	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
Computer Basics	8320102020		T=2	P=0	ECTS=3.18	1	July 18, 2024

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

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	Provides an explanation of the basics of Matlab. Using operators in Matlab and matrices, using and operating graphics in Matlab, operating m-files for Matlab programming, using GUIs to create electrical engineering learning media and the Simulink application for electrical engineering.
References	**Main :**

1. Teguh Widiarsono, M.T., Tutorial Praktis Belajar Matlab.
2. Patrick Marchand, O. Thomasholland. 2003. Graphics and GUIs with MATLAB. A CRC Press Company.
3. O. Beucher, M. Weeks. 2008. Introduction to Matlab & Simulink A Project Approach Third Edition. Infinity Science Press LLC Hingham, Massachusetts New Delhi

Supporters:	
Supporting lecturer	JOKO CATUR CONDRO CAHYONO Prof. Dr. I Gusti Putu Asto Buditjahjanto, S.T., M.T. Unit Three Kartini, 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 are able to describe the basics of Matlab	1. Explain the operation of Matlab 2. Explains the use of Matlab for simple mathematical calculations	**Criteria:** 1. The assessment criteria are carried out by looking at aspects: 2. Participation: carried out by observing student activities (weight 2) UTS: carried out by assessment during the middle of the semester (weight 2) UAS: carried out every semester to measure all indicators (weight 3) Assignments: carried out on each indicator (weight 3) Value Student End: 3. Participation Score (2) x Assignment Score (3) x UTS Score (2) x UAS Score (3) divided by 10.	Lectures, discussions, presentations 2 X 50			0%
2	Students are able to describe variables and basic operations	1. Explain and create several defined variables provided by Matlab 2. Explain the various variables that can be operated in Matlab.	**Criteria:** 1. The assessment criteria are carried out by looking at aspects: 2. Participation: carried out by observing student activities (weight 2) UTS: carried out by assessment during the middle of the semester (weight 2) UAS: carried out every semester to measure all indicators (weight 3) Assignments: carried out on each indicator (weight 3) Value Student End: 3. Participation Score (2) x Assignment Score (3) x UTS Score (2) x UAS Score (3) divided by 10.	Lectures, discussions, presentations and questions and answers 2 X 50			0%

3	Students are able to explain the basic matrix calculation process	1. Matrix Index Manipulation process explained 2. Explain the differences between Scalars, Vectors, and Matrices	**Criteria:** 1. The assessment criteria are carried out by looking at aspects: 2. Participation: carried out by observing student activities (weight 2) UTS: carried out by assessment during the middle of the semester (weight 2) UAS: carried out every semester to measure all indicators (weight 3) Assignments: carried out on each indicator (weight 3) Value Student End: 3. Participation Score (2) x Assignment Score (3) x UTS Score (2) x UAS Score (3) divided by 10.	Lectures, discussions, presentations 2 X 50			0%
4	Students are able to describe several examples of complex calculations using matrices and their applications	1. Function Element-by-Element concept explained 2. Explaining Linear equations in Matrices	**Criteria:** 1. The assessment criteria are carried out by looking at aspects: 2. Participation: carried out by observing student activities (weight 2) UTS: carried out by assessment during the middle of the semester (weight 2) UAS: carried out every semester to measure all indicators (weight 3) Assignments: carried out on each indicator (weight 3) Value Student End: 3. Participation Score (2) x Assignment Score (3) x UTS Score (2) x UAS Score (3) divided by 10.	Lectures, discussions, presentations and exercises 2 X 50			0%

5	Students are able to provide explanations about various graphs in Matlab	1. explains the characteristics of some 3-Dimensional Plots 2. Explain the types and functions of 2-Dimensional Plots	**Criteria:** 1. The assessment criteria are carried out by looking at aspects: 2. Participation: carried out by observing student activities (weight 2) UTS: carried out by assessment during the middle of the semester (weight 2) UAS: carried out every semester to measure all indicators (weight 3) Assignments: carried out on each indicator (weight 3) Value Student End: 3. Participation Score (2) x Assignment Score (3) x UTS Score (2) x UAS Score (3) divided by 10.	Lectures, discussions, presentations, questions and answers and 2 X 50 exercises			0%
6	UTS			2 X 50			0%
7							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** 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.