING												
WE	SESSION	DESCRIPTION	GROUPS (mark X)		SPECIAL ROOM FOR SESSION (Computer class	Indicat e YES/N O If the	WEEKLY PROGRAMMING FOR STUDENT						
EK			LECTUR ES	SEMINA RS	room, audio- visual class room)	session needs 2 teacher s	DESCRIPTION	CLASS HOURS	HOME- WORK HOURS				
1	1	1. Introduction to programming	х				Aula Global tests: computer architecture Weekly assignments (individual): algorithms	1.66	4				
	2	2. Data types	х					1.66					
2	3	<ol> <li>Introduction to programming</li> <li>Correcting exercises: algorithms</li> <li>Exercises: flow diagrams</li> </ol>		х	Computer room		Aula Global tests: data types and variables. Weekly assignments (individual): flow diagrams	1.66	5				
	4	3. Variables and constants	Х										
3	5	Correcting exercises: flow diagrams Introduction of the development environment Exercises: variables operators		х	Computer room		Aula Global tests: Variables and operators (I) Weekly assignments (in pairs): variables and operators	1.66	5				
	6	4. Control structures	Х				Aula Global tests: Variables and operators (II)	1.66	6				
4	7	Correcting exercises: variables and operators. Exercises: control structures (I)		х	Computer room		Weekly assignments (in pairs): control structures (I)	1.66					
	8	4. Control structures	Х				Aula Global tests: control structures (I)						
5	9	Correcting exercises: control structures (I) Exercises: control structures (II)		х	Computer room		Weekly assignments (in pairs): control structures (II)	1.66	6				

YEAR: 1st

	10	5. Data structures	X					1 66	
6	11	Correcting exercises: control structures (II) Exercises: data structures (I). Debugging.	X	х	Computer room		Aula Global tests: control structures (II). Weekly assignments (in pairs): data structures (I).	1.66	6
	12	5. Data structures	х				Aula Global tosts: data structures (I)	1.66	
7	13	Correcting exercises: data structures (I).		х	Computer room		Mid-term exam preparation	1.66	7
	14	Mid-term exam	х				Aula Global tests: data structures (II)	1.66	
8	15	Exercises: data structures (II).		х	Computer room		Weekly assignments (in pairs): data structures (II).	1.66	7
	16	6. Functions	Х				– Weekly assignments (in pairs): data structures (III).	1.66	7
9	17	Correcting exercises: data structures (II). Exercises: data structures (III).		х	Computer room			1.66	
	18	6. Functions	Х				Weekly assignments (in pairs): functions (I) Work on final project	1.66	7
10	19	Introduction to the final project Correcting exercises: data structures (III). Exercises: functions (I)		х	Computer room			1.66	
	20	6. Functions	Х				Aula Global tests: functions (I)	1.66	
11	21	Correcting exercises: functions (I) Exercises: functions (II)		х	Computer room		Weekly assignments (in pairs): functions (II) Work on final project	1.66	7
	22	7. Libraries	х				Aula Global tests: functions (II)	1.66	
12	23	Correcting exercises: functions (II) Exercises: functions (III)		Х	Computer room	YES	Weekly assignments (in pairs): functions (III). Final project design	1.66	7
	24	8. Introduction to Object Oriented Programming	х				Weekly assignments (in pairs): OOP Work on final project	1.66	7
13	25	Correcting exercises: methods (III) Exercises: OOP		х	Computer room			1.66	
	26	9. Algorithms	х				Work on final project	1.66	
14	27	Correcting exercises: OOP Work on final project		Х	Computer room	YES		1.66	7
15	28	Work on final project		х	Computer room	YES	- Work on final project	1.66	7
1.5	29	Work on final project		х	Computer room	YES			,
							Subtotal1	48	95
<b>Total 1</b> (Hours of class plus student homework hours between weeks 1-14)								14	43

16									
17	Assessment							3	14
18									
							Subtotal 2	3	14
<b>Total 2</b> (Hours of class plus student homework hours between weeks 15-18)								17	
TOTAL (Total 1 + Total 2. <u>Maximum 160 hours</u> )							160		