

MODULE HANDBOOK

**BUSINESS
DECISIONS
ANALYSIS**



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

ENDORSEMENT PAGE



**MODULE HANDBOOK BUSINESS
DECISIONS ANALYSIS
DEPARTMENT OF STATISTICS
INSTITUT TEKNOLOGI SEPULUH NOPEMBER**


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

MODULE HANDBOOK


BUSINESS DECISIONS ANALYSIS

Module name	Business Decisions Analysis	
Module level	Undergraduate	
Code	KS184531	
Course (if applicable)	Business Decisions Analysis	
Semester	Fifth Semester (Ganjil)	
Person responsible for the module	Dr.Drs Agus Suharsono, MS	
Lecturer	Dr.Drs Agus Suharsono, MS	
Language	Bahasa Indonesia and English	
Relation to curriculum	Undergraduate degree program, mandatory , 5 th semester.	
Type of teaching, contact hours	Lectures, <50 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) 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	Pengantar Metode Statistika/ <i>Introduction to Statistical Methods</i>	
Learning outcomes and their corresponding PLOs	<i>CPMK.1 Able to explain the concepts and principles of Business Decision Analysis</i>	PLO – 1
	<i>CPMK.2 Able to formulate business decision analysis problem solving</i>	
	<i>CPMK.3 Able to apply Statistical method to conduct Business Decision Analysis</i>	PLO – 2
	<i>CPMK.4 Able to identify, formulate, and solve statistical problems using business decision analysis understanding</i>	
	<i>CPMK.5 Able to use the computing techniques and modern computer devices needed to solve business decision analysis problems</i>	PLO – 3
	<i>CPMK.6 Have knowledge of current and upcoming issues related to Business Decision Analysis</i>	
	<i>CPMK.7 Able to communicate effectively and cooperate in interdisciplinary and multidisciplinary teams</i>	PLO – 4
	<i>CPMK.8 Has professional responsibilities and ethics</i>	

	<i>CPMK.9 Able to motivate yourself to think creatively and learn throughout life</i>	
Content	<i>Business Decision Analysis course is one of the courses that aims to apply the concept of probability and expectations in decision-making issues both in the world of Industry, Business Economics, Social Governance and The Health Environment. Learning Strategy is to provide assignments and evaluations based on presentations/tests.</i>	
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 list	<ol style="list-style-type: none"> 1. Holloway C. H., 1979. Decision Making Under Uncertainty : Models And Choices. New Jersey : Prentice-Hall. 2. Mangkusubroto, Kuntoro. 1989. Analisis Keputusan : Pendekatan Sistem Dalam Man-jemen Usaha Dan Proyek. Cetakan ke-6. Bandung : Ganeca Exact. 3. Saaty. T. L., 1990. Decision Making for Leaders: The Analytic Hierarchy Process For Decisions In A Complex World. USA : RWS Publications. 4. Sixto, Rios. 1994. Decision Theory and Decision Analysis: Trends and Challenges. 5. Stine, Robert dan Foster, Dean. 2013. Statistics for Business: Decision Making and Analysis. 3rd edition. Kindle Edition. 	

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	Mata Kuliah	Analisis Keputusan Bisnis
	Kode Mata Kuliah	KS184531
	Semester/SKS	V/3
	MK Prasyarat	Pengantar Metode Statistika
RP-S1	Dosen Pengampu	Dr.Drs Agus Suharsono, MS


