uc3m | Universidad Carlos III de Madrid
Vicerrectorado de Estudios
Apoyo a la docencia y gestión del grado

COURSE: Deep Learning		
Master in Information Health Engineering		**TERM: 1**

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 (1,66=50+50 min)	HOMEWORK HOURS (Max. Estim. 6,5h)
1	1	Introduction to the course	x		Computer class		1,66	6,5
	2	Logistic Regression and classification. Numerical optimization		x	Computer class		1,66	
2	3	The Multilayer Perceptron and backpropagation training	x		Computer class		1,66	6,5
	4	Introduction to NN training with Pytorch		x	Computer class		1,66	
3	5	Regularization in Neural Networks	x		Computer class		1,66	6,5
	6	Convolutional Neural Networks		x	Computer class		1,66	
4	7	Designing an image classifier with CNNs	x		Computer class		1,66	6,5
	8	Object tracking and attention mechanishms in computervision		x	Computer class		1,66	
5	9	Lab session on training and designing CNNs		x	Computer class		1,66	6,5
	10	Recurrent Neural Networks and LSTMs	x		Computer class		1,66	
6	11	Sequence to Sequence model. Attention		x	Computer class		1,66	6,5
	12	Word Embeddings	x		Computer class		1,66	
7	13	Natural Language Processing with RNNs		x	Computer class		1,66	6,5
	14	Automatic text recognition. The CTC loss function	x		Computer class		1,66	
8	15	Lab session on on natural language processing with RNNs		x	Computer class		1,66	6,5
	16	Deep Unsupervised Learnin: overview	x		Computer class		1,66	
9	17	Denoising Autoencoders		x	Computer class		1,66	6,5
	18	Probabilistic Modelling and Variational inference	x		Computer class		1,66	
10	19	Variational Autoencoders		x	Computer class		1,66	6,5
	20	Sequential models with latent context spaces	x		Computer class		1,66	
11	21	Implicit Models and Generative Adversarial Networks		x	Computer class		1,66	6,5
	22	Training Generative Adversarial Networks	x		Computer class		1,66	
12	23	Lab session on Variational Autoencoders		x	Computer class		1,66	6,5
	24	Autoregressive models	x		Computer class		1,66	
13	25	Deep Bayessian Networks		x	Computer class		1,66	6,5
	26	Deep Domain alignment	x		Computer class		1,66	
14	27	Deep Reinforcement learning	x		Computer class		1,66	6,5
	28	Deep Reinforcement learning		x	Computer class		1,66	
	29	Course review and future challenges	x		Computer class		1,66	3,25
						Subtotal 1	**48**	**94**
						Total 1 *(Hours of class plus student homework)*	**142**	

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15		Tutorials, handing in, etc					3,6	-
16								
17		Assessment					4	10
18								
						Subtotal 2	**8**	**10**
						Total 2 *(Hours of class plus student homework)*	**18**	
TOTAL (*Maximun 160 horas*)							**160**	