

<b>COURSE: PROBABILITY</b>		
<b>DEGREE: APPLIED MATHEMATICS AND COMPUTING</b>	<b>YEAR: SECOND</b>	<b>2</b>

WEEKLY PLANNING								
WEEK	SESION	DESCRIPTION	TEACHING (mark X)		SPECIAL ROOM FOR SESSION (Computer class room, audio-visual class room)	WEEKLY PROGRAMMING FOR STUDENT		
			L E C T U R E S	S E M I N A R S		DESCRIPTION	CLASS HOURS (1,66=50+50 min)	HOMEWORK HOURS (Max. Estim. 6,5h)
1	1	Probability and random phenomena. Random phenomena, sample space, events. Axioms of Probability and elementary properties.	x			Lecture	1,66	5,0
	2	Problems and solutions		x		Session of solving exercises	1,66	
2	3	Conditional probability and independence. Total probability rule	x			Lecture	1,66	5,0
	4	Problems and solutions		x		Session of solving exercises	1,66	
3	5	Random variables. Definitions.	x			Lecture	1,66	5,0
	6	Problems and solutions		x		Session of solving exercises	1,66	
4	7	Expectation, characteristic features, and moments of a random variable	x			Lecture	1,66	6,0
	8	Problems and solutions		x		Session of solving exercises	1,66	
5	9	Discrete probability models. Continuous probability models.	x			Lecture	1,66	6,0
	10	Problems and solutions		x		Session of solving exercises	1,66	
6	11	Transformations of random variables.	x			Lecture	1,66	6,0
	12	First partial PBL		x		First Midterm	1,66	
7	13	Jointly distributed random variables. Definition of random vector	x			Lecture	1,66	6,0
	14	Problems and solutions		x		Session of solving exercises	1,66	
8	15	Independent random variables. Some multivariate distribution models.	x			Lecture	1,66	6,0
	16	Problems and solutions		x		Session of solving exercises	1,66	
9	17	Transformations.	x			Lecture	1,66	6,0
	18	Problems and solutions		x		Session of solving exercises	1,66	
10	19	Properties of the expectation. Expectations of transformation of random variables. Covariance, variance of sums, and correlation.	x			Lecture	1,66	6,0
	20	Problems and solutions		x		Session of solving exercises	1,66	
11	21	Conditional expectation. Moment generating functions.	x			Lecture	1,66	6,0
	22	Problems and solutions		x		Session of solving exercises	1,66	
12	23	Limit Theorems. Chebyshev inequality.	x			Lecture	1,66	6,0
	24	Second PBL		x		Second Midterm	1,66	
13	25	Convergence in probability, the Weak Law of Large Numbers. Almost sure convergence, the Strong Law of Large Numbers.	x			Lecture	1,66	6,0
	26	Problems and solutions		x		Session of solving exercises	1,66	
14	27	Convergence in distribution, the Central Limit Theorem	x			Lecture	1,66	6,0
	28	Problems and solutions		x		Session of solving exercises	1,66	
29		Applications	x			Lecture	1,66	3,00
<b>Subtotal 1</b>							<b>48</b>	<b>84</b>
<b>Total 1 (Hours of class plus student homework)</b>							<b>132</b>	
15		Tutorials, handing in, etc					3,6	-
17		Assessment					4	10
18								
<b>Subtotal 2</b>							<b>8</b>	<b>10</b>
<b>Total 2 (Hours of class plus student homework)</b>							<b>18</b>	
<b>TOTAL (Maximum 166 hours)</b>							<b>150</b>	