TIF21-31-44

Software Engineering

Rekayasa Perangkat Lunak

BASIC INFORMATION

Course Credit	3 / 150 minutes per Week
Course Type	Required
Course Classification	Engineering Topics
Prerequisites	Object Oriented Programming, Database

STUDENT AND LEARNING OUTCOMES

Covered Student Outcomes

Development of Engineering Solution (b)   Engineering Design (c)

Learning Outcomes

LO1   Students understand common lifecycle processes including waterfall (linear), incremental approaches (such as Unified process), and agile approaches.

LO2   Students will be able to model the structure and behavior a software system.

LO3   Students are able to describe principal tasks of software project managers, and basic concepts in software projects. Students is able to plan software projects, including risk and quality management.

LO4   Students can work collaboratively in a small team environment to develop a moderate-sized software system from conceptualization to completion, including requirements elicitation, system modeling, system design, implementation, unit and system testing, integration, source code management.

COURSE DESCRIPTION

This course aimed to introduce students on various knowledge and technique regarding software engineering. Furthermore, students are expected to understand several concept to analyse software, project management, and scheduling.

TOPICS

1. Product, role evolution and software characteristics
2. Process in software engineering
3. Supporting processes, methods and tools in SE
4. Various process models in SE
5. Product and process in SE
6. Modeling and Principles in concept analysis
7. Modeling analysis
8. Principles and design concepts
9. Object-oriented Software Engineering
10. The concept of project management
11. Human Resource Management
12. Problem management
13. Product and process management
14. Software process and project metrics
15. Planning a software project
16. Risk Management
17. Project Scheduling
18. Software Quality Assurance

REFERENCES

[1] Pressman, R.S., *Software Engineering A Practitioner's Approach 9th, ed*, McGraw-Hill International Edition, New York, 2015.

[2] Sommerville, I., *Software Engineering (9th Edition),* Addison Wesley, 2011.