COURSE: Discrete Mathematics		
DEGREE: Data Science and Engineering	YEAR: 2nd	TERM: 1st

WEEKLY PLANNING							
WEEK	**SESSION**	**DESCRIPTION**	**TEACHING (mark X)**		**SPECIAL ROOM FOR SESSION (Computer class room, audio-visual class room)**	**WEEKLY PROGRAMMING FOR STUDENT**	
			LECTURES	**SEMINARS**		**DESCRIPTION**	**CLASS HOURS**
1	1	ARITHMETIC I: Integers. Division algorithm. Largest common divisor and Euclid's algorithm. Prime numbers and Fundamental Theorem of Arithmetic.	x		NO	Personal study + classroom notes	1.66
1	2	Exercises		x	NO	Personal study + classroom notes	1.66
2	3	ARITHMETIC II: Diophantine equations. Congruences and modular arithmetic.	x		NO	Personal study + classroom notes	1.66
2	4	Exercises		x	NO	Personal study + classroom notes	1.66
3	5	ELEMENTARY SET THEORY I: Basic notions. Set operations and properties. Functions.	x		NO	Personal study + classroom notes	1.66
3	6	Exercises		x	NO	Personal study + classroom notes	1.66
4	7	ELEMENTARY SET THEORY II: Relations of equivalence and order.	x		NO	Personal study + classroom notes	1.66
4	8	Exercises		x	NO	Personal study + classroom notes	1.66
5	9	COMBINATORICS I: Elementary counting rules. Pigeon-hole principle. Permutations and combinations.	x		NO	Personal study + classroom notes	1.66
5	10	Midterm exam #1 + Exercises		x	NO	Personal study + classroom notes	1.66
6	11	COMBINATORICS II: Binomial coefficients. Principle of inclusion and exclusion. Derangements.	x		NO	Personal study + classroom notes	1.66
6	12	Exercises		x	NO	Personal study + classroom notes	1.66

The column **HOMEWORK HOURS (Max. 7h week)** shows the value 7 for weeks 1, 2, 3, 4, 5, and 6.

			TEACHING (mark X)			WEEKLY PROGRAMMING FOR STUDENT		
WEEK	**SESSION**	**DESCRIPTION**	**LECTURES**	**SEMINARS**	**SPECIAL ROOM FOR SESSION (Computer class room, audio-visual class room)**	**DESCRIPTION**	**CLASS HOURS**	**HOMEWORK HOURS (Max. 7h week)**
7	13	COMBINATORICS III: Generating functions. Partitions. Recurrences.	x		NO	Personal study + classroom notes	1.66	7
7	14	Exercises		x	NO	Personal study + classroom notes	1.66	
8	15	INTRODUCTION TO GROUPS I: Law of composition. Groups and subgroups. Homomorphisms and isomorphisms.	x		NO	Personal study + classroom notes	1.66	7
8	16	Exercises		x	NO	Personal study + classroom notes	1.66	
9	17	INTRODUCTION TO GROUPS II: Cyclic groups. Cosets. Lagrange's theorem. Quotient groups.	x		NO	Personal study + classroom notes	1.66	7
9	18	Exercises		x	NO	Personal study + classroom notes	1.66	
10	19	INTRODUCTION TO GROUPS III: Applications to cryptography. FUNDAMENTALS OF GRAPH THEORY I: Definition and examples. Matrix representations.	x		NO	Personal study + classroom notes	1.66	7
10	20	Midterm exam #2 + Exercises		x	NO	Personal study + classroom notes	1.66	
11	21	FUNDAMENTALS OF GRAPH THEORY II: Eulerian and Hamiltonian graphs.	x		NO	Personal study + classroom notes	1.66	7
11	22	Exercises		x	NO	Personal study + classroom notes	1.66	
12	23	FUNDAMENTALS OF GRAPH THEORY III: Trees. Optimisation and matching. Planar graphs.	x		NO	Personal study + classroom notes	1.66	7
12	24	Exercises		x	NO	Personal study + classroom notes	1.66	
13	25	FUNDAMENTALS OF GRAPH THEORY IV: Planar graphs. Directed graphs.	x		NO	Personal study + classroom notes	1.66	7
13	26	Exercises		x	NO	Personal study + classroom notes	1.66	
14	27	FUNDAMENTALS OF GRAPH THEORY V: Networks.	x		NO	Personal study + classroom notes	1.66	7
14	28	Exercises		x	NO	Personal study + classroom notes	1.66	
	29	Midterm exam #3	x		NO		1.66	
						Subtotal 1	**48.14**	**98**
						Total 1 *(Hours of class plus student homework hours between weeks 1-14)*	146.14	
15		Tutorials, handing in, etc						
16								

			TEACHING (mark X)			WEEKLY PROGRAMMING FOR STUDENT		

WEEKLY PLANNING

WEEK	SESSION	DESCRIPTION	LECTURES	SEMINARS	SPECIAL ROOM FOR SESSION (Computer class room, audio-visual class room)	DESCRIPTION	CLASS HOURS	HOMEWORK HOURS (Max. 7h week)
17		Assessment					3	
18								
						Subtotal 2	3	
						Total 2 (Hours of class plus student homework hours between weeks 15-18)	3	

TOTAL *(Total 1 + Total 2. Maximum 156 hours)*	149.14