	Universitas Negeri Surabaya Vocational Faculty, D4 Mechanical Engineering Study Program	Document Code

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date
Corrosion Engineering	2130202023		T=0	P=0	ECTS=0	3	July 17, 2024

AUTHORIZATION	SP Developer	Course Cluster Coordinator	Study Program Coordinator
	.....	.....	Arya Mahendra Sakti, S.T., M.T.

Learning model	**Project Based Learning**
Program Learning Outcomes (PLO)	**PLO study program which 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	Understanding of corrosion principles, corrosion kinetics and corrosion thermodynamics, pourbai diagrams, polarization, passivation, corrosion speed measurement, metallurgical aspects, corrosion testing, 13 forms of corrosion, high temperature corrosion, cathodic protection, anodic protection, coatings, inhibitors, material selection and design, monitoring and inspection , corrosion damage analysis, standards related to the field of corrosion.
References	**Main :**
	1. Jones DA,Principles & Prevention of Corrosion,Mc Millan Pubs. Co, 1992Fontana,Corrosion Engineering, 3rd ed., Mc GrawHill, Tokyo 1992.RobergePierre R,Handbook of CorrosionEnggineering, Mc Graw 13 Hill Handbook, 1999Bahan-bahan dari Internetdan kepustakaan lain
	Supporters:
Supporting lecturer	Arya Mahendra Sakti, S.T., M.T. Dewi Puspitasari, S.Pd., M.Sc.

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	Understand the mechanism of corrosion, know about the Corrosion Concept	Able to analyze and understand the occurrence of corrosion and its causes.	**Criteria:** According to the Assessment Rubric	Lectures, discussions and questions and answers 100‘			0%
2	Mechanisms and understanding of Corrosion, Types of corrosion	Able to identify certain types of corrosion and their causes.	**Criteria:** According to the Assessment Rubric	Lectures, discussions and questions and answers 300‘			0%
3							0%
4							0%
5	Able to identify certain types of corrosion and be able to describe the mechanisms by which each particular type of corrosion occurs.	Able to describe the mechanism of corrosion and be able to write down the reactions that occur in certain types of corrosion.	**Criteria:** According to the Assessment Rubric	Lectures, discussions and questions and answers 300‘			0%
6							0%
7							0%
8	U.S.S	U.S.S	**Criteria:** According to the Assessment Rubric	USS USS			0%
9	Understand the theory of control with barrier layers	Determine various mechanisms of corrosion in various types and control solutions.	**Criteria:** According to the Assessment Rubric	Lectures, discussions and questions and answers 200‘			0%
10							0%
11	Understand corrosion control with sacrificial anodes and cathodhas, as well as with the use of inhibitors	Determine various mechanisms of corrosion in various types and control solutions.	**Criteria:** According to the Assessment Rubric	Lectures, discussions and questions and answers 100‘			0%
12							0%
13	Understand corrosion control with sacrificial anodes and cathodhas, as well as with the use of inhibitors	Determine how to control corrosion with sacrificial anodes and cathodes, with inhibitors, appropriately, effectively, efficiently and economically	**Criteria:** According to the Assessment Rubric	Lectures, discussions and questions and answers 200‘			0%
14							0%

15	Understand the methods of placing sacrificial anodes and cathodes as well as the materials used and materials controlled	Determine how to control corrosion with sacrificial anodes and cathodes, with inhibitors, appropriately, effectively, efficiently and economically	**Criteria:** According to the Assessment Rubric	Lectures, discussions and questions and answers 100‘			0%
16	Understand how to use inhibitors, the inhibitor materials used and the controlled materials	Determine how to control corrosion with sacrificial anodes and cathodes, with inhibitors, appropriately, effectively, efficiently and economically	**Criteria:** According to the Assessment Rubric	Lectures, discussions and questions and answers 100‘			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.