



COURSE: Systems Programming		
BACHELOR'S DEGREE IN: Mobile and Space Communication Engineering /Sound and Image Engineering / Telematics Engineering / Telecommunication Technologies Engineering	YEAR: 1	TERM: 2
DOUBLE BACHELOR'S DEGREE IN: Data Science and Engineering and Telecommunication Technologies Engineering		

La asignatura tiene 29 sesiones que se distribuyen a lo largo de 14 semanas. Los laboratorios pueden situarse en cualquiera de ellas. Semanalmente el alumnos tendrá dos sesiones, excepto en un caso que serán tres

WEEKLY PLANNING									
WEEK	SESSION	DESCRIPTION	GROUPS (mark X)		SPECIAL ROOM FOR SESSION DIFFERENT FROM CLASSROOM (IF ANY)	Indicate YES/NO If the session needs 2 teachers	WEEKLY PROGRAMMING FOR STUDENT		
			LECTURES	SEMINARS			DESCRIPTION	CLASS HOURS	HOMEWORK HOURS (Max. 7h week)
1	1	Introduction and recap Course presentation (syllabus, methodology, evaluation, etc.). Installation and configuration of the programming environment Recap of basic programming concepts	X			No	Study of the concepts covered in class, Review and develop reference material related with this session Solving some questions or exercises related with this session	1.66	6
1	2	Recap exercises Using the Integrated Development Environment Using the debugger Recap exercises		X		Yes	Recap exercises Installing the development environment for personal computers Practice using the debugger.	1.66	
2	3	Object orientation and inheritance	X			No	Study of the concepts covered in class,	1.66	6

		Definitions: Classes and Objects Composition & Inheritance					Review and develop reference material related with this session Solving some questions or exercises related with this session		
2	4	Exercises about Object orientation and Inheritance		X		Yes	Exercises about Object orientation and Inheritance	1.66	
3	5	Object orientation and inheritance Overriding and overloading Shadowing Modifiers Constructors	X			No	Study of the concepts covered in class, Review and develop reference material related with this session Solving some questions or exercises related with this session	1.66	6
3	6	Exercises about Object orientation and inheritance		X		Yes	Exercises about Object orientation and Inheritance	1.66	
4	7	Object orientation and Interfaces Abstract classes Interfaces Polymorphism	X			No	Study of the concepts covered in class, Review and develop reference material related with this session Solving some questions or exercises related with this session	1.66	6
4	8	Exercises about Object orientation and Interfaces		X		Yes	Exercises about object orientation and interfaces	1.66	
5	9	Testing	X			No	Study of the concepts covered in class, Review and develop reference material related with this session Solving some questions or exercises related with this session	1.66	6
5	10	Exercises about Testing		X		No	Exercises about Testing	1.66	
6	11	Recursion Definition Types Implementation and execution examples	X			No	Study of the concepts covered in class, Review and develop reference material related with this session Solving some questions or exercises related with this session	1.66	6
6	12	Exercises about Recursion		X		No	Exercises about Recursion	1.66	
7	13	First midterm exam (theory + practice)	X			No	First midterm exam	1.66	
7	14	Recap	X			No	Complete review of all didactical units studied to date: Study of the concepts covered in previous classes,	1.66	7

							Review and develop reference material related with previous sessions Solving some questions or exercises related with previous sessions		
8	15	Linked Lists and Double LinkedLists Definition Types Implementation Examples Basic operations and algorithms (insert, delete, search)	X			No	Review and develop reference material related with previous sessions Solving some questions or exercises related with previous sessions	1.66	6
8	16	Exercises about LinkedLists and Double LinkedLists		X		No	Exercises about LinkedLists and Double LinkedLists	1.66	
9	17	Stacks and Queues Definition Types Implementation Examples Basic operations and algorithms (insert, delete)	X			No	Study of the concepts covered in class, Review and develop reference material related with this session Solving some questions or exercises related with this session	1.66	6
9	18	Exercises about stacks and queues		X		No	Exercises about Stacks and Queues	1.66	
10	19	Trees I Definition Properties Examples of use and implementation Algorithms (preorder, postorder, inorder) Binary Trees	X			No	Study of the concepts covered in class, Review and develop reference material related with this session Solving some questions or exercises related with this session	1.66	6
10	20	Exercises about Trees I		X		No	Exercises about Trees	1.66	
11	21	Trees II Binary Search Trees Examples of use and implementation Basic operations (insert, delete, search) Heaps Examples of use and implementation Basic operations (insert, delete, search)	X			No	Study of the concepts covered in class, Review and develop reference material related with this session Solving some questions or exercises related with this session	1.66	6
11	22	Exercises about Trees & heaps		X		No	Exercises about Trees	1.66	
12	23	Searching and Sorting Algorithms I	x			No	Study of the concepts covered in class, Review and develop reference material related with this session Solving some questions or exercises related with this session	1.66	6
12	24	Exercises about Searching and Sorting Algorithms I		x		No	Exercises about Searching and Sorting Algorithms	1.66	
13	25	Searching and Sorting Algorithms II	x			No	Study of the concepts covered in class, Review and develop reference material related with this session Solving some questions or exercises related with this session	1.66	6
13	26	Exercises about Searching and Sorting Algorithms II		X		No	Exercises about Searching and Sorting Algorithms	1.66	

14	27	Second midterm exam (Theory + Problems)	X			No	Second midterm exam	1.66	7
14	28	Recap		x		No	Complete review of all didactical units studied since previous midterm exam: Study of the concepts covered in previous classes Review and develop reference material related with previous sessions Solving some questions or exercises related with previous sessions	1.66	
8	29	Recap		X		No	Solving some questions or exercises related with previous sessions	1.66	1

Subtotal 1 **48.33** **87**

Total 1 (*Hours of class plus student homework hours between weeks 11-14*)

15		Tutorials, office hours, project submissions, etc.							7	
16		Assessments							3	14
17										
18										

Subtotal 2 **3** **21**

Total 2 (*Hours of class plus student homework hours between weeks 15-18*)

TOTAL (<i>Total 1 + Total 2. <u>Maximum 180 hours</u></i>)	159,33
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