		Document Code
  UNESA	**Universitas Negeri Surabaya** **Vocational Faculty,** **D4 Informatics Management Study Program**	

SEMESTER LEARNING PLAN

Courses		**CODE**		**Course Family**			**Credit Weight**			**SEMESTER**	**Compilation Date**
Software Analysis and Design		99995740102149					**T=2**	**P=0**	**ECTS=3.18**	3	July 17, 2024
AUTHORIZATION		**SP Developer**			**Course Cluster Coordinator**				**Study Program Coordinator**		
		....			....				Dodik Arwin Dermawan, S.ST., 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	The software analysis and design course teaches students about the steps in building software with various stages, methods and techniques in the software development process, so that students are expected to be able to design software and improve existing software.

References	**Main :**
	1. Langer, Arthur M. 2008. Analysis and Design of Information Systems 3rd edition. Springer 2. Dennis, Wixom, Roth. 2012. System Analysis And Design. Fifth Edition. John Wiley & Sons, Inc. 3. Hoffer, George, Valacich. 2011. Modern System Analysis and Design. Sixth Edition. Pearson
	Supporters:
Supporting lecturer	Salamun Rohman Nudin, 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	Software introduction	1. Explain and understand software accompanied by examples 2. Explain and understand the characteristics of software 3. Explain and understand components in integrated software 4. Explain and understand the limitations contained in the software 5. Explain and understand the importance of goals in software 6. Explain and understand the input, process and output contained in a software	**Criteria:** 1. True = 1 2. False = 0	Approach: Scientific Method: Discussion, presentation Model: Cooperative 2 X 50			0%

2	Understanding the Types of Systems	1. Explain and understand TPS (Transaction Processing System) 2. Explain and understand MIS (Management Information System) 3. Explain and understand VIS (Virtual Information System) 4. Explain and understand DSS (Decession Support System) 5. Explain and understand ERP (Enterprises Resource Planning) 6. Explains several types of systems in the form of case studies	**Criteria:** 1. True = 1 2. False = 0	Approach: Scientific Method: Discussion, presentation Model: Cooperative 2 X 50				0%
3	Understanding SDLC Methods	1. Explain and understand the SDLC (System Development Life Cycle) method 2. Explain and understand the advantages and disadvantages of SDLC 3. Able to provide examples of the use of the SDLC method in software development 4. Task: implementation of the SDLC method in the school education system	**Criteria:** 1. True = 1 2. False = 0	Approach: Scientific Method: Discussion, presentation Model: Cooperative 2 X 50				0%
4	Understanding techniques in analyzing software	1. Explain and understand techniques for analyzing software 2. Explain and understand the steps when analyzing software 3. Explain and understand the process that must be carried out in analyzing software 4. Presentation tasks	**Criteria:** True = 1 False = 0	Approach: Scientific Model: Cooperative Method: Discussion, Presentation 2 X 50				0%
5	Understand the Waterfall Model to analyze systems	1. Explain and understand the waterfall model 2. Explain and understand the advantages of the waterfall model 3. Explain and understand the shortcomings of the waterfall model 4. Presentation tasks	**Criteria:** True = 1 False = 0	Approach: Scientific Model: Cooperative Method: Discussion, Presentation 2 X 50				0%

6	Understand approaches to conducting software system analysis	1. Explain and understand the implementation of software requirements analysis 2. Explain and understand the implementation of software design systems 3. Explain and understand implementation in the waterfall model 4. Explain and understand the implementation of testing 5. Explain and understand deployment implementation 6. Explain and understand maintenance implementation 7. Presentation tasks	**Criteria:** True = 1 False = 0	Approach: Scientific Model: Cooperative Method: Discussion, Presentation 2 X 50			0%
7	Understanding the software system analysis process	1. Explain and understand data collection techniques 2. Determining the Boundaries and Scope of the software system 3. Explain and understand problem analysis 4. Explain and understand software system requirements analysis 5. Explain and understand the logical design process 6. Explain and understand decision analysis	**Criteria:** True = 1 False = 0	Approach: Scientific Model: Cooperative Method: Discussion, Presentation 2 X 50			0%
8	Midterm exam		**Criteria:** 1. True = 1 2. False = 0	2 X 50			0%
9	Understanding the Introduction to Model Data	1. Explain and understand DBMS (Data Base Management System) 2. Explain and understand the concept of ERD 3. Explain and understand the methodology for building an ERD 4. Explain and understand the mapping of the ER model to the Relationship schema	**Criteria:** 1. True = 1 2. False = 0	Approach: Scientific Model: Cooperative Method: Discussion, Presentation 2 X 50			0%

10	Implementation of ERD in System Design Based on Case Studies	1.Explain and understand the process of implementing ERD in system design in a case study 2.Explain and understand ERD parameters to design a system 3.Explain and understand the ERD attributes needed to design a system 4.Presentation of ERD implementation based on case studies	**Criteria:** 1.True = 1 2.false = 0	Scientific/Discussion/presentation/Cooperative 2 X 50			0%
11	Understanding Database Design	1.Explain and understand the general characteristics of database design 2.Explain and understand basic database concepts 3.Explain and understand the comparison of conventional files with modern databases 4.Explain and understand relational database management systems 5.Explain and understand the database design implementation process	**Criteria:** 1.True = 1 2.False = 0	Approach: Scientific Method: Discussion, presentation Model: Cooperative 2 X 50			0%
12	Approaches to System Design	1.Explain and understand the basic concepts of UML 2.Explain and understand UML Functions 3.Explain and understand UML Implementation 4.Explain and understand the process of designing a system using UML 5.Presentation of UML implementation based on each case study	**Criteria:** 1.True = 1 2.False = 0	Approach: Scientific Method: Discussion, presentation Model: Cooperative 2 X 50			0%
13	Understanding Input System Design	1.Explain and understand the basic concepts of input systems 2.Explain and understand input system devices 3.Explain and understand the application of input system devices 4.Explain and understand the principles in designing input systems 5.Explain and understand the input system GUI components	**Criteria:** 1.Correct = 1 2.False = 0	Approach: Scientific Method: Discussion, presentation Model: Cooperative 2 X 50			0%

14	Understanding Output System Design	1. Explain and understand the basic concepts of output systems 2. Explain and understand output system devices 3. Explain and understand the application of output system devices 4. Explain and understand the principles in designing output systems 5. Explain and understand the GUI components of the output system	**Criteria:** 1. True = 1 2. False = 0	Approach: Scientific Method: Discussion, presentation Model: Cooperative 2 X 50			0%
15	Understanding User Interface Technology	1. Explain and understand the concept of User Interface 2. Explain and understand User Interface design 3. Explain and understand the user interface dialogue chart 4. Explain and understand Prototype the Dialogue and User Interface 5. Explain and understand obtain user feedback	**Criteria:** 1. True = 1 2. False = 0	Approach: Scientific Method: Discussion, presentation Model: Cooperative 2 X 50			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.