SWARNANDHRA
COLLEGE OF ENGINEERING & TECHNOLOGY
(AUTONOMOUS)

Accredited by National Board of Accreditation, AICTE, New Delhi,Accredited by NAAC with "A" Grade – 3.32 CGPA,Recognized under 2(f) & 12(B) of UGC Act 1956, Approved by AICTE, New Delhi,Permanent Affiliation to JNTUK, Kakinada
Seetharampuram, W.G.DT., Narsapur-534280, (Andhra Pradesh)

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

TEACHING PLAN

Course Code	Course Title	Semester	Branches	Contact Periods /Week	Academic Year	Date of commencement of Semester
16CS8E01	MACHINE LEARNING	VIII	CSE	5	2019	25-11-19

COURSE OUTCOMES

1	Define basic concepts of machine learning.
2	Evaluate and compare the performance or, other qualities of regression and logistic regression
3	Describe concepts of artificial intelligence.
4	Design a supervised or unsupervised learning system.
5	Define the knowledge about SVM.
6	Demonstrate Instance based learning algorithms.

UNIT	CO	Topic No.	Topics/Activity	T. B / Ref.	Contact Hour	Delivery method
I	1	1	Well-posed learning problems		1	BB/PPT
	4	2	Designing a learning system		1	BB/PPT
	1	3	Perspectives and issues in machine learning		1	BB/PPT
	1	4	A concept learning task		1	BB/PPT
	1	5	Concept learning as search		1	BB/PPT
	1	6	Finding a maximally specific hypothesis		1	BB/PPT
	1	7	Version spaces and the candidate elimination algorithm		1	BB/PPT
	1	8	Remarks on version spaces and candidate elimination		1	BB/PPT
	1	9	Inductive bias		1	BB/PPT
	6	10	Python modules for ML/DL		1	BB/PPT
				Total	10	
II	3	11	Predicting numeric values: regression		1	BB/PPT
	3	12	Finding the best fit lines with linear regression		1	BB/PPT
	3	13	Locally weighted linear regression		1	BB/PPT
	3	14	Shrinking Coefficients		1	BB/PPT
	3	15	The bias / Variance tradeoff		1	BB/PPT
	3	16	Classification with logistic regression and the sigmoid function		1	BB/PPT
	3	17	Using optimization to find the best regression		1	BB/PPT

			coefficients.			
	3	18	Implementation of Linear Regression and Logistic Regression using Python		1	BB/PPT
				Total	8	
III	1	19	Introduction to Artificial Neural Networks		1	BB/PPT
	3	20	Neural network representation		1	BB/PPT
	3	21	Appropriate problems for neural network learning		1	BB/PPT
	1	22	Perceptions		1	BB/PPT
	1	23	Multilayer networks		1	BB/PPT
	3	24	The back propagation algorithm		1	BB/PPT
	3	25	Remarks on the back propagation algorithm		1	BB/PPT
	6	26	An illustrative example face recognition		1	BB/PPT
	3	27	Advanced topics in artificial neural networks		1	BB/PPT
	6	28	Implementation of Back propagation Algorithm using Python		10	BB/PPT
				Total	10	
IV	2	29	Evaluation Hypotheses: Motivation		1	BB/PPT
	2	30	Estimation hypothesis accuracy		1	BB/PPT
	1	31	Basics of sampling theory		1	BB/PPT
	3	32	A general approach for deriving confidence intervals		1	BB/PPT
	3	33	Difference in error of two hypotheses		1	BB/PPT
	2	34	Comparing learning algorithms		1	BB/PPT
	2	35	Comparing learning algorithms		1	
	-	36	Review of unit		1	BB/PPT
		37	Slip Test		1	BB/PPT
				Total	9	
V	1	38	Support vector machines: Separating data with the maximum margin		1	BB/PPT
	2	39	Finding the maximum margin		1	BB/PPT
	2	40	Efficient optimization with SMO algorithm		1	BB/PPT
	2	41	Speeding up optimization with full platt SMO		1	BB/PPT
	3	42	Using Kernels for more Complex data		1	BB/PPT
	6	43	Dimensionality Reduction techniques		1	BB/PPT
	3	44	Principal Component analysis		1	BB/PPT
	6	45	Python implementation for Classification using SVM Approach		1	BB/PPT
				Total	9	
VI	1	47	Instance-Based Learning: Introduction		1	BB/PPT
	3	48	k -Nearest Neighbor Learning		1	BB/PPT
	3	49	Locally Weighted Regression		1	BB/PPT
	3	50	Radial Basis Functions		1	BB/PPT

	3	51	Case-Based Reasoning		1	BB/PPT
	3	52	Remarks on Lazy and Eager Learning		1	BB/PPT
	3	53	Genetic Algorithms: Representing		1	BB/PPT
	3	54	Hypotheses		1	BB/PPT
	3	55	Genetic Operators		1	BB/PPT
	3	56	Fitness Function and Selection		1	BB/PPT
	6	57	Illustrative Example		1	BB/PPT
				Total	12	
				CUMULATIVE PROPOSED PERIODS		

Text Books:	
S.No.	AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION
1	Tom M. Mitchell, Machine Learning, MGH
2	Peter Harington, Machine Learning in Action, Cengage 2012

Reference Books:	
S.No.	AUTHORS, BOOK TITLE, EDITION, PUBLISHER, YEAR OF PUBLICATION
1	Ethem Alpaydin, Introduction to Machine Learning, PHI, 2004

Web Details	
1.	**http://www.stat.ucla.edu/~akfletcher/stat261/Lec1Slides_2016.pdf**
2.	**https://www.googleadservices.com/pagead/aclk?sa=L&ai=DChcSEwjYyfvU3I7vAhXLBHIKHXrOAYMYABAAGgJzZg&ae=2&ohost=www.google.com&cid=CAESP**

		Name	Signature with Date
i.	Faculty	Dr. P Srinivasulu	
ii.	Course Coordinator		
iii.	Module Coordinator		
iv.	Programme Coordinator		

Principal