

MODULE HANDBOOK

OPERATION MANAGEMENT



**STATISTICS UNDERGRADUATE PROGRAM
DEPARTMENT OF STATISTICS
FACULTY OF SCIENCE AND DATA ANALYTICS
INSTITUT TEKNOLOGI SEPULUH NOPEMBER
SURABAYA**

ENDORSEMENT PAGE



MODULE HANDBOOK OPERATION MANAGEMENT STATISTICS UNDERGRADUATE PROGRAM DEPARTMENT OF STATISTICS INSTITUT TEKNOLOGI SEPULUH NOPEMBER

Proses <i>Process</i>	Penanggung Jawab <i>Person in Charge</i>			Tanggal <i>Date</i>
	Nama <i>Name</i>	Jabatan <i>Position</i>	Tanda tangan <i>Signature</i>	
Perumus <i>Preparation</i>	Dr. Muhammad Mashuri, M.T	Dosen Lecturer		
Pemeriksa dan Pengendalian <i>Review and Control</i>	Dr. Muhammad Mashuri, M.T ; Dr.Drs Agus Suharsono, MS ; Wibawati, S.Si, M.Si; Dr. Muhammad Ahsan, S.Si	Tim kurikulum Curriculum team		
Persetujuan <i>Approval</i>	Dr. Wibawati, S.Si, M.Si.	Koordinator RMK Course Cluster Coordinator		
Penetapan <i>Determination</i>	Dr. Kartika Fithriasari, M.Si	Kepala Departemen Head of Department		

MODULE HANDBOOK

OPERATION MANAGEMENT

Module name	OPERATION MANAGEMENT	
Module level	Undergraduate	
Code	SS234631	
Course (if applicable)	OPERATION MANAGEMENT	
Semester	6	
Person responsible for the module	Dr. Muhammad Mashuri, M.T	
Lecturer	Dr. Muhammad Mashuri, M.T ; Dr.Drs Agus Suharsono, MS ; Wibawati, S.Si, M.Si; Dr. Muhammad Ahsan, S.Si	
Language	Bahasa Indonesia and English	
Relation to curriculum	Undergraduate degree program, elective, 6th semester.	
Type of teaching, contact hours	Case Method (100%)	
Workload	1. Lectures [L] : 3 x 50 = 150 minutes per week. 2. Exercises and Assignments [EA] : 3 x 60 = 180 minutes (3 hours) per week. 3. Independent learning [IL]: 3 x 60 = 180 minutes (3 hours)perweek.	
Credit points	3 credit points (SKS) Equivalent to 4.8 ECTS	
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	CLO.1 Can explain 10 decision areas in Operations Management CLO.2 Able to formulate solutions to Operations Management problems CLO.3 Able to apply statistical methods in Operations Management to perform data analysis CLO.4 Able to identify, formulate, and solve statistical problems using Operations Management techniques CLO.5 Able to use computational techniques and modern computer devices needed to solve Operations Management problems	PLO-8 PLO-9 PLO-10
Content	Operations Management (OM) is one of the main courses in the field of industry. By studying Operations Management, the application of Statistical Methods in the industry becomes more specific. In OM will be studied 10 decisions that are	

	often done in the factory, namely product design, process design, quality management, capacity planning, location management, facility layout planning, human resource management, supply chain management, inventory management, scheduling and maintenance. To achieve this, the learning strategy used is discussion, training, and training that is equipped with field lecture activities, namely visiting the factory to find out the implementation of Operations Management in the company.
Assessment and its weight	Assignment 1(25%) Assignment 2(25%) Midterm Exam (Study Case)(25%) Project-Final Exam(25%)
Media employed	LCD, whiteboard, websites (myITS Classroom), zoom
Reading list	<ol style="list-style-type: none"> 1. Heiser Jay and Barry Radder, Operation Management, Prentice Hall International, New Jersey, 2011 2. Dervitsiotis, Kostas N, Operation Management, Mc Graw Hill International Book Co, Singapore, 1984 3. Collier, David Alan. 2009. Operation Management. Cengage Learning. 4. Schroeder, Roger G. 2007. Operation Management, Contemporary Concepts and Cases. McGraw-Hill/Irwin. 5. Monks, Joseph, Operation Management, Theory and problems, third Edition, MG Hill, Singapore, 1987 6. Buffa Elwood S & Rakesh K Sarin, Modern Production & Operations Management, 8th Ed, John Willey & Sons Inc., Singapore, 1985



