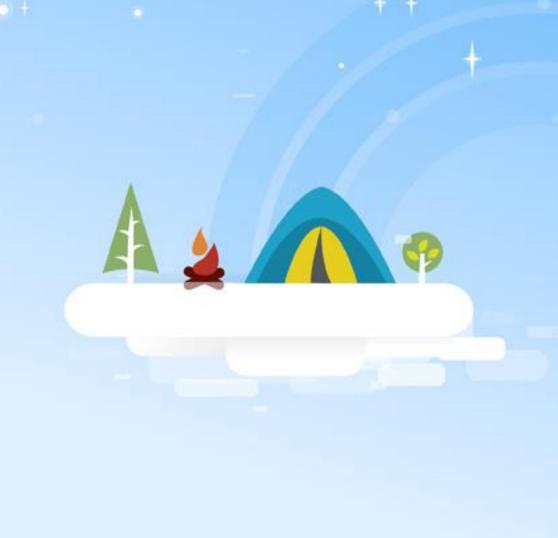# Object Oriented Programming Course Overview

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Learning Outcome

- Students are able to <u>analyse</u> the pillars of object-oriented programming in modern computing development platform

- Students able to <u>apply</u> the concepts in solving complex objects in programming

- Students are able to <u>develop</u> object-based oriented software.

- Students are able to <u>evaluate</u> the various modern devices that can increase the productivity of the object-based software development

Course Books

- Ridi Ferdiana, Membangun Aplikasi Smart Client Dengan Visual C# Dan Visual Web Developer Express. Penerbit Andi, 2007.
- Raihan Taher, Hands-On Object-Oriented Programming with C#. Packt Publishing. 2019
- Matt Weisfeld. The Object-Oriented Thought Process, 5th Edition. Addison Wesley. 2019
- Dmitri Nesteruk. Design Patterns in .NET Core 3: Reusable Approaches in C# and F# for Object-Oriented Software Design. 2021

Course Tools

Azure DevOps –
https://dev.azure.com

Azure for Student –
https://azure.microsoft.com/en-us/free/students/

Github – https://github.com

Compiler tools

- Visual Studio Codes – fast and lightweight https://visualstudio.com
- Visual Studio 2019 – for MAC and for Windows https://lib.ft.ugm.ac.id

Course Outline – Learning Outcome 1

Object Oriented Programming Fundamentals

Object Oriented Analysis and Design Fundamentals

Class Design

Method Design

Course Outline – Learning Outcome 2

Separation of Responsibilities

Establishing Relationship

Inheritance Model

Course Outline – Learning Outcome 3

Components Based Model

Interfaces and Abstraction

Design Patterns

Course Outline – Learning Outcome 4

Test Driven Development

Refactoring

API Design

Project Based Learning

Supported Course

- Basic Programming
- Algorithm and Data Structure
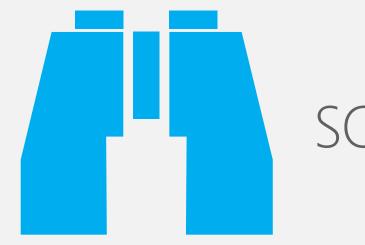- Software Engineering

Preparing Your Editor

Visual Studio Codes

Preparing Your IDE

Visual Studio 2019

Setup Your Database

SQL Server Express