

## MODULE HANDBOOK

| <b>Module Name</b>                                           | Komputasi Awan / Cloud Computing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |        |    |                         |     |   |                                                                                                                        |        |   |                                                                                                                           |        |   |                                                                                                                                                |        |
|--------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|----|-------------------------|-----|---|------------------------------------------------------------------------------------------------------------------------|--------|---|---------------------------------------------------------------------------------------------------------------------------|--------|---|------------------------------------------------------------------------------------------------------------------------------------------------|--------|
| <b>Module level, if applicable</b>                           | Undergraduate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |        |    |                         |     |   |                                                                                                                        |        |   |                                                                                                                           |        |   |                                                                                                                                                |        |
| <b>Code, if applicable</b>                                   | 02143152007                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |    |                         |     |   |                                                                                                                        |        |   |                                                                                                                           |        |   |                                                                                                                                                |        |
| <b>Subtitle, if applicable</b>                               | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        |    |                         |     |   |                                                                                                                        |        |   |                                                                                                                           |        |   |                                                                                                                                                |        |
| <b>Courses, if applicable</b>                                | -                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        |    |                         |     |   |                                                                                                                        |        |   |                                                                                                                           |        |   |                                                                                                                                                |        |
| <b>Semester(s) in which the module is taught</b>             | 7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |        |    |                         |     |   |                                                                                                                        |        |   |                                                                                                                           |        |   |                                                                                                                                                |        |
| <b>Person responsible for the module</b>                     | Puspanda Hatta, S.Kom.,M.Eng (hatta.puspanda@staff.uns.ac.id)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |        |    |                         |     |   |                                                                                                                        |        |   |                                                                                                                           |        |   |                                                                                                                                                |        |
| <b>Lecturer</b>                                              | Puspanda Hatta, S.Kom.,M.Eng                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |        |    |                         |     |   |                                                                                                                        |        |   |                                                                                                                           |        |   |                                                                                                                                                |        |
| <b>Language</b>                                              | Indonesian and English                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |        |    |                         |     |   |                                                                                                                        |        |   |                                                                                                                           |        |   |                                                                                                                                                |        |
| <b>Relation to curriculum</b>                                | Undergraduate degree program, elective course in 7th semester                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |        |    |                         |     |   |                                                                                                                        |        |   |                                                                                                                           |        |   |                                                                                                                                                |        |
| <b>Type of teaching, contact hours</b>                       | Undergraduate degree program, < 40 students                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |        |    |                         |     |   |                                                                                                                        |        |   |                                                                                                                           |        |   |                                                                                                                                                |        |
| <b>Workload</b>                                              | Lectures: 2 x 50 = 100 minutes (1 hours 40 minutes) per week<br>Private study: 2 x 60 = 120 minutes (2 hours) per week                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |        |    |                         |     |   |                                                                                                                        |        |   |                                                                                                                           |        |   |                                                                                                                                                |        |
| <b>Credit points</b>                                         | 2 SKS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |        |    |                         |     |   |                                                                                                                        |        |   |                                                                                                                           |        |   |                                                                                                                                                |        |
| <b>Requirements according to the examination regulations</b> | A student must have attended at least 75% of the lectures to sit in the exams                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |        |    |                         |     |   |                                                                                                                        |        |   |                                                                                                                           |        |   |                                                                                                                                                |        |
| <b>Recommended Prerequisites</b>                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |        |    |                         |     |   |                                                                                                                        |        |   |                                                                                                                           |        |   |                                                                                                                                                |        |
| <b>Module objectives/intended learning outcomes</b>          | <p>After completing this module, a student is expected to:</p> <table border="1"> <thead> <tr> <th>No</th><th>Course Learning Outcome</th><th>PLO</th></tr> </thead> <tbody> <tr> <td>1</td><td>Mahasiswa mampu menganalisis kebutuhan sistem untuk infrastruktur cloud computing setelah mempelajari cloud deployment</td><td>PLO-10</td></tr> <tr> <td>2</td><td>Mahasiswa mampu membangun infrastruktur cloud sederhana dalam lingkungan terbatas setelah mempelajari cloud service model</td><td>PLO-10</td></tr> <tr> <td>3</td><td>Mahasiswa mampu mengevaluasi infrastruktur cloud sesuai perkembangan teknologi cloud computing setelah membangun infrastruktur cloud sederhana</td><td>PLO-10</td></tr> </tbody> </table> |        | No | Course Learning Outcome | PLO | 1 | Mahasiswa mampu menganalisis kebutuhan sistem untuk infrastruktur cloud computing setelah mempelajari cloud deployment | PLO-10 | 2 | Mahasiswa mampu membangun infrastruktur cloud sederhana dalam lingkungan terbatas setelah mempelajari cloud service model | PLO-10 | 3 | Mahasiswa mampu mengevaluasi infrastruktur cloud sesuai perkembangan teknologi cloud computing setelah membangun infrastruktur cloud sederhana | PLO-10 |
| No                                                           | Course Learning Outcome                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | PLO    |    |                         |     |   |                                                                                                                        |        |   |                                                                                                                           |        |   |                                                                                                                                                |        |
| 1                                                            | Mahasiswa mampu menganalisis kebutuhan sistem untuk infrastruktur cloud computing setelah mempelajari cloud deployment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | PLO-10 |    |                         |     |   |                                                                                                                        |        |   |                                                                                                                           |        |   |                                                                                                                                                |        |
| 2                                                            | Mahasiswa mampu membangun infrastruktur cloud sederhana dalam lingkungan terbatas setelah mempelajari cloud service model                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | PLO-10 |    |                         |     |   |                                                                                                                        |        |   |                                                                                                                           |        |   |                                                                                                                                                |        |
| 3                                                            | Mahasiswa mampu mengevaluasi infrastruktur cloud sesuai perkembangan teknologi cloud computing setelah membangun infrastruktur cloud sederhana                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | PLO-10 |    |                         |     |   |                                                                                                                        |        |   |                                                                                                                           |        |   |                                                                                                                                                |        |
| <b>Content</b>                                               | This course studies the concept and implementation of cloud computing infrastructure. After taking this course, students are expected to be able to understand, explain, use, and create cloud computing infrastructure based on IAAS, SAAS, and PAAS                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |        |    |                         |     |   |                                                                                                                        |        |   |                                                                                                                           |        |   |                                                                                                                                                |        |

