

## TIF21-31-47

### Cloud Computing

### Komputasi Awan

#### BASIC INFORMATION

<b>Course Credit</b>	3 / 150 minutes per Week3 / 150 minutes per Week
<b>Course Type</b>	RequiredRequired
<b>Course Classification</b>	Engineering TopicsEngineering Topics
<b>Prerequisites</b>	Computer Networks

#### STUDENT AND LEARNING OUTCOMES

##### Covered Student Outcomes

Development of Engineering Solution (b)Development of Engineering Solution (b)	Engineering Design (c)Engineering Design (c)
Modern Tools Utilization (e)Modern Tools Utilization (e)	Knowledge Contemporary and Issues (f)Knowledge Contemporary and Issues (f)

##### Learning Outcomes

- LO1** Student will be able to develop the cloud computing solution based on business requirements.
- LO2** Student will be able to design the cloud computing architecture based on business constraints.
- LO3** Student will be able to use the development and deployment tools related with the cloud.
- LO4** Student will be able to plan the cloud adoption based on multiple realistic constraint and well-architected framework.

#### COURSE DESCRIPTION

This cloud computing course introduces the principles of cloud computing. Students will become familiar with how these principles have been implemented in Cloud Computing provider such as Azure or AWS. Additionally, this course explains how to implement the core infrastructure, consisting of virtual networks and storage. With this foundation, students will be able to create the most

common cloud computing services, including Virtual Machines, Web Apps, and Database. The students will also learn about container-based services and the most prominent examples of serverless computing.

## TOPICS

1. Cloud computing concepts
2. Cloud economics and billing
3. Cloud Global Infrastructure and Architecture
4. Cloud Computing Security
5. Cloud Computing Management Tools
6. Cloud Networking and security
7. Cloud Compute – Virtual Machine
8. Cloud Compute – Web Apps
9. Cloud Compute – Serverless
10. Cloud Storage
11. Cloud Database
12. Cloud Directory
13. Cloud Monitoring
- 14. Cloud Automation**

## REFERENCES

- [1] Lizhe Wang, Rajiv Ranjan, Jinjun Chen, Boualem Benatallah., *Cloud Computing*. CRC Press, 2017.
- [2] Zaigham Mahmood, Ricardo Puttini, Thomas Erl., *Cloud Computing: Concepts, Technology & Architecture*, Pearson, 2013.
- [3] Amazon., *AWS Academy Cloud Foundation*, AWS Academy. 2020.
- [4] Microsoft., *Microsoft Azure Fundamental*, Microsoft Official Curriculum, 2020.