



Universitas Negeri Surabaya
Faculty of Engineering,
Electrical Engineering Undergraduate Study Program

Document Code

SEMESTER LEARNING PLAN

Courses	CODE	Course Family	Credit Weight			SEMESTER	Compilation Date																																
ADAPTIVE CONTROL SYSTEM	2020102310		T=0	P=0	ECTS=0	5	July 17, 2024																																
AUTHORIZATION	SP Developer		Course Cluster Coordinator			Study Program Coordinator																																	
			Dr. Lusia Rakhmawati, S.T., M.T.																																	
Learning model	Case Studies																																						
Program Learning Outcomes (PLO)	PLO study program which 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
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	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16																							
Short Course Description	Explain the definition of an adaptive control system. Explain the history of adaptive control systems. Explain the development and application of adaptive control systems.																																						
References	Main :																																						
	<ol style="list-style-type: none"> 1. K. J. Astrom and B. Wittenmark, Adaptive Control. Reading, MA: Addison-Wesley, 1995. 2. I. D. Landau, R. Lozano, and M. M'Saad, Adaptive Control. New York, NY: Springer-Verlag, 1998. 3. G. Tao, Adaptive Control Design and Analysis. Hoboken, NJ: Wiley-Interscience, 2003. 																																						
	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	<p>Students are able to understand the scope of adaptive control systems. Students are able to understand the existence of an adaptive control system. Students are able to understand searching and solving adaptive control system problems with the help of Matlab software. Explain the definition of a digital control system.</p>	<p>1.Explain the definition of an adaptive control system. 2.Explain the history of adaptive control systems. 3.Explain the development and application of adaptive control systems.</p>	<p>Criteria: 1.Cognitive Assessment. 2.Attitude Assessment. 3.Social Skills Assessment.</p>	<p>Model: Direct learning Method: Lecture, Question and Answer, Discussion Scientific Approach 1, 2, 3 Presentation tools. 3 X 50</p>		0%
2	<p>Students are able to understand the scope of adaptive control systems. Students are able to understand the existence of an adaptive control system. Students are able to understand searching and solving adaptive control system problems with the help of Matlab software. Explain the definition of a digital control system.</p>	<p>1.Explain the definition of an adaptive control system. 2.Explain the history of adaptive control systems. 3.Explain the development and application of adaptive control systems.</p>	<p>Criteria: 1.Cognitive Assessment. 2.Attitude Assessment. 3.Social Skills Assessment.</p>	<p>Model: Direct learning Method: Lecture, Question and Answer, Discussion Scientific Approach 1, 2, 3 Presentation tools. 3 X 50</p>		0%
3	<p>Students are able to understand the scope of adaptive control systems. Students are able to understand the existence of an adaptive control system. Students are able to understand searching and solving adaptive control system problems with the help of Matlab software. Explain the definition of a digital control system.</p>	<p>1.Explain the definition of an adaptive control system. 2.Explain the history of adaptive control systems. 3.Explain the development and application of adaptive control systems.</p>	<p>Criteria: 1.Cognitive Assessment. 2.Attitude Assessment. 3.Social Skills Assessment.</p>	<p>Model: Direct learning Method: Lecture, Question and Answer, Discussion Scientific Approach 1, 2, 3 Presentation tools. 3 X 50</p>		0%

4	Students are able to understand the existence of an adaptive control system.	<ol style="list-style-type: none"> 1. Identify the types of adaptive control system environments 2. Explain rationality in adaptive control systems 3. Explain the program and function of the adaptive control system 4. Identify the types of adaptive control systems 	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 an adaptive control system.	<ol style="list-style-type: none"> 1. Identify the types of adaptive control system environments 2. Explain rationality in adaptive control systems 3. Explain the program and function of the adaptive control system 4. Identify the types of adaptive control systems 	Criteria: Cognitive Assessment. Attitude Assessment. Social Skills Assessment.	Model: Direct learning Method: Lecture, Question and Answer, Discussion Scientific Approach 3 X 50			0%
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7	Students are able to understand the existence of an adaptive control system.	1. Identify the types of adaptive control system environments 2. Explain rationality in adaptive control systems 3. Explain the program and function of the adaptive control system 4. Identify the types of adaptive control systems	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: 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.