	Universitas Negeri Surabaya Faculty of Engineering , Electrical Engineering Education Undergraduate Study Program	Document Code

SEMESTER LEARNING PLAN

Courses		CODE	Course Family	Credit Weight				SEMESTER	Compilation Date
Mechatronics Practicum		8320102129		T=2	P=0	ECTS=3.18		6	July 18, 2024

AUTHORIZATION	SP Developer	Course Cluster Coordinator	Study Program Coordinator
	....	....	Dr. Nur Kholis, S.T., M.T.

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	Explain the definition of Mechatronics Explain the history of Mechatronics Explain the development and applications of Mechatronics

References	Main :

1. Bradley, Dawson et al., Mechatronics, Electronics in products and processes , Chapman and Hall Verlag, London, 1991.
2. Bishop, Robert H., Mechatronics: an introduction. CRC Press, 2006.
3. De Silva, Clarence W., Mechatronics: an integrated approach. CRC Press, 2005

	Supporters:

Supporting lecturer	Muhamad Syariffuddien Zuhrie, S.Pd., 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	Students are able to understand the scope of Mechatronics	Explain the definition of Mechatronics Explain the history of Mechatronics Explain the development and applications of Mechatronics	**Criteria:** Cognitive Assessment. Attitude Assessment. Social Skills Assessment.	Model: Direct learning Method: Lecture, Question and Answer, Discussion Scientific Approach 3 X 50			0%
2	Students are able to understand the scope of Mechatronics	Explain the definition of Mechatronics Explain the history of Mechatronics Explain the development and applications of Mechatronics	**Criteria:** Cognitive Assessment. Attitude Assessment. Social Skills Assessment.	Model: Direct learning Method: Lecture, Question and Answer, Discussion Scientific Approach 3 X 50			0%
3	Students are able to understand the scope of Mechatronics	Explain the definition of Mechatronics Explain the history of Mechatronics Explain the development and applications of Mechatronics	**Criteria:** Cognitive Assessment. Attitude Assessment. Social Skills Assessment.	Model: Direct learning Method: Lecture, Question and Answer, Discussion Scientific Approach 3 X 50			0%
4	Students are able to understand the existence of Mechatronics	1.Identify the types of Mechatronics environments 2.Explaining rationality in Mechatronics 3.Explain Mechatronics programs and functions 4.Identify the types of Mechatronics	**Criteria:** Cognitive Assessment. Attitude Assessment. Social Skills Assessment.	Model: Direct learning Method: Lecture, Question and Answer, Discussion Scientific Approach 3 X 50			0%
5	Students are able to understand the existence of Mechatronics	1.Identify the types of Mechatronics environments 2.Explaining rationality in Mechatronics 3.Explain Mechatronics programs and functions 4.Identify the types of Mechatronics	**Criteria:** Cognitive Assessment. Attitude Assessment. Social Skills Assessment.	Model: Direct learning Method: Lecture, Question and Answer, Discussion Scientific Approach 3 X 50			0%
6	Students are able to understand the existence of Mechatronics	1.Identify the types of Mechatronics environments 2.Explaining rationality in Mechatronics 3.Explain Mechatronics programs and functions 4.Identify the types of Mechatronics	**Criteria:** Cognitive Assessment. Attitude Assessment. Social Skills Assessment.	Model: Direct learning Method: Lecture, Question and Answer, Discussion Scientific Approach 3 X 50			0%

7	Students are able to understand the existence of Mechatronics	1.Identify the types of Mechatronics environments 2.Explaining rationality in Mechatronics 3.Explain Mechatronics programs and functions 4.Identify the types of Mechatronics	**Criteria:** Cognitive Assessment. Attitude Assessment. Social Skills Assessment.	Model: Direct learning Method: Lecture, Question and Answer, Discussion Scientific Approach 3 X 50			0%
8							0%
9							0%
10							0%
11							0%
12							0%
13							0%
14							0%
15							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.