

## TIF21-21-43

### Object Oriented Programming Pemrograman Berorientasi Obyek

#### BASIC INFORMATION

<b>Course Credit</b>	3 / 150 minutes per Week
<b>Course Type</b>	Required
<b>Course Classification</b>	Engineering Topics
<b>Prerequisites</b>	Fundamental of Programming

#### STUDENT AND LEARNING OUTCOMES

##### Covered Student Outcomes

Fundamental and Engineering Knowledge (a)	Engineering Design (c)
Development of Engineering Solution (b)	Modern Tools Utilization (e)

##### Learning Outcomes

- LO1** Studentas are able to analyze the pillars of object-oriented programming in modern computing development platform
- LO2** Students are able to apply the concepts in solving complex objects in programming.
- LO3** Students are able to develop object-based oriented software.
- LO4** Studetnes are able to evaluate the various moden tools that can be increase the productivity of the object-based software development.

#### COURSE DESCRIPTION

This course will discuss object oriented programming that applicable to solve complex program in engineering.

## TOPICS

1. Overview of Objects Oriented Programming
2. Designing OOP Solutions : Identifying the Class Structure
3. Designing OOP Solutions : Moodelling the Object Interaction
4. Creating Classes
5. Implementing Object Collaboration
6. Encapstulation of Data
7. Inheritance and Specialization
8. Implementing the Data AccesssLayer
9. Organization of Object-Oriented Code
10. Foduntation of Adaptive Code
11. SOLID code

## REFERENCES

- [1] G. M. Hall, *Adaptive Code via C#: Agile Coding with Design Patterns and SOLID principles*. Microsoft Press, 2014
- [2] D. Clark, *Beginning C# Object-Oriented Programming, Second Edition*. APress, 2013.
- [3] Bjarne Stroustrup, *The C++ Programming Language 4th Ed.*, Addison-Wesley, 2013.