

Course Code	TKIT162208	
Course Name	Software Engineering	
Course Instructors	Selo; Indriana Hidayah; Adhistya Erna Permanasari	
Course Type	Required	
Course Classification	Engineering Topics	
Credit / Contact Hour per Week	3 /150 minutes per Week	
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.	
Prerequisites Courses		
Covered Student Outcome	Development of Engineering Solution (b) Engineering Design (c) Modern Tools Utilization (e)	
Learning Outcome		
		Study Program Student Outcome
No	Learning Outcome	SO (a) – SO (k)
1.	Student will be able to model the structure and behavior a software system the UML class diagrams and state diagrams.	Development of Engineering Solution (b)
2.	Student understand common lifecycle processes including waterfall (linear), incremental approaches (such as Unified process), and agile approaches.	Development of Engineering Solution (b)
3.	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.	Engineering Design (c)
4.	Students is able to apply critical analysis, problem solving, and team facilitation skills to software engineering project management processes using real-world scenarios.	Modern Tools Utilization (e)
5.	Students is able to describe the principal tasks of software project managers, and basic concepts in software projects.	Engineering Design (c)
6.	Students is able to plan software projects, including risk and quality management.	Engineering Design (c)
Topic	<ul style="list-style-type: none"> a. <i>Product, role evolution and software characteristics</i> b. <i>Process in software engineering</i> <ul style="list-style-type: none"> - <i>Supporting processes, methods and tools in SE</i> - <i>Various process models in SE</i> - <i>Product and process in SE</i> c. <i>Modeling and Principles in concept analysis</i> d. <i>Modeling analysis</i> e. <i>Principles and design concepts</i> f. <i>Object-oriented Software Engineering</i> g. <i>The concept of project management</i> <ul style="list-style-type: none"> - <i>Human Resource Management</i> - <i>Problem management</i> - <i>Product and process management</i> h. <i>Software process and project metrics</i> i. <i>Planning a software project</i> j. <i>Risk Management</i> 	

	k. <i>Project Scheduling</i> <i>Software Quality Assurance</i>	
Direct Assessment	Direct Assessment Plan	
	Mid Exam	LO1, LO2
	Final Exam	LO3, LO4
Indirect Assessment	Questionnaire and direct communication	
References	<ol style="list-style-type: none"> 1. Pressman, R.S., <i>Software Engineering A Practitioner's Approach</i> 9th, ed, McGraw-Hill International Edition, New York, 2015. 2. Sommerville, I., <i>Software Engineering (9th Edition)</i>, Addison Wesley, 2011. 	