**Master in Mathematics**

Telp     : +62 274 552243
Email    : maths2@ugm.ac.id; kaprodi-s2-matematika.mipa@ugm.ac.id
          sekprodi-s2-matematika.mipa@ugm.ac.id
Website  : http://s2math.fmipa.ugm.ac.id/

**MODULE HANDBOOK**

| Module Name | **DATA MINING** |
|---|---|
| Module level, if applicable | *Master* |
| Code, if applicable | *MMM-5429* |
| Subtitle, if applicable | *-* |
| Courses, if applicable | *Data Mining* |
| Semester(s) in which the module is taught | *$1^{st}$ (first) semester* |
| Person responsible for the module | *Chair of the Statistic Lab.* |
| Lecturer(s) | |
| Language | *Bahasa Indonesia* |
| Relation to curriculum | *Compulsory course in the first year ($1^{st}$ semester) of master's degree* |
| Teaching methods | *150 minutes lectures and 180 minutes structured activities per week* |
| Workload (incl. contact hours, self-study hours) | *Total workload is 135 hours per semester, which consists of 150 minutes lectures per week for 14 weeks, 180 minutes structured activities per week, 180 minutes individual study per week, in total is 16 weeks per semester, including mid exam and final exam* |
| Credit points | *3* |
| Required and recommended prerequisites for joining the module | *Understand datasets and application to software* |

| Module objectives/intended learning outcomes | After completing this course, the students should have the ability to: |
|---|---|
| | CO1 Understand how and when data mining can be used as a problem-solving technique. |
| | CO2 Explain different data mining techniques. |
| | CO3 Be able to select the appropriate data mining technique for a specific problem. |
| | CO4 Use available data mining software to mine prepared datasets. |
| | CO5 Evaluate and interpret data mining results. |
| Content | The teaching materials consist of Preprocessing - Data preprocessing Data cleaning, Data reduction, Data warehousing, Data visualization, Association rule, Decision tree, Clustering, Regression, Classification |
| Examination forms | Oral presentation, essay |
| Study and examination requirements | The final mark will be weighted as follows: |

The final mark will be weighted as follows:

| No | Assessment methods (components, activites) | Weight (percentage) |
|---|---|---|
| 1 | Final Examination | 35-45% |
| 2 | Mid-Term Examination | 30-40% |
| 3 | Class Activities: Quiz, Homework, etc. | 20-30% |

Minimum final mark to pass is C

| Media employed | Board, LCD Projector, Laptop/Computer |
|---|---|
| Reading list | 1. Zhao, Y., 2015, R Data Mining: Examples and Case Studies, Elsevier. |
| | 2. Han. J., Kamber, M., Jia, P., 2012, Data Mining: Concepts and Techniques, Morgan Kaufmann Publisher. |
| | 3. Romero, C., et al., 2011, Handbook of Education Data Mining, Chapman & Hall/CRC. |

## CO-PLO Mapping

| | PLO 1 | PLO 2 | PLO 3 | PLO4 | PLO5 | PLO6 |
|---|---|---|---|---|---|---|
| CO 1 | v | v | v | | | |
| CO 2 | v | v | v | v | | |
| CO 3 | v | v | v | v | v | |

| | | | | | | |
|---|---|---|---|---|---|---|
| **CO 4** | v | v | v | | | |
| **CO 5** | | v | | v | | |

**Compilation Date** : July 2018

**Modified Date** : 27 July 2022