Universidad Carlos III de Madrid
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COURSE NAME: PROGRAMMING TECHNIQUES		
GRADO: DEGREE IN APPLIED MATHEMATICS AND COMPUTING	YEAR: 1st	SEMESTER: 2nd

WEEKLY SCHEDULE

WEEK	SESION	SESSION CONTENTDESCRIPTION	GROUP (mark with X)		Mark if It is a space different from the classroom	Say YES/NO If the session needs two professors	WEEKLY WORK TO BE DONE BY THE STUDENT		
			BIG	SMALL			DESCRIPTION	CLASS HOURS	WORK HOURS (Max.7h in a week)
1	1	**T0. Presentation and course goals.** **T1. Introduction:**	X				• Set up the environment on your personal computer	1,66	7
	2	Introduction to the Programming environment		X	Computers room			1,66	
2	3	**T2. Basics of C++ languages**	X				• Solving proposed problems about Control flow statements and loops	1,66	7
	4	Editing and compiling basic programs. Exercises in C++		X	Computers room			1,66	

3	5	**T3. Compound data type:**	X				• Solving proposed problems arrays, pointers, and strings	1,66	7
	6	Editing and compiling basic programs about vectors, arrays, pointers, strings		X	Computers room			1,66	
4	7	**T3. Compound data type**	X				• Solving proposed problems Structures	1,66	7
	8	Editing and compiling basic programs about structures		X	Computers room			1,66	
5	9	**T4. Errors and Exceptions handling**	X				• Solving proposed problems handling errors and exceptions	1,66	7
	10	Errors and exceptions Exercises		X	Computers room			1,66	
6	11	**T5. Functions**	X				• Solving proposed problems Functions	1,66	7
	12	Exercises about Functions declaring and Functions calling.		X	Computers room			1,66	
7	13	**Partial Exam (T1-T5):**	X					1,66	7
	14	• Exam resolution: • Introduction to the Lab case		X	Computers room			1,66	
8	15	**T6. User Defined Types**	X				• Solving proposed problems about user defined types • Work with the Lab case	1,66	7
	16	• Exercises about user defined types. • Introduction to the 2nd phase of Lab case		X	Computers room			1,66	
9	17	**T7. Input/Output Streams**	X				• Solving proposed problems about input/output streams	1,66	7

	18	• Exercises about input/output streams. • Introduction to the 3rd phase of Lab case		X	Computers room		• Work with the Lab case	1,66	
10	19	**T8. Dynamic Memory management**	X				• Solving proposed problems about dynamic memory management. • Work with the Lab case	1,66	7
	20	• Exercises about dynamic memory management. • Introduction to the 4th phase of Lab case		X	Computers room			1,66	
11	21	**T8. Dynamic Memory management**	X				• Solving proposed problems about dynamic memory management. • Work with the Lab case	1,66	7
	22	Exercises about dynamic memory management.		X	Computers room			1,66	
12	23	**T9. Generic Programming and OOP**	X				• Solving proposed problems about generic programming and OOP • Work with the Lab case	1,66	7
	24	Exercises about generic programming and OOP.		X	Computers room			1,66	
13	25	**T10. Containers, iterators, and algorithms**	X				• Solving proposed problems about containers, iterators • Solution delivery of the Lab cases through Aula Global.	1,66	7
	26	Exercises about containers, iterators, and algorithms.		X	Computers room			1,66	
14	27	**T10. Containers, iterators, and algorithms**	X				• Preparation for the final exam	1,66	7
	28	**Lab case presentation**		X	Computers room			1,66	
5	29		X					1,66	

								Subtotal 1	**48,14**	**94**
								Total 1 *(Face to face and work hours for a student in weeks 1 to 14)*	142,14	

15		Tutored sesión						9	
16		Evaluation preparation and evaluation						3	**8**
17									
18									
								Subtotal 2	**3**	**17**
								Total 2 *(Face to face and work hours for a student in weeks 15 to 18)*	20	
TOTAL *(Total 1 + Total 2. 180 hours max.)*									**162,14**	