INSTITUT TEKNOLOGI SEPULUH NOPEMBER
FAKULTAS SAINS DAN ANALITIKA DATA
PROGRAM STUDI SARJANA STATISTIKA
DEPARTEMEN STATISTIKA

Kode Dokumen

RENCANA PEMBELAJARAN SEMESTER/
SEMESTER LEARNING PLAN

MATA KULIAH (MK)/ <i>Course</i>	KODE/ <i>Code</i>	Rumpun MK/ <i>Course Group</i>	BOBOT (sks)/ <i>Weight (credit)</i>		SEMESTER/ <i>Semester</i>	Tgl Penyusunan/ <i>Drafting Date</i>
MANAJEMEN OPERASI / OPERATION MANAGEMENT	SS234631	SBI	T= 3	P= 0	VI	11 Januari 2023
OTORISASI/ AUTHORIZATION	Pengembang RPS/ RPS Developer		Koordinator RMK/ Course Group Coordinator		Ketua PRODI/ Head of Department	
	Dr. M. Ahsan		Wibawati, S.Si, M.Si		Dr. Kartika Fithriasari, M.Si	
Capaian Pembelajaran (CP)/ Learning Achievement	CPL-PRODI yang dibebankan pada MK/ PLO					
	CPL.8	Mampu menggunakan perangkat komputasi modern untuk menyelesaikan permasalahan statistik				
	CPL.9	Mampu menerapkan metode statistika untuk menganalisis permasalahan teoritis dan riil				
	CPL.10	Mampu menerapkan metode statistika Bisnis, Industri, Ekonomi, Sosial, Kesehatan, atau Lingkungan pada permasalahan riil				
	<i>PLO.8</i>	<i>Able to use modern computing devices to solve statistical problems</i>				
	<i>PLO.9</i>	<i>Able to apply statistical methods to analyze theoretical and real problems</i>				
	<i>PLO.10</i>	<i>Able to apply business, industrial, economic, social, health or environmental statistical methods to real problems</i>				
	Capaian Pembelajaran Mata Kuliah (CPMK)/ CLO					
	CPMK.1 Dapat menjelaskan 10 bidang keputusan dalam Manajemen Operasi					
	CPMK.2 Mampu memformulasikan penyelesaian masalah Manajemen Operasi					

