

<b>COURSE: Neural Networks</b>		
<b>DEGREE: Data Science and Engineering</b>	<b>YEAR: 3</b>	<b>TERM: 2</b>

WEEKLY PLANNING								
WEEK	SESSION	DESCRIPTION	TEACHING (mark X)		SPECIAL ROOM FOR SESSION (Computer class room, audiovisual 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	Introduction to the course	x				1,66	6,5
	2	Logistic Regression and classification. Numerical optimization		x			1,66	
2	3	The Multilayer Perceptron and backpropagation training	x				1,66	6,5
	4	Introduction to NN training with Tensorflow			x		1,66	
3	5	Regularization in Neural Networks	x				1,66	6,5
	6	Convolutional Neural Networks		x			1,66	
4	7	Designing an image classifier with CNNs	x				1,66	6,5
	8	Object tracking and attention mechanisms in computervision		x			1,66	
5	9	Lab session on training and designing CNNs			x		1,66	6,5
	10	Recurrent Neural Networks and LSTMs	x				1,66	
6	11	Sequence to Sequence model. Attention		x			1,66	6,5
	12	Word Embeddings	x				1,66	
7	13	Natural Language Processing with RNNs		x			1,66	6,5
	14	Automatic text recognition. The CTC loss function	x				1,66	
8	15	Lab session on on natural language processing with RNNs			x		1,66	6,5
	16	Deep Unsupervised Learnin: overview	x				1,66	
9	17	Denoising Autoencoders		x			1,66	6,5
	18	Probabilistic Modelling and Variational inference	x				1,66	
10	19	Variational Autoencoders		x			1,66	6,5
	20	Sequential models with latent context spaces	x				1,66	
11	21	Implicit Models and Generative Adversarial Networks		x			1,66	6,5
	22	Training Generative Adversarial Networks	x				1,66	
12	23	Lab session on Variational Autoencoders			x		1,66	6,5
	24	Autoregressive models	x				1,66	
13	25	Deep Bayesian Networks		x			1,66	6,5

WEEKLY PLANNING								
WEEK	SESSION	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)
	26	Deep Domain alignment	x				1,66	0,5
14	27	Deep Reinforcement learning	x				1,66	6,5
	28	Deep Reinforcement learning		x			1,66	
	29	Course review and future challenges	x				1,66	3,25
<b>Subtotal 1</b>							<b>48</b>	<b>94</b>
<b>Total 1 (Hours of class plus student homework)</b>							<b>142</b>	
15		Tutorials, handing in, etc					3,6	-
16	17 18	Assessment					4	10
17								
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 (Maximun 160 horas )</b>							<b>160</b>	