	Universitas Negeri Surabaya Faculty of Engineering, Undergraduate Study Program in Informatics Engineering	**Document Code**

SEMESTER LEARNING PLAN

Courses		CODE	Course Family	Credit Weight			SEMESTER	Compilation Date
Natural Language Processing		5520203067		**T=3**	**P=0**	**ECTS=4.77**	6	July 18, 2024

AUTHORIZATION		SP Developer	Course Cluster Coordinator	Study Program Coordinator
		....	....	Aditya Prapanca, S.T., M.Kom.

Learning model	**Project Based Learning**

Program Learning Outcomes (PLO)	**PLO study program that is charged to the course**
	Program Objectives (PO)
	PLO-PO Matrix

P.O

PO Matrix at the end of each learning stage (Sub-PO)

P.O	Week															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Short Course Description	Study the concepts of natural language processing in the form of text and voice recognition

References	**Main :**

1. Christopher Manning dan Hinrich Schuetze, 1999, Foundations of Statistical Natural Language Processing .
2. R. Kibble , 2013, Introduction to natural language processing, University of London
3. Steven Bird, Ewan Klein, and Edward Loper , 2009, Natural Language Processing with Python , United States of America.Published by O'Reilly Media, Inc

	Supporters:

Supporting lecturer	Anita Qoiriah, S.Kom., M.Kom.

Week-	Final abilities of each learning stage (Sub-PO)	Evaluation		Help Learning, Learning methods, Student Assignments, [Estimated time]		Learning materials [References]	Assessment Weight (%)
		Indicator	Criteria & Form	Offline (*offline*)	Online (*online*)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)

1	Students are able to understand the basic concepts of natural language processing, introduction to language theory, general concepts of natural language processing, examples of natural language processing applications	Students can: 1. Explain the basic concepts of natural language processing. 2. Create examples of the use of natural language processing		Model: Cooperative Method: Discussion, Presentation and practicum 3 X 50			0%
2	Students are able to compose regular expressions to process strings	Students can: 1. Understand the structure of regular expressions 2. Understand the commands in RE 3. Develop RE to solve problems 4. Apply RE in string processing		Approach: Scientific Model: Cooperative Method: Discussion, Presentation and practicum 3 X 50			0%
3	Students are able to process text as required	Students can: 1. Understand text management 2. Understand the use of commands in text management 3. Create a program to manage text		Approach: Scientific Model: Cooperative Method: Discussion, Presentation and practicum 3 X 50			0%
4	Students are able to manage lists of strings	Students can: 1. Understand lists 2. Understand the difference between lists and strings 3. Understand some list management 4. Create programs with lists		Approach: Scientific Model: Cooperative Method: Discussion, Presentation and practicum 3 X 50			0%
5	Students are able to understand the language processing process			3 X 50			0%
6	Students are able to understand the language processing process			3 X 50			0%
7	Students are able to understand the language processing process			N-Grams, Training & test, Evaluation of N-Grams, Smoothing, Interpolation, Backoff, Practical issues, Language modeling 3 X 50			0%
8				3 X 50			0%

No	Sub-PO	Material		Time			Percentage
9	Students are able to understand the language processing process			3 X 50			0%
10	Students are able to understand the process of processing language in the form of sounds			3 X 50			0%
11	Students are able to understand the process of processing language in the form of sounds	Text Normalization, Phonetic Analysis, Prosodic Analysis, Diphone Waveform Synthesis, Unit Selection Synthesis, Evaluation		3 X 50			0%
12	Students are able to understand the process of processing language in the form of sounds			3 X 50			0%
13	Students are able to understand the process of processing language in the form of sounds			3 X 50			0%
14	Students are able to understand language processing applications			3 X 50			0%
15	Students are able to understand language processing applications			3 X 50			0%
16							0%

Evaluation Percentage Recap: Project Based Learning

No	Evaluation	Percentage
		0%

Notes
1. **Learning Outcomes of Study Program Graduates (PLO - Study Program)** are the abilities possessed by each Study Program graduate which are the internalization of attitudes, mastery of knowledge and skills according to the level of their study program obtained through the learning process.
2. **The PLO imposed on courses** are several learning outcomes of study program graduates (CPL-Study Program) which are used for the formation/development of a course consisting of aspects of attitude, general skills, special skills and knowledge.
3. **Program Objectives (PO)** are abilities that are specifically described from the PLO assigned to a course, and are specific to the study material or learning materials for that course.
4. **Subject Sub-PO (Sub-PO)** is a capability that is specifically described from the PO that can be measured or observed and is the final ability that is planned at each learning stage, and is specific to the learning material of the course.
5. **Indicators for assessing** ability in the process and student learning outcomes are specific and measurable statements that identify the ability or performance of student learning outcomes accompanied by evidence.
6. **Assessment Criteria** are benchmarks used as a measure or measure of learning achievement in assessments based on predetermined indicators. Assessment criteria are guidelines for assessors so that assessments are consistent and unbiased. Criteria can be quantitative or qualitative.
7. **Forms of assessment:** test and non-test.

8. **Forms of learning:** Lecture, Response, Tutorial, Seminar or equivalent, Practicum, Studio Practice, Workshop Practice, Field Practice, Research, Community Service and/or other equivalent forms of learning.
9. **Learning Methods:** Small Group Discussion, Role-Play & Simulation, Discovery Learning, Self-Directed Learning, Cooperative Learning, Collaborative Learning, Contextual Learning, Project Based Learning, and other equivalent methods.
10. **Learning materials** are details or descriptions of study materials which can be presented in the form of several main points and sub-topics.
11. **The assessment weight** is the percentage of assessment of each sub-PO achievement whose size is proportional to the level of difficulty of achieving that sub-PO, and the total is 100%.
12. TM=Face to face, PT=Structured assignments, BM=Independent study.