MODULE HANDBOOK
INVERSE PROBLEMS

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

INSTITUT TEKNOLOGI SEPULUH NOPEMBER

MODULE HANDBOOK

INVERSE PROBLEMS

Module name	Inverse problems
Module level	Master
Code	KM185381
Course (if applicable)	Inverse problems
Semester	Fall (Ganjil)
Person responsible for the module	Prof. Dr. Erna Apriliani, M.Si
Lecturer	Prof. Dr. Erna Apriliani, M.Si
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	2 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 : The student able to understand about invers problem, can formulate the problem and solve it. CLO – 2 : The student able to analyze the convergence of regulation method, apply to solve invers problem. CLO – 3 : The student able to determine the exact method for invers problem.	
Content	In this course is studied about invers problem, some methods to solve inver problem, regulation method and convergence of linear and non linear regulation
Study and examination	• In-class exercises • Assignment 1, 2, 3 • Mid-term examination

requirements and forms of examination	• Final examination
Media employed	LCD, whiteboard, websites (myITS Classroom), zoom.
Reading list	Main : 1. sakov, V, 2006, Inverse Problems for Partial Differential Equations, Springer Science Business Media, Inc. 2. Tarantola,A , 2008, Inverse Problem Theory and Methods for Model Parameter Estimation, Library of Congress Cataloging-in-Publication Data, SIAM 3. Kaipio, J dan Somersalo, E. 2005, Statistical and Computational Inverse Problems, Springer Science Business Media, Inc. 4. Hohage, T., 2002, lecture notes on Inverse Problems, University of G¨ottingen