

		Universitas Negeri Surabaya Faculty of Engineering, Mechanical Engineering Undergraduate Study Program					Document Code																																	
SEMESTER LEARNING PLAN																																								
Courses		CODE	Course Family		Credit Weight		SEMESTER	Compilation Date																																
Drawing techniques		2120103050			T=3	P=0	ECTS=4.77	1 July 18, 2024																																
AUTHORIZATION		SP Developer		Course Cluster Coordinator		Study Program Coordinator																																		
			Ir. Priyo Heru Adiwibowo, S.T., M.T.																																		
Learning model	Case Studies																																							
Program Learning Outcomes (PLO)	PLO study program that is charged to the course																																							
	Program Objectives (PO)																																							
	PLO-PO Matrix																																							
		<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="width: 100px; height: 30px;">P.O</td> </tr> </table>							P.O																															
P.O																																								
	PO Matrix at the end of each learning stage (Sub-PO)																																							
	<table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td rowspan="2" style="width: 30px; height: 30px;">P.O</td> <td colspan="16" style="text-align: center;">Week</td> </tr> <tr> <td style="width: 20px;">1</td> <td style="width: 20px;">2</td> <td style="width: 20px;">3</td> <td style="width: 20px;">4</td> <td style="width: 20px;">5</td> <td style="width: 20px;">6</td> <td style="width: 20px;">7</td> <td style="width: 20px;">8</td> <td style="width: 20px;">9</td> <td style="width: 20px;">10</td> <td style="width: 20px;">11</td> <td style="width: 20px;">12</td> <td style="width: 20px;">13</td> <td style="width: 20px;">14</td> <td style="width: 20px;">15</td> <td style="width: 20px;">16</td> </tr> </table>							P.O	Week																1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
P.O	Week																																							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16																								
Short Course Description	Students can understand how to draw cuts, special drawings, give measurements, give workmanship symbols, draw machine parts and make working drawings.																																							
References	Main :																																							
	<ol style="list-style-type: none"> 1. Anwari. 1978. Menggambar Teknik Mesin 2. Jakarta: Departemen Pendidikan dan kebudayaan. 2. Baharudin Yakob. 1979. Menggambar Mesin 3. Jakarta: Departemen Pendidikan dan Kebudayaan. 3. Juhana Ohan, Suratman. M. 2000. Menggambar Teknik Mesin. Bandung: Pustaka Grafika. 4. Marbun, Moyn. 1993. Menggambar Teknik Mesin. Bandung: Penerbit M2S. 5. Sato Takhesi, Sugiarto. 1986. Menggambar Mesin. Jakarta: Pradnya Paramita. 6. Yogaswara, Eka. 2004. Membaca Gambar Teknik SMK. Bandung: Armico 																																							
	Supporters:																																							
Supporting lecturer	Akhmad Hafizh Ainur Rasyid, S.T., M.T. Diastian Vinaya Wijanarko, S.T., M.T.																																							
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	Lecture preparation, RPS, introduction to material			3 X 50			0%
2	Able to mention various technical drawing tools and draw lines and letters	Able to mention various technical drawing tools	Criteria: Students are able to complete the assignments given and are assessed according to the assessment rubric	Lectures, discussions, questions and answers and 3 X 50 exercises			0%
3	Able to mention various technical drawing tools and draw lines and letters	Able to mention various technical drawing tools	Criteria: Students are able to complete the assignments given and are assessed according to the assessment rubric	Lectures, discussions, questions and answers and 3 X 50 exercises			0%
4	Able to draw pictorials. Able to draw orthogonal projections using European and American rules. Able to determine the view of objects	Skilled at pictorial drawing using various rules Skilled at drawing projections Able to determine various views on projections	Criteria: Students complete assignments and are assessed according to the assessment rubric	Lectures, discussions, questions and answers, exercises and assignments 3 X 50			0%
5	Able to draw pictorials. Able to draw orthogonal projections using European and American rules. Able to determine the view of objects	Skilled at pictorial drawing using various rules Skilled at drawing projections Able to determine various views on projections	Criteria: Students complete assignments and are assessed according to the assessment rubric	Lectures, discussions, questions and answers, exercises and assignments 3 X 50			0%
6	Able to draw pictorials. Able to draw orthogonal projections using European and American rules. Able to determine the view of objects	Skilled at pictorial drawing using various rules Skilled at drawing projections Able to determine various views on projections	Criteria: Students complete assignments and are assessed according to the assessment rubric	Lectures, discussions, questions and answers, exercises and assignments 3 X 50			0%
7	Able to draw pictorials. Able to draw orthogonal projections using European and American rules. Able to determine the view of objects	Skilled at pictorial drawing using various rules Skilled at drawing projections Able to determine various views on projections	Criteria: Students complete assignments and are assessed according to the assessment rubric	Lectures, discussions, questions and answers, exercises and assignments 3 X 50			0%
8	Able to draw pictorials. Able to draw orthogonal projections using European and American rules. Able to determine the view of objects	Skilled at pictorial drawing using various rules Skilled at drawing projections Able to determine various views on projections	Criteria: Students complete assignments and are assessed according to the assessment rubric	Lectures, discussions, questions and answers, exercises and assignments 3 X 50			0%

9							0%
10							0%
11							0%
12							0%
13							0%
14							0%
15							0%
16							0%

Evaluation Percentage Recap: Case Study

No	Evaluation	Percentage
		0%

Notes

- 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.
- 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.
- 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.
- 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.
- 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.
- 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.
- Forms of assessment:** test and non-test.
- 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.
- 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.
- Learning materials** are details or descriptions of study materials which can be presented in the form of several main points and sub-topics.
- 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%.
- TM=Face to face, PT=Structured assignments, BM=Independent study.