	<p>CPMK.3 Mampu mengaplikasikan metode Statistika dalam Manajemen Operasi untuk melakukan analisis data</p> <p>CPMK.4 Mampu mengidentifikasi, memformulasi, dan menyelesaikan masalah statistika menggunakan teknik Manajemen Operasi</p> <p>CPMK.5 Mampu menggunakan teknik komputasi dan perangkat komputer modern yang diperlukan untuk menyelesaikan masalah Manajemen Operasi</p> <p><i>CLO.1 Can explain 10 decision areas in Operations Management</i></p> <p><i>CLO.2 Able to formulate solutions to Operations Management problems</i></p> <p><i>CLO.3 Able to apply statistical methods in Operations Management to perform data analysis</i></p> <p><i>CLO.4 Able to identify, formulate, and solve statistical problems using Operations Management techniques</i></p> <p><i>CLO.5 Able to use computational techniques and modern computer devices needed to solve Operations Management problems</i></p>																								
	<p>Matrik CPL – CPMK</p> <p><i>PLO-CLO Matrix</i></p> <table border="1"> <thead> <tr> <th>CPMK</th> <th>CPL-8</th> <th>CPL-9</th> <th>CPL-10</th> </tr> </thead> <tbody> <tr> <td>CPMK-1</td> <td></td> <td>V</td> <td>V</td> </tr> <tr> <td>CPMK-2</td> <td></td> <td>V</td> <td>V</td> </tr> <tr> <td>CPMK-3</td> <td>V</td> <td>V</td> <td>V</td> </tr> <tr> <td>CPMK-4</td> <td></td> <td>V</td> <td>V</td> </tr> <tr> <td>CPMK-5</td> <td>V</td> <td></td> <td></td> </tr> </tbody> </table>	CPMK	CPL-8	CPL-9	CPL-10	CPMK-1		V	V	CPMK-2		V	V	CPMK-3	V	V	V	CPMK-4		V	V	CPMK-5	V		
CPMK	CPL-8	CPL-9	CPL-10																						
CPMK-1		V	V																						
CPMK-2		V	V																						
CPMK-3	V	V	V																						
CPMK-4		V	V																						
CPMK-5	V																								
<p>Deskripsi Singkat MK/</p> <p><i>Course Description</i></p>	<p>Manajemen Operasi (MO) merupakan salah satu mata kuliah inti di bidang industri. Dengan mempelajari Manajemen Operasi maka penerapan Metode Statistika di bidang industri menjadi lebih spesifik. Dalam MO akan dipelajari 10 keputusan yang sering dilakukan di pabrik, yaitu perancangan produk, perancangan proses, pengelolaan kualitas, perencanaan kapasitas, pemilihan lokasi, perancangan tata letak fasilitas, pengelolaan sumber daya manusia, manajemen rantai pasokan, manajemen persediaan, penjadwalan dan perawatan. Untuk mencapai ini, maka strategi pembelajaran yang digunakan adalah diskusi, latihan, dan penugasan yang dilengkapi dengan kegiatan kuliah lapangan yaitu mengunjungi pabrik untuk mengetahui implementasi Manajemen Operasi di perusahaan.</p> <p><i>Operations Management (OM) is one of the main courses in the field of industry. By studying Operations Management, the application of Statistical Methods in the industry becomes more specific. In OM will be studied 10 decisions that are often done in the factory, namely product design, process design, quality management, capacity planning, location management, facility layout planning, human resource management, supply chain management, inventory management, scheduling and maintenance. To achieve this, the learning strategy used is discussion, training, and training that is equipped with field lecture activities, namely visiting the factory to find out the implementation of Operations Management in the company.</i></p>																								
<p>Bahan Kajian: Materi Pembelajaran/</p> <p><i>Course Material</i></p>	<p>Dasar Sains, Teori Statistika, Pengumpulan Data, Deskripsi dan Eksplorasi, Komputasi dan Data Processing, Pemodelan, Industri dan Bisnis</p> <p><i>Basic Science, Statistical Theory, Data Collection, Description and Exploration, Computing and Data Processing, Modeling, Industry and Business</i></p>																								
<p>Pustaka/</p>	<p>Utama/Primary:</p>																								

References		Heiser Jay and Barry Radder, Operation Management, Prentice Hall International, New Jersey, 2011					
		Pendukung/Secondary :					
		Dervitsiotis, Kostas N, Operation Management, Mc Graw Hill International Book Co, Singapore, 1984 Collier, David Alan. 2009. Operation Management. Cengage Learning. Schroeder, Roger G. 2007. Operation Management, Contemporary Concepts and Cases. McGraw-Hill/Irwin. Monks, Joseph, Operation Management, Theory and problems, third Edition, MG Hill, Singapore, 1987 Buffa Elwood S & Rakesh K Sarin, Modern Production & Operations Management, 8th Ed, John Willey & Sons Inc., Singapore, 1985					
Dosen Pengampu/ Lecturers		Dr. M. Ahsan					
Matakuliah syarat/ Pre-requisite Course		-					
Mg Ke- Week	Kemampuan akhir tiap tahapan belajar (Sub-CPMK) Final capability for each learning step	Penilaian Evaluation		Bantuk Pembelajaran, Metode Pembelajaran, Penugasan Mahasiswa, [Estimasi Waktu] Learning Format Learning Methods Assignment for Student [Estimated Time]		Materi Pembelajaran [Pustaka] Learning Material [References]	Bobot Penilaian (%) Evaluation Weight (%)
		Indikator Indicator	Kriteria & Bentuk Criteria and Format	Luring Offline	Daring Online		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Dapat menjelaskan MO dan produktivitas serta menghitung indeksinya <i>Can explain OM and productivities and calculate the index.</i>	1. Mampu menjelaskan perbedaan barang dan jasa menurut 10 keputusan MO 2. Mampu menghitung indeks produktivitas	TT-0-P-L	1. SCI 2. Diskusi 3. Latihan <i>1. SCI 2. Discussion</i>		Pengertian MO & Produktivitas <i>Definition of MO and Productivity</i>	5%

