Universidad Carlos III de Madrid
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COURSE: ADVANCED MATHEMATICS		
DEGREE: BACHELOR IN SOUND AND IMAGE ENGINEERING	YEAR: SECOND	TERM: FIRST

WEEKLY PLANNING									
WEEK	SESSION	DESCRIPTION	GROUPS (mark X)		SPECIAL ROOM FOR SESSION (Computer class room, audio-visual class room)	Indicate YES/NO If the session needs 2 teachers	WEEKLY PROGRAMMING FOR STUDENT		
			LECTU-RES	SEMI-NARS			DESCRIPTION	CLASS HOURS	HOMEWORK HOURS (Max. 7h week)
1	1	PRESENTATION OF THE COURSE. CHAPTER 1: ORDINARY DIFFERENTIAL EQUATIONS. ELEMENTARY METHODS OF SOLUTION. SEPARABLE VARIABLES, HOMOGENEOUS EQUATIONS, EXACT DIFFERENTIALS.	X			No	READ SECTIONS 1.1, 1.2, 1.3, 1.5 , 1.7 FROM TEXTBOOK “ECUACIONES DIFERENCIALES” BY G. SIMMONS AND S. KRANTZ, [SK].	1,66	6.5
1	2	Presentation		X		No	Presentation of the problem classes	1,66	

2	3	INTEGRATING FACTORS, LINEAR EQUATIONS, BERNOULLI EQUATIONS.	X			No	READ SECTIONS 1.4, 1.6, 1.8, 1.9 FROM [SK].	1,66	6.5
2	4	Exercises Unit 1		X		No	Exercises Unit 1	1,66	
3	5	LINEAR EQUATIONS OF HIGHER ORDER.	X			No	READ SECTIONS 2.1, 2.2, 2.3, 2.4 FROM [SK].	1,66	6.5
3	6	Exercises Unit 2		X		No	Exercises Unit 2	1,66	
4	7	PROPERTIES OF THE LAPLACE TRANSFORM.	X			No	READ SECTIONS 7.1, 7.2 FROM [SK].	1,66	6.5
4	8	Exercises Unit 3		X		No	Exercises Unit 3	1,66	
5	9	APPLICATIONS OF THE LAPLACE TRANSFORM.	X			No	READ SECTIONS 7.3, 7.5 FROM [SK].	1,66	6.5
5	10	Exercises Unit 4		X		No	Exercises Unit 4	1,66	
6	11	CHAPTER 2: FUNCTIONS OF ONE COMPLEX VARIABLE INTRODUCTION TO COMPLEX COMPLEX NUMBERS AND OPERATIONS WITH THEM, POLAR EXPRESSION	X			No	READ SECTIONS 1.1, 1.2, 1.3 FROM TEXTBOOK "CURSO DE VARIABLE COMPLEJA" BY N. LEVINSON AND R. REDHEFFER, [LR]. READ CHAPTER 1 FROM TEXTBOOK "VARIABLE COMPLEJA, UN CURSO PRÁCTICO" BY D. PESTANA, J.M. RODRÍGUEZ AND F. MARCELLÁN, [PRM].	1,66	6.5
6	12	Exercises Unit 5		X		No	Exercises Unit 5	1,66	
7	13	HOLOMORPHIC FUNCTIONS. CAUCHY-RIEMANN EQUATIONS.	X			No	READ SECTIONS 1.4, 1.5, 2.1, 2.5 FROM [LR]. READ CHAPTER 2 FROM [PRM].	1,66	6.5
7	14	Assessment Test 1		x		No	Assessment Test 1	1,66	
8	15	TAYLOR SERIES AND RADIUS OF CONVERGENCE	X			No	READ SECTIONS 6.1, 6.2, 6.3 FROM [LR]. READ CHAPTER 3 FROM [PRM].	1,66	6.5
8	16	Exercises Unit 6		X		No	Exercises Unit 6	1,66	
9	17	ELEMENTARY FUNCTIONS.	X			No	READ SECTIONS 2.2, 2.3 FROM [LR]. READ CHAPTER 3 FROM [PRM].	1,66	6.5
9	18	Exercises Unit 7		X		No	Exercises Unit 7	1,66	
10	19	COMPLEX INTEGRATION	X			No	READ SECTIONS 3.1, 3.2 FROM [LR]. READ CHAPTER 4 FROM [PRM].	1,66	6.5
10	20	Exercises Unit 8		X		No	Exercises Unit 8	1,66	

11	21	CAUCHY INTEGRAL FORMULA.	X			No	READ SECTIONS 3.3, 3.4, 3.5 FROM [LR]. READ CHAPTER 5 FROM [PRM].	1,66	6.5
11	22	Exercises Unit 9		X		No	Exercises Unit 9	1,66	
12	23	LAURENT SERIES AND RESIDUES.	X			No	READ SECTIONS 3.8, 3.9, 3.10 FROM [LR]. READ CHAPTER 6 FROM [PRM].	1,66	6.5
12	24	Exercises Unit 10		X		No	Exercises Unit 10	1,66	
13	25	RESIDUE THEOREM.	X			No	READ SECTIONS 4.2, 4.3, 4.9 FROM [LR]. READ CHAPTER 7 FROM [PRM].	1,66	6.5
13	26	Exercises Unit 11		X		No	Exercises Unit 11	1,66	
14	27	APLICATIONS OF THE RESIDUE THEOREM.	X			No	READ SECTIONS 4.4 FROM [LR]. READ CHAPTER 7 FROM [PRM].	1,66	6.5
14	28	Exercises Unit 12		X		No	Exercises Unit 12	1,66	
15	29	OVERWIEW	X			No		1,66	
							Subtotal 1	**48.33**	**91**
		Total 1 *(Hours of class plus student homework hours between weeks 1-14)*						139,33	
15	30	Assessment Test 2		x		No	Assessment Test 2	2	6
16		PREPARATION FOR FINAL EXAM AND EVALUATION.						3	6
17									
18									
							Subtotal 2	**5**	**12**
		Total 2 *(Hours of class plus student homework hours between weeks 15-18)*						17	
TOTAL *(Total 1 + Total 2. Maximum 180 hours)*								**156.33**	