



MODULE HANDBOOK OPERATION RESEARCH II

**BACHELOR DEGREE PROGRAM
DEPARTMENT OF MATHEMATICS
FACULTY OF SCIENCE AND DATA ANALYTICS
INSTITUT TEKNOLOGI SEPULUH NOPEMBER**

MODULE HANDBOOK

OPERATION RESEARCH II

Module name	Operation Research II	
Module level	Undergraduate	
Code	KM184405	
Course (if applicable)	Operation Research II	
Semester	Spring (Genap)	
Person responsible for the module	Valeriana Lukitosari, S.Si, MT	
Lecturers	Valeriana Lukitosari, S.Si, MT Drs. Suhud Wahyudi, M.Si Dr. Tahiyatul Asfihani, S.Si, M.Si	
Language	Bahasa Indonesia and English	
Relation to curriculum	Undergraduate degree program, mandatory , 4 th semester.	
Type of teaching, contact hours	Lectures, <60 students	
Workload	<ol style="list-style-type: none"> 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	Operation Research I Statistical Methods	
Learning outcomes and their corresponding PLOs	<p>Course Learning Outcome (CLO) after completing this module,</p> <p>CLO 1: Students can understand everything related to real problems that are probabilistic.</p> <p>CLO 2: Students understand the problems of Dynamic Program, Game Theory, and can compile non-linear mathematical models and at the same time find solutions.</p> <p>CLO 3: Students understand and understand Supply Theory and Queuing Theory.</p> <p>CLO 4: Students get provisions in completing the Final Project.</p>	

Content	This course is the development of linear mathematical modeling and the introduction of non-linear models. The scope of this course covers the use of mathematics in management problems, especially in decision making based on modeling real problems.
Study and examination requirements and forms of examination	<ul style="list-style-type: none"> • In-class exercises • Assignment 1, 2, 3 • Mid-term examination • Final examination
Media employed	LCD, whiteboard, websites (myITS Classroom), zoom.
Reading lists	<p>Main :</p> <ol style="list-style-type: none"> 1. F.S. Hillier & G.J. Lieberman [2005], "Introduction to Operations Research ", Eighth Editions, McGraw-Hill Publishing Company, Singapore. <p>Supporting :</p> <ol style="list-style-type: none"> 1. Taha, Hamdy A [2007], "Introduction to Operations Research", 5th Editions, Prentice Hall inc., Englewood Cliffs, New Jersey. 2. Winston [1994], "Operation Research Applications and Algorithms", Duxbury Press Belmont, California. 3. H.M. Wagner [1972], "Principles of Operations Research", Prentice - Hall, Inc., London.