| | Universitas Negeri Surabaya<br>Faculty of Engineering,<br>Undergraduate Study Program in Informatics Engineering | Document Code |
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# SEMESTER LEARNING PLAN

| Courses | CODE | Course Family | Credit Weight | | | SEMESTER | Compilation Date |
|---|---|---|---|---|---|---|---|
| Software Analysis and Design | 5520203138 | | T=3 | P=0 | ECTS=4.77 | 5 | July 18, 2024 |

| AUTHORIZATION | SP Developer | Course Cluster Coordinator | Study Program Coordinator |
|---|---|---|---|
| | Paramitha Nerisafitra, S.Si., M.Kom | ..... | Aditya Prapanca, S.T., M.Kom. |

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| **Learning model** | **Case Studies** | |
| **Program Learning Outcomes (PLO)** | **PLO study program that is charged to the course** | |
| | **PLO-3** | Able to implement knowledge of how computer systems work to solve information technology problems (KNO-03) |
| | **PLO-5** | Able to communicate the results of studies on the implications of developing or implementing information technology science (SKI-02) |
| | **PLO-6** | Able to analyze, design, build, and evaluate user interfaces and interactive applications based on user needs and transdisciplinary scientific developments (COM-01) |
| | **Program Objectives (PO)** | |
| | **PO - 1** | Understand software concepts |
| | **PO - 2** | Understand the concept of the software life cycle |
| | **PO - 3** | Understand the concepts and principles of software analysis |
| | **PO - 4** | Understand the principles of software prototyping |
| | **PO - 5** | Understand analytical modeling concepts and software design concepts |
| | **PLO-PO Matrix** | |

| P.O | PLO-3 | PLO-5 | PLO-6 |
|---|---|---|---|
| PO-1 | | | |
| PO-2 | | | |
| PO-3 | | | |
| PO-4 | | | |
| PO-5 | | | |

**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 |
| PO-1 | | | | | | | | | | | | | | | | |
| PO-2 | | | | | | | | | | | | | | | | |
| PO-3 | | | | | | | | | | | | | | | | |
| PO-4 | | | | | | | | | | | | | | | | |
| PO-5 | | | | | | | | | | | | | | | | |

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| **Short Course Description** | Software engineering is changing the software itself in order to develop, maintain and rebuild it using engineering principles to produce software that can work more efficiently and effectively for users. | |
| **References** | **Main :** | |

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| | 1. Pressman, Roger S., Sofware Engineering: A Practitioner's Approach, 5th edition, McGraw-Hill Internasional, 2001<br>2. Sommervile, lan, software engineering, 7th Addison Wesley Publishing Company, 2003 |
| | **Supporters:** |
| | 1. Pressman, Roger S., Sofware Engineering: A Practitioner's Approach, 5th edition, McGraw-Hill Internasional, 2001<br>2. Sommervile, lan, software engineering, 7th Addison Wesley Publishing Company, 2003 |
| **Supporting lecturer** | Paramitha Nerisafitra, S.ST., 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** | Introduction to Software Engineering and Project Planning | 1.Able to understand and understand the basic concepts of software engineering<br>2.Able to understand the purpose of software project planning | **Criteria:**<br>1.Quiz assessment<br>2.Assignment assessment<br><br>**Form of Assessment** : Portfolio Assessment | Presentation 3x50 | Solving questions about the basic concepts of RPL 3x60 | | 5% |
| **2** | Introduction to Software Engineering and Project Planning | 1.Able to understand and understand the basic concepts of software engineering<br>2.Able to understand the purpose of software project planning | **Criteria:**<br>1.Quiz assessment<br>2.Assignment assessment<br><br>**Form of Assessment** : Portfolio Assessment | Presentation 3x50 | Solving questions about the basic concepts of RPL 3x60 | | 5% |
| **3** | Concepts, Principles and Analysis Modeling | 1.Understand the concept of analysis<br>2.Understand the principles of analysis<br>3.Understand the models used in analysis | **Criteria:**<br>1.Quiz assessment<br>2.Assignment assessment<br><br>**Form of Assessment** : Project Results Assessment / Product Assessment | Presentation 3x50 | | | 5% |
| **4** | Concepts, Principles and Analysis Modeling | 1.Understand the concept of analysis<br>2.Understand the principles of analysis<br>3.Understand the models used in analysis | **Criteria:**<br>1.Quiz assessment<br>2.Assignment assessment<br><br>**Form of Assessment** : Project Results Assessment / Product Assessment | Presentation 3x50 | | | 5% |
| **5** | Concepts, Principles and Analysis Modeling | 1.Understand the concept of analysis<br>2.Understand the principles of analysis<br>3.Understand the models used in analysis | **Criteria:**<br>1.Quiz assessment<br>2.Assignment assessment<br><br>**Form of Assessment** : Project Results Assessment / Product Assessment | Presentation 3x50 | | | 5% |

