



**Universitas Negeri Surabaya**  
**Faculty of Engineering,**  
**Mechanical Engineering Education Undergraduate Study**  
**Program**

Document  
Code

## SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date
Welding Practice	8320303143		T=3	P=0	ECTS=4.77	4	July 17, 2024

AUTHORIZATION	SP Developer	Course Cluster Coordinator	Study Program Coordinator
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Learning model	Case Studies
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Program Learning Outcomes (PLO)	PLO study program that is charged to the course
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PLO-5	Have social competence and personality competence in mechanical engineering education
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PLO-8	Able to carry out maintenance and repairs in the automotive engineering field (automotive concentration) or able to operate various production equipment and machines in the manufacturing sector (production concentration)
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Program Objectives (PO)	
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PO - 1	Able to identify the necessary techniques, skills and tools of modern engineering practices for specific situations
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PO - 2	Able to explain the technical use, skills and tools specific to modern engineering practices
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PO - 3	Able to apply selected techniques, skills and tools of modern engineering practices to given situations
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PO - 4	Able to reflect on a selection of techniques, skills and tools of modern engineering practice applied to specific situations
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PO - 5	Have a responsible attitude in every job you do
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PLO-PO Matrix	
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	P.O	PLO-5	PLO-8	
PO-1				
PO-2				
PO-3				
PO-4				
PO-5				

PO Matrix at the end of each learning stage (Sub-PO)	
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P.O	Week															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	PO-1															
PO-2																
PO-3																
PO-4																
PO-5																

  

<b>Short Course Description</b>	Providing skills in carrying out electric welding, acetylene welding, strip welding, IV joints, triangles, seams, pipes with advanced underhand, horizontal and vertical welding positions.
<b>References</b>	<b>Main :</b> 1. Alip, Mochammad.1987. Teori dan Praktek Las. Jakarta :Depdikbud Ditjen Dikti P2LPTKSuryana,Didik. 1978. Petunjuk Praktik Hukum LasAsetilen dan Las Listrik . Jakarta: Dikmenjur.Love, George danHarun AR. 1986. Teori dan Praktek KerjaLogam . Edisi Ketiga. Jakarta: Erlangga.
	<b>Supporters:</b>
<b>Supporting lecturer</b>	Dr. Dewanto, M.Pd. Dr. Djoko Suwito, M.Pd. Dr. Yunus, M.Pd.

  

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	Able to weld lines without additional materials using acetylene welding	Able to weld using acetylene welding	<b>Criteria:</b> Welding results	Lecture discussion question and answer practice assignment 2 X 50			0%
2	Able to weld lines with added materials using acetylene welding	Able to weld using acetylene welding	<b>Criteria:</b> Welding results	Lecture, question and answer discussion, 4 X 50 assignment practice			0%
3	Able to weld lines with added materials using acetylene welding	Able to weld using acetylene welding	<b>Criteria:</b> Welding results	Lecture, question and answer discussion, 4 X 50 assignment practice			0%
4	Able to weld joint I using acetylene welding	Able to weld using acetylene welding	<b>Criteria:</b> Welding results	Lectures, discussions, questions and answers, exercises and assignments 4 X 50			0%
5	Able to weld joint I using acetylene welding	Able to weld using acetylene welding	<b>Criteria:</b> Welding results	Lectures, discussions, questions and answers, exercises and assignments 4 X 50			0%

6	Able to weld V joints using acetylene welding	Able to weld using acetylene welding	<b>Criteria:</b> Welding results	Lectures, discussions, questions and answers, exercises and assignments 4 X 50			0%
7	Able to weld V joints using acetylene welding	Able to weld using acetylene welding	<b>Criteria:</b> Welding results	Lectures, discussions, questions and answers, exercises and assignments 4 X 50			0%
8	Able to weld lines using electric welding	Able to weld using electric welding	<b>Criteria:</b> Welding results	Lecture discussion question and answer practice assignment 2 X 50			0%
9	Able to weld I joints using electric welding	Able to weld using electric welding	<b>Criteria:</b> Welding results	Lectures, discussions, questions and answers, exercises and assignments 2 X 50			0%
10	Able to weld V joints using electric welding	Able to weld using electric welding	<b>Criteria:</b> Welding results	Lectures, discussions, questions and answers, exercises and assignments 4 X 50			0%
11	Able to weld V joints using electric welding	Able to weld using electric welding	<b>Criteria:</b> Welding results	Lectures, discussions, questions and answers, exercises and assignments 4 X 50			0%
12	Able to weld lines using MIG welding	Able to weld using MIG welding	<b>Criteria:</b> Welding results	Lecture discussion question and answer practice assignment 2 X 50			0%
13	Able to weld I joints using MIG welding	Able to weld using MIG welding	<b>Criteria:</b> Welding results	Lectures, discussions, questions and answers, exercises and assignments 2 X 50			0%
14	Able to weld V joints using MIG welding	Able to weld using MIG welding	<b>Criteria:</b> Welding results	Lectures, discussions, questions and answers, exercises and assignments 4 X 50			0%
15				Case studies			0%

16	UAS			2 X 50			0%
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#### Evaluation Percentage Recap: Case Study

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** abilities in the process and student learning outcomes are specific and measurable statements that identify the abilities 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.