



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
Computer Science	2120102027		T=2 P=0 ECTS=3.18	0	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: auto;"> <tr> <td style="width: 50px; height: 30px;">P.O</td> </tr> </table>	P.O																																
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	PO Matrix at the end of each learning stage (Sub-PO)																																	
	<table border="1" style="margin: auto;"> <tr> <td rowspan="2" style="width: 50px; 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 Understanding how to program using the Pascal language which includes: thread parts, basic programming, basic language elements, data types, expressions, conditional statements, file types, procedures and functions.

References

Main :

- J. Wales, J. Elder. 1977. *Introduction to Pascal*. Prentice Hill
- Yuniar Supardi. 2000. *Pascal and Flow Chart Lewat Praktek*. Jakarta: Dimastindo
- Jogyanto, H.M. 1989. *Teori dan Aplikasi Program Komputer Bahasa Pascal*. Yogyakarta: Andi Offset.

Supporters:

Supporting lecturer Ardhini Warih Utami, S.Kom., M.Kom.

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 can understand computer science concepts	1. Students can understand the concept of computer programming which is part of computer science courses 2. Students can understand the objectives of learning computer science & apply them in solving problems related to learning in lectures.	Criteria: 1. Participation = 20% 2. Tasks = 30% 3. UTS = 20% 4. UAS = 30% 5. Valuation Formula 6. NA = ((2xP)(3xT) (2xUTS) (3xUAS))/10	Lectures, Presentations, Discussions 2 X 50			0%

2	Students can understand algorithms in creating computer programs/applications.	<ol style="list-style-type: none"> 1.Students can explain the definition of an algorithm. 2.Students can give examples of the application of algorithms in everyday life. 3.Students can mention examples of applying algorithms in computer programming 4.Skilled in writing algorithms in making programs 	Criteria: 1.Participation = 20% 2.Tasks = 30% 3.UTS = 20% 4.UAS = 30% 5.NA = ((2xP) (3xT)(2xUTS) (3xUAS))/10	Lecture, Discussion, Exercise 2 X 50			0%
3	Students can understand flowcharts and flowchart symbols in making computer programs/applications.	<ol style="list-style-type: none"> 1.Students can explain the definition of a flowchart. Students can give examples of applying algorithms in everyday life. 2.Students can give examples of the application of flowcharts in computer programming 3.Skilled at drawing flowcharts in program creation 	Criteria: 1.Participation = 20% 2.Tasks = 30% 3.UTS = 20% 4.UAS = 30% 5.NA = ((2xP) (3xT)(2xUTS) (3xUAS))/10	Practice, Discussion 2 X 50			0%
4	Students can understand the Visual Basic (VB) 6.0 program and use the VB 6.0 ToolBox control	<ol style="list-style-type: none"> 1.Students can understand the basic appearance and operation of VB 6.0 2.Students can explain the use of each Control ToolBox (Form, Label, Command, TextBox, ComboBox, ListBox) 3.Students can create simple programs using Control ToolBox VB 6.0 	Criteria: 1.Participation = 20% 2.Tasks = 30% 3.UTS = 20% 4.UAS = 30% 5.NA = ((2xP) (3xT)(2xUTS) (3xUAS))/10	Practice, 4 X 50 Practice			0%
5							0%
6	Students can understand the operators in VB 6 and their use in making programs	<ol style="list-style-type: none"> 1.Students can differentiate between the uses of arithmetic, comparison and logical operators 2.Students are able to write multiplication, division, exponentiation, subtraction and addition operators in the program 	Criteria: 1.Participation = 20% 2.Tasks = 30% 3.UTS = 20% 4.UAS = 30% 5.NA = ((2xP) (3xT)(2xUTS) (3xUAS))/10	Practice, 4 X 50 Practice			0%
7							0%
8	Students can create programs with visual basic in UTS	Students can work on computer programming UTS questions	Criteria: 1.Participation = 20% 2.Tasks = 30% 3.UTS = 20% 4.UAS = 30% 5.NA = ((2xP) (3xT)(2xUTS) (3xUAS))/10	2 X 50 Programming Practice			0%

9	Students can understand decision selection based on conditions, algorithms and flowcharts in logic/branching functions	1.Students can explain the concept of decision selection 2.Students can understand algorithms in Logic Functions/branching 3.Students can understand flowcharts in Logic Functions/branching 4.Skilled in writing algorithms and flowcharts of logic/branching functions	Criteria: 1.Participation = 20% 2.Tasks = 30% 3.UTS = 20% 4.UAS = 30% 5.NA = ((2xP) (3xT)(2xUTS) (3xUAS))/10	Lecture, Discussion, Exercise 2 X 50			0%
10							0%
11	Students can understand the logical functions/branching of IF..THEN, IF..THEN..ELSE	1.Students can write how to write IF..THEN program code 2.Students can write how to write IF..THEN..ELSE program code 3.Students can create programs using the Logic Functions IF..THEN, IF..THEN..ELSE...	Criteria: 1.Participation = 20% 2.Tasks = 30% 3.UTS = 20% 4.UAS = 30% 5.NA = ((2xP) (3xT)(2xUTS) (3xUAS))/10	Lecture, Discussion, Exercise 2 X 50			0%
12							0%
13	Students can understand logic functions/branching with Select Case and are able to create programs with select case	1.Students can write down how to write the SELECT CASE program code 2.Students can create programs using the SELECT CASE Logic Function	Criteria: 1.Participation = 20% 2.Tasks = 30% 3.UTS = 20% 4.UAS = 30% 5.NA = ((2xP) (3xT)(2xUTS) (3xUAS))/10	Lecture, Discussion, Exercise 4 X 50			0%
14							0%
15	Students can create computer applications in a team	Able to work together to solve problems in creating large programs as a group	Criteria: 1.Participation = 20% 2.Tasks = 30% 3.UTS = 20% 4.UAS = 30% 5.NA = ((2xP) (3xT)(2xUTS) (3xUAS))/10	Exercise 1 X 1			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.

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.