		<p>1. <i>Able to explain differences in goods and services according to 10 MO decisions</i></p> <p>2. <i>Able to calculate productivity index</i></p>		<p>3. <i>Exercise</i></p> <p>TM: 3x50" LT: 3x60" BM: 3x60"</p>			
2	<p>Dapat menjelaskan strategi Global. <i>Can explain the Global strategy</i></p>	<p>1. Mampu menjelaskan Visi, misi dan membuat analisis SWOT.</p> <p>2. Mampu menjelaskan pentingnya Strategi Global</p> <p>1. <i>Able to explain vision, mission and make SWOT analysis.</i></p> <p>2. <i>Able to explain the importance of Global Strategy</i></p>	TT-P-O	<p>1. SCI</p> <p>2. Diskusi</p> <p>3. Latihan</p> <p>1. <i>SCI</i></p> <p>2. <i>Discussion</i></p> <p>3. <i>Exercise</i></p> <p>TM: 3x50" LT: 3x60" BM: 3x60"</p>		Strategi Global <i>Global Strategy</i>	5%
3-4	<p>Dapat menjelaskan hubungan manajemen mutu SPC dan seven tools <i>Can explain the relationship of SPC quality management and seven tools</i></p>	<p>1. Dapat menjelaskan hubungan Manajemen Mutu dan SPC</p> <p>2. Dapat menggunakan beberapa alat dari seven tools</p> <p>1. <i>Can explain the relationship of Quality Management and SPC</i></p> <p>2. <i>Can use multiple tools from seven tools</i></p>	TT-P-O	<p>Presentasi Latihan soal & Diskusi (P-G-LS-D)</p> <p><i>Presentation Exercise & Discussion</i></p> <p>TM: 2x3x50" LT: 2x3x60" BM: 2x3x60"</p>		Mengelola Kualitas <i>Quality Controlling</i>	10%
5	<p>Dapat menjelaskan strategi dalam siklus hidup produk dan faktor yang mempengaruhi munculnya produk baru.</p>	<p>a. Dapat menjelaskan strategi dalam siklus hidup produk.</p> <p>b. Dapat memilih Rancangan produk (barang dan jasa)</p> <p>1. <i>Can explain strategies</i></p>	TT-O-P-L	<p>P-G-LS-D</p> <p>TM: 3x50" LT: 3x60" BM: 3x60"</p>		Desain Produk dan jasa <i>Product and Services Design</i>	10%

	<i>Can explain strategies in the product lifecycle and factors that influence the emergence of new products.</i>	<i>in the product lifecycle. 2. Can choose product design (goods and services</i>					
6	Dapat menentukan Lokasi minimal berdasarkan 2 metode. <i>Can determine the Location based on at least 2 methods.</i>	Dapat menentukan Lokasi berdasarkan metode : 1. BEP 2. Letak Geografis <i>Can determine the Location based on the method: 1. BEP 2. Geographic Location</i>	TT-P-O	P-G-LS-D TM: 3x50" LT: 3x60" BM: 3x60"		Strategi Lokasi <i>Location Strategy</i>	10%
7	Dapat menjelaskan jenis proses dan menentukan jumlah mesin berdasarkan kapasitas produksi. <i>Can explain the type of process and determine the number of machines based on production capacity.</i>	a. Dapat menjelaskan beberapa jenis proses. b. Mampu menentukan jumlah mesin berdasarkan kapasitas <i>1. Can explain some types of processes. 2. Able to determine the number of machines based on capacity</i>	TT-P-O	P-G-LS-D TM: 3x50" LT: 3x60" BM: 3x60"		Strategi proses dan Perencanaan kapasitas <i>Process strategy and capacity planning</i>	10%
8	ETS/Midterm						
9	Dapat menjelaskan dan menentukan strategi SDM. <i>Can explain and determine HR strategy.</i>	1. Dapat menentukan pemilihan SDM berdasarkan metode kerja 2. Menjelaskan strategi SDM yg paling baik <i>1. Can determine the selection of human resources based on work methods 2. Explain the best strategy for human</i>	TT-P-O	P-G-LS-D		Sumber Daya Manusia <i>Human Resources</i>	5%