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| **6** | Concepts, Principles and Analysis Modeling | 1. Understand the concept of analysis<br>2. Understand the principles of analysis<br>3. Understand the models used in analysis | **Criteria:**<br>1. Quiz assessment<br>2. Assignment assessment<br><br>**Form of Assessment** : Project Results Assessment / Product Assessment | Presentation 3x50 | | | 5% |
| **7** | Concepts, Principles and Analysis Modeling | 1. Understand the concept of analysis<br>2. Understand the principles of analysis<br>3. Understand the models used in analysis | **Criteria:**<br>1. Quiz assessment<br>2. Assignment assessment<br><br>**Form of Assessment** : Project Results Assessment / Product Assessment | Presentation 3x50 | | | 5% |
| **8** | UTS / Mid-Term Examination: Formative evaluation intended to improve the learning process based on the assessments that have been carried out | | **Form of Assessment** : Portfolio Assessment, Test | | | | 15% |
| **9** | Design Principles and Concepts | Understand software design principles and concepts | **Criteria:**<br>1. Quiz assessment<br>2. Assignment assessment<br><br>**Form of Assessment** : Portfolio Assessment | | | | 5% |
| **10** | Design Principles and Concepts | Understand software design principles and concepts | **Criteria:**<br>1. Quiz assessment<br>2. Assignment assessment<br><br>**Form of Assessment** : Portfolio Assessment | | | | 5% |
| **11** | Design Methods | 1. Understanding and understanding software data design<br>2. Understanding and understanding software architecture | **Criteria:**<br>1. Quiz assessment<br>2. Assignment assessment<br><br>**Form of Assessment** : Project Results Assessment / Product Assessment | | | | 5% |
| **12** | Design Methods | 1. Understanding and understanding software data design<br>2. Understanding and understanding software architecture | **Criteria:**<br>1. Quiz assessment<br>2. Assignment assessment<br><br>**Form of Assessment** : Project Results Assessment / Product Assessment | | | | 5% |

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| **13** | Software Testing Techniques and Strategies | 1. Understand and comprehend software testing techniques<br>2. Understand and understand software testing strategies | **Criteria:**<br>5<br><br>**Form of Assessment** :<br>Project Results Assessment / Product Assessment | | | | 0% |
| **14** | Software Testing Techniques and Strategies | 1. Understand and comprehend software testing techniques<br>2. Understand and understand software testing strategies | **Criteria:**<br>5<br><br>**Form of Assessment** :<br>Project Results Assessment / Product Assessment | | | | 0% |
| **15** | Software Testing Techniques and Strategies | 1. Understand and comprehend software testing techniques<br>2. Understand and understand software testing strategies | **Criteria:**<br>5<br><br>**Form of Assessment** :<br>Project Results Assessment / Product Assessment | | | | 5% |
| **16** | UAS / Final Semester Examination: Evaluation intended to find out the final achievements of student learning outcomes | 20 | **Form of Assessment** :<br>Project Results Assessment / Product Assessment | | | | 0% |

**Evaluation Percentage Recap: Case Study**

| No | Evaluation | Percentage |
|---|---|---|
| 1. | Project Results Assessment / Product Assessment | 40% |
| 2. | Portfolio Assessment | 27.5% |
| 3. | Test | 7.5% |
| | | 75% |

**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.