SRM INSTITUTE OF SCIENCE AND TECHNOLOGY

SCHOOL OF COMPUTER SCIENCE AND ENGINEERING
COURSE PLAN

Course Code : 15CS421E
Course Title : Natural language Processing
Semester : VI
Course Time : JAN - MAY 2018

GROUP	DAY ORDER	All Section students	
		Hour	Timing
C1	3	1,2	8.00 - 9.40
	4	9	3:15 - 4:05
	5	5	11:35 - 12:25
C2	3	6,7	12:30 - 2:15
	4	4	10:40 - 11:30
	5	10	4.05 -4:55

Location : Tech Park
Faculty Details

S.No	Name	CLASS ROOM NO	Office hour	Group	Mail id
1	Dr.Subalalitha C.N	TP606A	Monday to Friday	C1 and C2	Subalalitha.@ktr.srmuniv.ac.in
2	Ms.Sindhu C	TP	Monday to Friday	C1	sindhu.c@ktr.srmuniv.ac.in
3	Ms. Renuka Devi	TP	Monday to Friday	C2	renukadevi.p@ktr.srmuniv.ac.in

LEARNING RESOURCES	
1	TEXT BOOKS
1	Daniel Jurafsky and James H Martin, ”Speech and Language Processing: An introduction to Natural Language Processing, Computational Linguistics and Speech Recognition”, Prentice Hall, 2nd Edition, 2008.
2	C. Manning and H. Schutze, “Foundations of Statistical Natural Language Processing”, MIT Press. Cambridge, MA:,1999
	REFERENCE TEXT BOOKS
1	C. Manning and H. Schutze, “Foundations of Statistical Natural Language Processing”, MIT Press. Cambridge, MA:,1999

PURPOSE	This course provides a sound understanding of Natural Language Processing and challenges involved in that area

INSTRUCTIONAL OBJECTIVES		STUDENT OUTCOMES						
At the end of the course, student will be able to								
1.	Provide the student with knowledge of various levels of analysis involved in NLP	a	b					
2.	Understand the applications of NLP	a	j					
3.	Gain knowledge in automated Natural Language Generation and Machine Translation	a						

Assessment

Cycle Test – I	:	15 Marks
Cycle Test – II	:	25 Marks
Surprise Test – I	:	5 Marks
Assignment and Quiz	:	5 Marks

Test Schedule

S.No.	DATE	TEST	TOPICS	DURATION
1	As per calendar	Cycle Test - I	Unit I & II	1.30 Hrs
2		Cycle Test - II	Unit III , IV& V	3 Hrs

Detailed Session Plan

Session	Description of Topic	Contact hours	C-D-I-O	IOs	Reference
	UNIT I- OVERVIEW AND MORPHOLOGY	**9**			
1	Introduction – Models -and Algorithms - -Regular Expressions Basic Regular Expression Patterns – Finite State Automata	3	C	1	1,2
2	Morphology - Inflectional Morphology - Derivational Morphology -	3	C, D	1	1,2
3	Finite-State Morphological Parsing --Porter Stemmer	3	C, I		1,2
	UNIT II - WORD LEVEL AND SYNTACTIC ANALYSIS	**9**			
4	N-grams Models of Syntax - Counting Words - Unsmoothed N-grams	3	C, D	1	1,2
5	Smoothing- Backoff DeletedInterpolation – Entropy - English Word Classes - Tagsets for English	2	C	1, 2	1,2

6	Part of Speech Tagging-Rule Based Part of Speech Tagging - Stochastic Part of Speech Tagging - Transformation-Based Tagging -	4	C, D, I	1, 2	1,2
	UNIT III –CONTEXT FREE GRAMMARS	**9**			
7	Context Free Grammars for English Syntax- Context-Free Rules and Trees -	3	C	1, 2	1,2
8	Sentence- Level Constructions– Agreement – Sub Categorization	2	C	1, 2	1,2
9	Parsing – Top-down – Earley Parsing - feature Structures – ProbabilisticContext-Free Grammars	4	C	1, 2	1,2
	UNIT IV –SEMANTIC ANALYSIS	**9**			
10	Representing Meaning - Meaning Structure of Language - First Order Predicate Calculus	2	C	1, 2	1,2
11	Representing Linguistically Relevant Concepts -Syntax-Driven Semantic Analysis - Semantic Attachments -Syntax-Driven Analyzer	3	C, D	1, 2	1,2
12	- Robust Analysis - Lexemes and Their Senses - Internal Structure - Word SenseDisambiguation -Information Retrieval	4	D, I	1, 2	1,2
	UNIT V –LANGUAGE GENERATION AND DISCOURSE ANALYSIS	**9**			
13	Discourse -Reference Resolution - Text Coherence - Discourse Structure – Coherence	2	D, I	1, 2, 3	1,3
14	Dialog and Conversational Agents - Dialog Acts – Interpretation -Conversational Agents -	2	D, I	1, 2, 3	1,3
15	Language Generation – Architecture - Surface Realizations - Discourse Planning .	2	D, I	1, 2, 3	1,3
16	Machine Translation -Transfer Metaphor–Interlingua – Statistical Approaches	3	D, I	1, 2, 3	1,3

HOD/CSE Dr.SUBALALITHA C.N