		<i>resources</i>					
10	Dapat menentukan Lokasi minimal berdasarkan 3 metode <i>Can determine the Location based on at least 3 methods</i>	1. Dapat menjelaskan beberapa macam strategi rantai pasokan 2. Dapat memilih Rantai pasokan dengan metode pemeringkat faktor <i>1. Can explain several kinds of supply chain strategies</i> <i>2. Can choose supply chain by factor rating method</i>	TT-P-O	P-G-LS-D TM: 3x50" LT: 3x60" BM: 3x60"		Manajemen Rantai Pasokan <i>Supply Chain Management</i>	5%
11	Dapat menjelaskan jenis-jenis inventory dan melakukan perhitungan inventory untuk berbagai model <i>Can explain the types of inventories and perform inventory calculations for various models</i>	1. Dapat menjelaskan jenis-jenis inventory 2. Dapat melakukan perhitungan inventory untuk berbagai model <i>1. Can explain the types of inventory</i> <i>2. Can perform inventory calculations for various models</i>	TT-P-O	P-G-LS-D TM: 3x50" LT: 3x60" BM: 3x60"		Inventory Management <i>Inventory Management</i>	5%
12	Dapat melakukan perencanaan agregat untuk berbagai strategi proses <i>Can perform aggregate planning for various process strategies</i>	Dapat melakukan perencanaan aggregare untuk berbagai strategi proses <i>Can do aggregate planning for various process strategie</i>	TT-P-O	P-G-LS-D TM: 3x50" LT: 3x60" BM: 3x60"		Aggregate Planning <i>Aggregate Planning</i>	5%
13	Dapat mengidentifikasi struktur produk, menentukan ukuran lot, dan menjelaskan MRP	1. Dapat mengidentifikasi struktur produk 2. Dapat menentukan ukuran lot 3. Dapat menjelaskan MRP	TT-P-O	P-G-LS-D TM: 3x50" LT: 3x60" BM: 3x60"		Material Requirement Planning <i>Material Requirement Planning</i>	10%

	<i>Can identify product structure, determine lot size, and explain MRP</i>	<ol style="list-style-type: none"> 1. <i>Can identify the product structure</i> 2. <i>Can determine the lot size</i> 3. <i>Can explain MRP</i> 					
14	Dapat menentukan penjadwalan. <i>Able to determine scheduling</i>	Dapat menentukan Penjadwalan pada kasus 1 dan 2 mesin berdasarkan a. Skala prioritas b. Metode johnson <i>Can determine Scheduling in the case of 1 and 2 machines based on a. Priority scale b. Johnson's method</i>	TT-P-O	P-G-LS-D TM: 3x50" LT: 3x60" BM: 3x60"		Penjadwalan <i>Scheduling</i>	10%
15	Dapat menentukan strategi manajemen Perawatan. <i>Can determine the management strategy of Care</i>	Dapat menghitung keandalan suatu sistem Dapat menentukan model perawatan dan MTBF <i>Can calculate the reliability of a system Can determine the model of maintenance and MTBF</i>	TT-P-O	P-G-LS-D TM: 3x50" LT: 3x60" BM: 3x60"		Manajemen Perawatan <i>Maintenance Management</i>	10%
16	Evaluasi Akhir Semester / Ujian Akhir Semester/ <i>Final Exam</i>						

