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MODULE HANDBOOK

RESEARCH OF OPERATIONS

BACHELOR DEGREE PROGRAM
DEPARTEMENT OF STATISTICS
FACULTY OF SCIENCE AND DATA ANALYTICS
INSTITUT TEKNOLOGI SEPULUH NOPEMBER

ENDORSEMENT PAGE

	MODULE HANDBOOK **RESEARCH OF OPERATIONS** **DEPARTMENT OF STATISTICS** **INSTITUT TEKNOLOGI SEPULUH NOPEMBER**

Proses ***Process***	**Penanggung Jawab** ***Person in Charge***			**Tanggal** ***Date***
	Nama ***Name***	**Jabatan** ***Position***	**Tandatangan** ***Signature***	
Perumus *Preparation*	Wibawati, S.Si, M.Si	Dosen *Lecturer*		**March 28, 2019**
Pemeriksa dan Pengendalian *Review and Control*	Wibawati, S.Si, M.Si ; Irhamah, S.Si, M.Si, Ph.D	Tim kurikulum *Curriculum team*		**April 15, 2019**
Persetujuan *Approval*	Wibawati, S.Si, M.Si	Koordinator RMK *Course Cluster Coordinator*		**July 17, 2019**
Penetapan *Determination*	Dr. Kartika Fithriasari, M.Si	Kepala Departemen *Head of Department*		**July 30, 2019**

MODULE HANDBOOK

RESEARCH OF OPERATIONS

Module name	**Research of Operations**	
Module level	Undergraduate	
Code	KS184529	
Course (if applicable)	Research of Operations	
Semester	Fourth Semester (Genap)	
Person responsible for the module	Wibawati, S.Si, M.Si	
Lecturer	Wibawati, S.Si, M.Si ; Irhamah, S.Si, M.Si, Ph.D	
Language	Bahasa Indonesia and English	
Relation to curriculum	Undergradute degree program, **mandatory**, 4th semester.	
Type of teaching, contact hours	Lectures, <50 students	
Workload	1. Lectures : 3 x 50 = 150 minutes per week. 2. Exercises and Assignments : 3 x 60 = 180 minutes (3 hours) perweek. 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	-	
Learning outcomes and their corresponding PLOs		PLO – 1 PLO – 4
Content	*Operation Research is a discipline that applies analytical tools based on quantitative methods in better decision making. In this course presented several fundamental methods and applications in various fields. Students are given an understanding of the theory and basic concepts of Operation Research along with examples of real applications and their completion. In addition, students are also equipped with advanced optimization concepts and procedures and apply them in management issues. The materials provided include Linear Program, SimplexMethod, Duality, Sensitivity, Queue, Transportation Issues, Problems and Analysis of network work and Goal Programming. Materials delivered through interactive lectures, discussions, exercises, and Problem Based Learning*	
Study and	• In-class exercises	

examination requirements and forms of examination	• Assignment 1, 2, 3 • Mid-term examination • Final examination
Media employed	LCD, whiteboard, websites (myITS Classroom), zoom.
Reading list	1. Bazaraa, M., Jarvis, J., dan Sherali, H. Linear Programming and Network Flows, 3rd Ed. John Wiley dan Sons, USA. 2005. 2. Hillier, F. S. And Lieberman, G. J. Introduction to Operations Research, 6th Ed. McGraw-Hill, Inc. New York, USA. 1995. 3. Taha, H. A. Operations Research: An Introduction, 8th Ed. Pearson Prentice Hall. New York, USA. 2007. 4. Wayne, W. Operations Research, Fourth Edition, Brooks/Cole-Thomson Learning, USA. 2004. 5. Montgomery, D.C., 2012. An Introduction to Optimization. 4th edition. USA: John Wiley and Sons Inc.

	Program Studi	Sarjana, Departemen Statistika, FMKSD-ITS
	Mata Kuliah	Riset Operasi
	Kode Mata Kuliah	KS184529
	Semester/SKS	V/3
	MK Prasyarat	-
RP-S1	Dosen Pengampu	Wibawati, S.Si, M.Si ; Irhamah, S.Si, M.Si, Ph.D

Bahan Kajian/*Learning Materials*	
CPL yang dibebankan MK/*PLO*	CPL-1 Mampu menerapkan pengetahuan teori statistika, matematika, dan komputasi CPL-4 Mampu mengindentifikasi,memformulasi, dan menyelesaikan masalah statistika di berbagai bidang terapan *CPL-1 Able to apply knowledge of statistical theory, mathematics,and computing* *CPL-4 Able to identify, formulate, and solve statistical problems in various applied fields*
CP-MK/*CLO*	

Perte-muan *Meeting*	**Kemampuan Akhir Sub CP-MK** *Sub CLO Final Capability*	**Keluasan (materi pembelajaran)** *Extent (Learning Materials)*	**Metode Pembelajaran** *Learning Methods*	**Estimasi Waktu** *Estimated Time*	**Bentuk Evaluasi** *Evaluation Form*	**Kriteria dan Indikator Penilaian** *Assessment Criteria and Indicator*	**Bobot Penilaian** *Score Weight*
	ETS/*Midterm*						
	EAS/*Finalterm*						

PUSTAKA/*References* **:**