MODULE HANDBOOK
MATHEMATICAL SOFTWARE

BACHELOR DEGREE PROGRAM
DEPARTMENT OF MATHEMATICS
FACULTY OF SCIENCE AND DATA ANALYTICS

INSTITUT TEKNOLOGI SEPULUH NOPEMBER

Module name	**Mathematical Software**
Module level	Undergraduate
Code	KM184403
Course (if applicable)	Mathematical Software
Semester	Spring (Genap)
Person responsible for the module	
Lecturer	
Language	Indonesia and English
Relation to curriculum	Undergraduate degree program, **mandatory**, 4th semester.
Type of teaching, contact hours	Lectures, <60 students
Workload	1. Lectures : 3 x 50 = 150 minutes per week. 2. Exercises and Assignments : 3 x 60 = 180 minutes (3 hours) per week. 3. Private learning : 3 x 60 = 180 minutes (3 hours) per week.
Credit points	3 credit points (sks)
Requirements according to the examination regulations	A student must have attended at least 80% of the lectures to sit in the exams.
Mandatory prerequisites	Algorithms and Programming Object Oriented Programming
Learning outcomes and their corresponding PLOs	Course Learning Outcome (CLO) after completing this module, CLO-1 Be able to understand how some math software performs calculations. CLO-2 Be able to create programs using a programming language that is part of the software. CLO-3 Be Able to understand how to make graphics using a software.	
Content	Mathematical software is a course that provides knowledge, understanding and use of several software to solve mathematical problems. The software used includes Matlab, Maple, Sage, OpenCV and Geogebra. Topics covered include: basic calculations, data concepts, programming and graphics. The teaching system includes tutorials, responses and scheduled practicums.

Study and examination requirements and forms of examination	• In-class exercises • Assignment 1, 2 • Mid-term examination • Final examination
Media employed	LCD, whiteboard, websites (myITS Classroom), zoom.
Reading lists	Main: 1. Getting Started with MATLAB®, Version 7, The MathWorks, Inc., 2005. 2. Maple User Manual , Maplesoft,a division of Waterloo Maple Inc. 2014. 3. OpenCV Java Tutorials Documentation. 4. Mathematical Computation with SageMath, Paul Zimmermann, 2017. Supporting: -