



# UNIVERSITAS MATARAM

(University of Mataram)

## FAKULTAS TEKNIK

(Faculty of Engineering)

### PROGRAM STUDI TEKNIK INFORMATIKA

(Department of Informatics Engineering)

#### MODULE HANDBOOK DESCRIPTION

##### Features Extraction (P22A03)

Module designation	Features Extraction
Semester(s) in which the module is taught	<i>6 / third year</i>
Person responsible for the module	<i>Fitri Bimantoro, S.T., M.Kom.</i>
Language	<i>Indonesian</i>
Relation to curriculum	<i>Preference</i>
Teaching methods	<i>Lectures, Discussions, Case Study</i>
Workload (incl. contact hours, self-study hours)	<p>Contact Hours every week, each week of the 16 weeks/semester including Evaluation</p> <ul style="list-style-type: none"> <li>● 2 x 50 minutes lecturer/week</li> <li>● 2 x 60 minutes class exercise/week</li> <li>● Self Study hours = 120 minutes/week</li> </ul> <p>Total workload 340 minutes/week</p>
Credit points	<i>2 (~ 3,2 ECTS)</i>
Required and recommended prerequisites for joining the module	Digital Image Processing, probabilistic and statistic

Module objectives/ intended learning outcomes	<p>In this course, students are expected to be able to:</p> <ol style="list-style-type: none"> <li>1. Able to understand the basic concepts of feature extraction on several data.</li> <li>2. Able to apply several features extraction methods for solving simple cases manually and with computer assistance (independently)</li> <li>3. Able to create features extraction programs to solve real cases using own/online datasets (as a group)</li> </ol>
Content	<p>this course discusses introduction of feature extraction and digital data, text dataset and how to extract the feature using TF-IDF and TR-RF, image dataset how to extract the feature using color, tekstur and shape feature, and implementation on machine learning.</p>
Examination forms	<p><i>Assignments, Contribution/Activeness in Class, Scheduled Exam</i></p>
Study and examination requirements	<p><i>Assignments 25%, Quiz 25 %, Final Project 50%</i></p>
Reading list	<ol style="list-style-type: none"> <li>1. Feature Extraction, Foundations and Applications. Isabelle Guyon, Steve Gunn. Springer Berlin Heidelberg (Nov 2008)</li> <li>2. Feature Extraction, Construction and Selection, A Data Mining Perspective. Huan Liu, Hiroshi Motoda. Springer US (Dec 2012)</li> <li>3. Building Feature Extraction with Machine Learning, Geospatial Applications. CRC Press (Dec 2022)</li> </ol>