UNIVERSITAS MATARAM

(University of Mataram)

FAKULTAS TEKNIK

(Faculty of Engineering)

PROGRAM STUDI TEKNIK INFORMATIKA

(Department of Informatics Engineering)

MODULE HANDBOOK DESCRIPTION

Machine Learning (P22A05)

Module designation	Machine Learning
Semester(s) in which the module is taught	*6 / third year*
Person responsible for the module	*Gibran Satya Nugraha, S.Kom., M.Eng*
Language	*Indonesian*
Relation to curriculum	*Preference*
Teaching methods	*Lectures, Discussions, Project*
Workload (incl. contact hours, self-study hours)	Contact Hours every week, eachweek of the 16 weeks/semester including Evaluation ● 2 x 50 minutes lecturer/week ● 120 minutes class exercise/week ● Self Study hours = 120 minutes/week ● Midterm Exam = 60 minutes ● Final Exam = 75 minutes Total workload 81,58 hours/semester
Credit points	*2 (~ 3,26 ECTS)*
Required and recommended prerequisites for joining the module	Artificial Intelligence

Module objectives/intended learning outcomes	The main objective of Machine Learning courses discusses computer capabilities that increase their capabilities automatically through the learning process from the data provided. Machine learning algorithms build mathematical models based on sample data, known as "training data", to process Regression, Clustering or Classification without being explicitly programmed. Based on these main objectives, the Machine Learning courses have subject learning outcomes, namely: 1. Able to understand the basic concepts of several Machine Learning methods 2. Able to apply several Machine Learning sequencing methods for solving simple cases manually and with computer assistance (independently) 3. Able to create proposed research about implementing several machine learning for some case
Content	Machine Learning is a course that studies supervised and unsupervised learning. the methods include in supervised learning is Artificial Neural Network, Support Vector Machine, etc. the method include in unsupervised learning is K-Means Clustering. Besides that Machine Learning also discuss about recommender system, text classification, and data science.
Examination forms	*Assignments, Quiz, Assessment, Project (Oral Presentation)*
Study and examination requirements	*Assignments 20%,* *Quiz 25%,* *Project 55%*
Reading list	1. Deep Learning (Adaptive Computation and Machine Learning series) by Ian Goodfellow, Yoshua Bengio, Aaron Courville 2. Machine Learning Yearning by Andrew Ng 3. Hands-On Machine Learning with Scikit-Learn, Keras, and TensorFlow: Concepts, Tools, and Techniques to Build Intelligent System by Geron Aurelien