Course Syllabus

New ASTU

1. Brief Information

Course Title	Introduction to Natural Language Processing(NLP)
Course Credits	3(2Hr. lecture & 3Hr Lab)
Code	CSE5321

Target Students' Major	CSE	**Target Grade**	4th Year
Prerequisite(s) for enrollment	**None**	**Capacity (Maximum Number)**	50

Instructor			
	Mobile		
TA	**Name**	**E-Mail**	

Course Goal (Learning outcome)	Upon completion of this course, students should be able to: • Demonstrate understanding of major levels of linguistics analysis • Be knowledgeable in various approaches to NLP • Apply appropriate techniques to NLP tasks • Undertake design and development of tools/applications for core NLP tasks
Course Outline (Description)	The field of natural language processing is a branch of AI concerned with practical and theoretical issues that arise in getting computers to perform various tasks with human languages. This course provides a comprehensive introduction to the theory and practice of natural language processing (NLP)—the development of computer programs that can understand and generate natural language. In this introductory course you will learn about different levels of linguistics analysis, approaches and techniques to NLP, understand major NLP tasks and applications. NLTK, a leading platform for building Python programs to work with human language data, will be used during practical sessions.

Grade Distribution			
	Attendance	5%	Students must attend above 80% the lecture classes 100% of Lab.
	Assessment	50%	Mid-term (20)%, Final exam (30)%
	Quiz or Tests	15%	
	Assignment/Project	20%	Individual (10)%, Group(15)%
	Class Participation	5%	
	Neither late assignments nor late projects are allowed		

References	1. Daniel Jurafsky & James H. Martin. Speech and Language Processing: An introduction to natural language processing, computational linguistics, and speech recognition.
	2. Steven Bird, Ewan Klein, and Edward Loper . Natural Language Processing with Python

3. Dale, R., et al., 2000. Handbook of Natural Language Processing. Marcel Dekker, New York, NY.	
https://www.mooc-list.com/course https://www.courseera.org	

2. Lesson Sequence Plan

Week	Title	Content Topic/ Learning Objectives	Activities
1-2	**An Overview of NLP**	Definitions, Levels of linguistics analysis , Approaches to NLP, Applications of NLP, challenges in NLP	Reading assignment on levels of linguistics
3-4	**Morphological Analysis**	Terminologies , English Morphology , Morphological Types and Rules	Lab practice on NLTK and practice to understand stemming algorithms
5-6	**Syntax and Parsing**	Introduction, Phrases, Sentences, Tree Representation, Parsing	Practice on parsing
7	**Semantic Analysis**	Semantic Representation, Lexical Semantics, Latent Semantic Analysis	Reading assignment
8	**Mid Term Exam**		
9	**Discourse and Pragmatic Processing**	Discourse Segmentation, Reference Resolution , Pragmatics	Individual assignment
10	**Disambiguation**	Morphological Level, Syntactic Level, Semantic Level, Discourse Level	Individual assignment
11-12	**Approaches to NLP**	Representing Linguistic Knowledge, Models and Algorithms	Group Project
13-15	**Applications of NLP**	Information Retrieval , Information Extraction, Machine Translation, Question-Answering and Dialogue Systems, Text Summarization etc	Group Project
16	**Final exam**		

COLLABORATION POLICY

- Students may **work and discuss together** to **understand course materials**, but **do their homework assignments independently** except the **team project**.
- For the **team project**, any forms of **collaboration** are allowed between **the members** of a **team**.
- Any **copying and inappropriate assistance** on an assignment will be treated harshly.
- **All parties** involved will receive a **zero** on the **assignment** for the **first instance**.
- The **second instance** will lead to **F grade**.
- Copying or inappropriate assistance on the **term project** is treated **even more harshly**. All parties involved will immediately **get** an **F**.
- Any **cheating** on **exam** will also immediately lead to **F grade**

Week	Title	Content Topic/ Learning Objectives	Activities

- Students having less than 80% theory class and less than 90% lab **attendance cannot sit for final exam.**