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| <b>Study and examination requirements and forms of Examination</b> | Forms of examination:                                                                                                                                                                   |                                                                                                                                                |                  |
|                                                                    | No                                                                                                                                                                                      | Course Learning Outcome                                                                                                                        | PLO              |
|                                                                    | 1                                                                                                                                                                                       | Mahasiswa mampu menganalisis kebutuhan sistem untuk infrastruktur cloud computing setelah mempelajari cloud deployment                         | Essay Test (30%) |
|                                                                    | 2                                                                                                                                                                                       | Mahasiswa mampu membangun infrastruktur cloud sederhana dalam lingkungan terbatas setelah mempelajari cloud service model                      | Project (35%)    |
|                                                                    | 3                                                                                                                                                                                       | Mahasiswa mampu mengevaluasi infrastruktur cloud sesuai perkembangan teknologi cloud computing setelah membangun infrastruktur cloud sederhana | Report (35%)     |
| <b>Media employed</b>                                              | LCD, Whiteboard, Power Point Slide Presentation, Practical Guidance Video, websites, etc.                                                                                               |                                                                                                                                                |                  |
| <b>Reading list</b>                                                | Erl, thomas. et. al. 2013. "Cloud Computing: Concepts, Technology & Architecture (The Prentice Hall Service Technology Series from Thomas Erl) 1st Edition". Prentice Hall : New Jersey |                                                                                                                                                |                  |