MODULE HANDBOOK
RISK ANALYSIS

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

INSTITUT TEKNOLOGI SEPULUH NOPEMBER

MODULE HANDBOOK

RISK ANALYSIS

Module name	Risk Analysis
Module level	Master
Code	KM185376
Course (if applicable)	Risk Analysis
Semester	Fall (Ganjil)
Person responsible for the module	Dr. Valeriana Lukitosari, M.T.
Lecturer	Dr. Valeriana Lukitosari, M.T.
Language	Bahasa Indonesia and English
Relation to curriculum	Master degree program, elective, 3rd 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	Probability theory
Learning outcomes and their corresponding ILOs	Course Learning Outcome (CLO) after completing this module, CLO - 1 : Students are able to explain the concepts and methodologies in risk analysis theories. CLO – 2 : Students are able to use the risk models to analyze risk in insurance and other fields. CLO – 3 : Students are able to explain the concept of optimization in risk analysis CLO - 4 : Students are able to apply the concept of optimization in risk analysis for some fields such as insurance, project risk, and product assesment
Content	This course provides the concepts and methodologies in risk analysis theory, risk models with uncertainty to analyze risks, optimization concepts in risk analysis. Subsequently, some the applications of optimization

	concepts in risk analysis are presented in some areas such as insurance, project risks, and product assesment
Study and examination requirements and forms of examination	• In-class exercises • Assignment 1, 2, 3 • Mid-term examination • Final examination
Media employed	LCD, whiteboard, websites (myITS Classroom), zoom.
Reading list	Main : 1. Quantitative Risk Analysis, David Vose, Wiley, 2009 2. Probability and Risk Analysis, Igor Rychlik and Jesper Ryden, Springer, 2006