



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																																																																																																																																																
Machining Practice	8320303144	Compulsory Study Program Subjects	T=3	P=0	ECTS=4.77	3	April 28, 2023																																																																																																																																																
AUTHORIZATION	SP Developer		Course Cluster Coordinator			Study Program Coordinator																																																																																																																																																	
	Ali Hasbi Ramadani, S.Pd., M.Pd. ; Dr. Djoko Suwito, M.Pd. ; Dr. Yunus, M.Pd.		Dr. Djoko Suwito, M.Pd.			Ir. Wahyu Dwi Kurniawan, S.Pd., M.Pd.																																																																																																																																																	
Learning model	Case Studies																																																																																																																																																						
Program Learning Outcomes (PLO)	PLO study program which is charged to the course																																																																																																																																																						
	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)																																																																																																																																																					
	Program Objectives (PO)																																																																																																																																																						
	PO - 1	Students have the skills to make work objects using machining																																																																																																																																																					
	PO - 2	Able to identify the necessary techniques, skills and tools of modern engineering practices for specific situations																																																																																																																																																					
	PO - 3	Able to explain the technical use, skills and tools specific to modern engineering practices																																																																																																																																																					
	PO - 4	Able to apply selected techniques, skills and tools of modern engineering practices to given situations																																																																																																																																																					
	PO - 5	Able to reflect on a selection of techniques, skills and tools of modern engineering practice applied to a particular situation																																																																																																																																																					
	PO - 6	Have a responsible attitude in every job you do																																																																																																																																																					
	PLO-PO Matrix																																																																																																																																																						
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Short Course Description	Skilled in machining process work using various machine tools such as: lathes, milling machines, scrap machines, grinding machines, drilling machines, and sawing machines to produce a product.																																																																																																																																																						

References		Main :					
		<ol style="list-style-type: none"> 1. [1] Darmodiharjo, Darmaji. 2004. Petunjuk Kerja Mesin Bubut, Sekrap, dan Frais 1. Jakarta: Dikmenjur. 2. [2] Daryanto. 1987. Mesin Pengerjaan Logam. Bandung: Penerbit Tarsito. 3. [3] Krar, S.F., Amand, J.W., Oswald, J.E.St., 1996. Machine Tool Operation & Quos, McGraw Hill, USA. 4. [4] Soetardjo. 1990. Mesin-Mesin Perkakas. Surabaya: Unipress IKIP Surabaya. 					
		Supporters:					
Supporting lecturer		Dr. Djoko Suwito, M.Pd. Dr. Yunus, M.Pd. Ali Hasbi Ramadani, S.Pd., 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	Students are skilled in working using a lathe	Skilled in gripping workpieces on a lathe. Skilled at installing lathe chisels. Skilled in regulating the rotation speed of the lathe. Skilled in turning faces, flats, grooves, tapers, threads, and cartels based on job sheets. Prepare lathe process work reports.	Criteria: According to the performance assessment rubric Form of Assessment : Participatory Activities, Practice/Performance	Approach: Project-based learning Method: Demonstration Model: MPL Strategy: Field work, guided practice 6 X 50		Material: lathe References : [1] Darmodiharjo, Darmaji. 2004. Working Instructions for Lathe, Scrap and Milling Machines 1. Jakarta: Dikmenjur.	5%
2	Students are skilled in working using a lathe	Skilled in gripping workpieces on a lathe. Skilled at installing lathe chisels. Skilled in regulating the rotation speed of the lathe. Skilled in turning faces, flats, grooves, tapers, threads, and cartels based on job sheets. Prepare lathe process work reports.	Criteria: According to the performance assessment rubric Form of Assessment : Assessment of Project Results / Product Assessment, Practices / Performance	Approach: Project-based learning Method: Demonstration Model: MPL Strategy: Field work, guided practice 6 X 50		Material: lathe References : [1] Darmodiharjo, Darmaji. 2004. Working Instructions for Lathe, Scrap and Milling Machines 1. Jakarta: Dikmenjur.	5%

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8	UTS	complete the project according to the job sheet	<p>Criteria: According to the performance assessment rubric</p> <p>Form of Assessment : Project Results Assessment / Product Assessment</p>	<p>evaluation</p> <p>6 X 50</p>		<p>Material: Performance practice</p> <p>References: [2] Daryanto. 1987. <i>Metal Working Machines</i>. Bandung: Tarsito Publishers.</p>	10%
9	Students are skilled in working using milling machines	Skilled in gripping workpieces on milling machines. Skilled at installing milling chisels. Skilled in regulating the rotation speed of the milling machine. Skilled in making bolt heads and gears based on job sheets. Prepare milling process work reports.	<p>Criteria: According to the performance assessment rubric</p> <p>Form of Assessment : Project Results Assessment / Product Assessment</p>	<p>Approach: Project-based learning</p> <p>Method: Demonstration</p> <p>Model: MPL</p> <p>Strategy: Hands-on practice in the</p> <p>6 X 50 machining shop</p>		<p>Material: frais</p> <p>References: [1] Darmodiharjo, Darmaji. 2004. <i>Working Instructions for Lathe, Scrap and Milling Machines 1</i>. Jakarta: Dikmenjur.</p>	5%

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16	Summative Exam	Compliance with SOP	Criteria: in accordance with the evaluation assessment criteria Form of Assessment : Project Results Assessment / Product Assessment	Summative Exam 6 x 50		Material: Performance practice References: [2] <i>Daryanto. 1987. Metal Working Machines. Bandung: Tarsito Publishers.</i>	20%

Evaluation Percentage Recap: Case Study

No	Evaluation	Percentage
1.	Participatory Activities	6.67%
2.	Project Results Assessment / Product Assessment	76.67%
3.	Practice / Performance	16.67%
		100%

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.