Course Code	TKIT162207
Course Name	Software Architecture
Course Instructors	Selo; Warsun Najib
Course Type	Required
Course Classification	Engineering Topics
Credit / Contact Hour per Week	2 /100 minutes per Week
Course Description	This course will emphasize effective software design with emphasis on technology selection, planning workmanship, and also risk management in the development process. This course will prepare students to be professional in software such as systems analyst, software architect, and enterprise architect
Prerequisites Courses	
Covered Student Outcome	**Fundamental Engineering Knowledge (a)** **Development of Engineering Solution (b)** **Modern Tools Utilization (e)**

Learning Outcome

No	Learning Outcome	Study Program Student Outcome SO (a) – SO (k)
1.	Students can argue the importance and role of software architecture in large-scale software systems	Fundamental Engineering Knowledge
2.	Students can able to describe a software architecture using various documentation approaches and architectural description languages	Problem Analysis
3.	Student can use well-understood paradigms of software architecture for designing new systems	Design & Development Solution
4.	Students can discuss and evaluate the current trends and technologies such as model-driven architecture, service-oriented architectures, and cloud-based software.	Fundamental Engineering Knowledge

Topic

a. Introduction to Software Architecture
b. Software Architecture
c. Modeling and Notation
d. Quality Attributes
e. Visualizing software architecture
f. Documenting Software Architecture
g. Design Pattern
h. Middleware Architecture and Technologies
i. Model-Driven Architecture
j. Service-Oriented Architecture
k. Dependency Injection architecture
l. Architecture in the Cloud
m. Micro-service architecture

Direct Asessment

Direct Asessment Plan	**Measured Learning Outcome**
Homework	**L01, L03**
Mid Exam	LO1, LO2,
Final Exam	LO3, LO4

Indirect Assesment	Questionnaire and direct communication
References	• Ian Gorton, Essential Software Architecture, 2nd edition, Springer. 2011 • Eric M. Dashofy, Nenad Medvidovic, Richard N. Taylor. 2009. Software Architecture: Foundations, Theory, and Practice. John Wiley & Sons • Michael Bell. 2016. Incremental Software Architecture. John Wiley & Sons • Rick Kazman, Paul Clements, Len Bass. 2012. Software Architecture in Practice, Third Edition. Addison-Wesley Professional. • Tilak Mitra. 2015. Practical Software Architecture: Moving from System Context to Deployment IBM Press.