



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																																	
Quality and Reliability of Communication Systems	2020102069		T=2 P=0 ECTS=3.18	6	July 18, 2024																																	
AUTHORIZATION	SP Developer		Course Cluster Coordinator		Study Program Coordinator																																	
		Dr. Lusia Rakhmawati, 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																																					
		<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	Conducting studies on various metrics to measure the quality of communication systems and methods for evaluating system reliability, errors and failures, including by understanding the concepts of QoS, accessibility, connection reliability, routing reliability.																																					
References	Main :																																					
	1. William C. Hardy, 1CQoS Measurement and Evaluation of Telecommunications Quality of Service, 1D John Wiley & Sons, 2001. 2. Mostafa Abd-El-Barr, 1CDesign and Analysis of Reliable and Fault-Tolerant Computer Systems, 1D Imperial College Press, 2007																																					
	Supporters:																																					
Supporting lecturer	EPPY YUNDRA Pradini Puspitaningayu, S.T., M.T., Ph.D.																																					
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 understand concepts related to quality control in the telecommunications field such as system reliability, QoS, and measurement concepts	Can explain the meaning of PMT Maintenance Relationship with PMT Can explain the Relationship between Maintenance and PMT Planning PMT Based on Telecommunication O&M Management Planning PMT Based on Telecommunication O&M Management	Criteria: The maximum score is 100 if answered correctly and correctly	Lectures and questions and answers 2 X 50			0%
2	Students understand concepts related to quality control in the telecommunications field such as system reliability, QoS, and measurement concepts	1. Able to explain the reliability of a system 2. Able to explain how to maintain the reliability of a system 3. Able to overcome or handle system failures 4. Able to calculate failures in a system	Criteria: The maximum score is 100 if all are answered correctly and correctly	Lectures, questions and answers and discussions 2 X 50			0%
3	Students are able to understand concepts related to quality control in the telecommunications field such as system reliability, QoS, and measurement concepts	1. Can explain the Basics of Measurement 2. Can describe and explain errors in measurement 3. Can classify measurements 4. Can explain i Types of Telecommunication Measuring Instruments	Criteria: The maximum score is 100 if all items are answered correctly and precisely	Lectures, discussions, questions and answers and assignments 2 X 50			0%
4	Students are able to understand concepts related to quality control in the telecommunications field such as system reliability, QoS, and measurement concepts	1. Can explain the Basics of Measurement 2. Can describe and explain errors in measurement 3. Can classify measurements 4. Can explain i Types of Telecommunication Measuring Instruments	Criteria: The maximum score is 100 if all items are answered correctly and precisely	Lectures, discussions, questions and answers and assignments 2 X 50			0%
5	Students are able to understand concepts related to quality control in the telecommunications field such as system reliability, QoS, and measurement concepts	1. Understanding QoS Functions 2. Know and understand QoS Indicators 3. Can explain and describe System & Network Parameters = QoS Indicators 4. Can explain and describe QoS Tools	Criteria: The maximum score is 100, if answered correctly and precisely	Lectures, discussions, questions and answers and assignments in class 2 X 50			0%

6	Students are able to carry out good planning and management in order to improve system reliability and QoS. Students are able to identify problems that may arise. Students are able to provide solutions (problem solving) to these problems. Students are able to carry out telecommunications measurements as an initial gateway to identifying problems that arise in communication. Students are able to use tools, both software and hardware, in telecommunications measurements.	Students are able to explain the Jarlokot (and x-DSL) quality measurement methods (parameters) and carry them out	Criteria: The maximum score is 100, if the answer is correct and correct	Ceramah, discussion and demonstration 2 X 50			0%
7	Students are able to carry out good planning and management in order to improve system reliability and QoS. Students are able to identify problems that may arise. Students are able to provide solutions (problem solving) to these problems. Students are able to carry out telecommunications measurements as an initial gateway to identifying problems that arise in communication. Students are able to use tools, both software and hardware, in telecommunications measurements.	Students are able to explain the Jarlokot (and x-DSL) quality measurement methods (parameters) and carry them out	Criteria: The maximum score is 100, if the answer is correct and correct	Ceramah, discussion and demonstration 2 X 50			0%

Evaluation Percentage Recap: Project Based Learning

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.