Bahan Kajian/Learning Materials	Teori Statistika, Pengumpulan Data, Deskripsi dan Eksplorasi, Komputasi dan Data Processing, Pemodelan, Industri dan Bisnis, Ekonomi dan Manajemen <i>Statistical Theory, Data Collection, Description and Exploration, Computing and Data Processing, Modeling, Industry and Business, Economics and Management</i>
CPL yang dibebankan MK/PLO	CPL-1 Mampu menerapkan pengetahuan teori statistika, matematika, dan komputasi CPL-2 Mampu merancang dan melaksanakan pengumpulan data dengan metodologi yang benar CPL-3 Mampu menganalisis data dengan metode statistika yang tepat dan menginterpretasikannya CPL-4 Mampu mengidentifikasi, memformulasi, dan menyelesaikan masalah statistika di berbagai bidang terapan <i>CPL-1 Able to apply statistical, mathematical, and computational theory knowledge</i> <i>CPL-2 Able to design and implement data collection with the correct methodology</i> <i>CPL-3 Able to analyze data with the right statistical methods and interpret it</i> <i>CPL-4 Able to identify, formulate, and solve statistical problems in various applied fields</i>
CP-MK/CLO	CPMK.1 Mampu menjelaskan menjelaskan konsep dan prinsip Analisis Keputusan Bisnis CPMK.2 Mampu memformulasikan penyelesaian masalah Analisis Keputusan Bisnis CPMK.3 Mampu mengaplikasikan metode Statistika untuk melakukan Analisis Keputusan Bisnis CPMK.4 Mampu mengidentifikasi, memformulasi, dan menyelesaikan masalah statistika menggunakan pemahaman Analisis Keputusan Bisnis CPMK.5 Mampu menggunakan teknik komputasi dan perangkat komputer modern yang diperlukan untuk menyelesaikan masalah Analisis Keputusan Bisnis CPMK.6 Memiliki pengetahuan tentang isu terkini dan mendatang yang berkaitan dengan Analisis Keputusan Bisnis CPMK.7 Mampu berkomunikasi secara efektif dan bekerjasama dalam tim yang interdisiplin dan multidisiplin CPMK.8 Memiliki tanggung jawab dan etika profesi CPMK.9 Mampu memotivasi diri untuk berpikir kreatif dan belajar sepanjang hayat <i>CPMK.1 Able to explain the concepts and principles of Business Decision Analysis</i> <i>CPMK.2 Able to formulate business decision analysis problem solving</i> <i>CPMK.3 Able to apply Statistical method to conduct Business Decision Analysis</i> <i>CPMK.4 Able to identify, formulate, and solve statistical problems using business decision analysis understanding</i> <i>CPMK.5 Able to use the computing techniques and modern computer devices needed to solve business decision analysis problems</i> <i>CPMK.6 Have knowledge of current and upcoming issues related to Business Decision Analysis</i> <i>CPMK.7 Able to communicate effectively and cooperate in interdisciplinary and multidisciplinary teams</i> <i>CPMK.8 Has professional responsibilities and ethics</i>

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RP-S1	Dosen Pengampu	Dr.Drs Agus Suharsono, MS

CPMK.9 Able to motivate yourself to think creatively and learn throughout life
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Pertemuan 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 Indicators	Bobot Penilaian Score Weight
1	<p>1. Dapat menjelaskan deskripsi, formalisasi dan siklus dalam analisis keputusan.</p> <p><i>1. Can explain the description, formalization and cycle in decision analysis.</i></p>	<p>Lingkup keputusan dan siklus analisis keputusan.</p> <p><i>The scope of decisions and the cycle of decision analysis.</i></p>	<p>Ceramah interaktif Diskusi (CID) <i>Interactive lectures Discussions (CID)</i></p>	<p>300 menit <i>300 Minutes</i></p>	<p>Tes Observasi Aktifitas di kelas (TOA) <i>Class Activity, Observation, Test (TOA)</i></p>	<p>1. Dapat menjelaskan hubungan faktor lingkungan, kemampuan manusia, intuisi, keputusan dan hasil.</p> <p>2. Dapat menjelaskan kodifikasi informasi, penetapan preferensi dan keputusan yang logis.</p> <p>3. Dapat menjelaskan langkah-langkah dalam pengambilan keputusan pada tahapan deterministik maupun probabilistik.</p> <p><i>1. Can explain the relationship of environmental factors, human abilities, intuition, decisions and results.</i></p> <p><i>2. Can explain the codification of information, determination of preferences and logical decisions.</i></p> <p><i>3. Can explain the steps in decision making at the deterministic and probabilistic stage.</i></p>	5%/5%



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Pertemuan <i>Meeting</i>	Kemampuan Akhir Sub CP-MK <i>Sub CLO Final Capability</i>	Keluasan (materi pembelajaran) <i>Extent(Learning Materials)</i>	Metode Pembelajaran <i>Learning Methods</i>	Estimasi Waktu <i>Estimated Time</i>	Bentuk Evaluasi <i>Evaluation Form</i>	Kriteria dan Indikator Penilaian <i>Assessment Criteria and Indicators</i>	Bobot Penilaian <i>Score Weight</i>
2,3	2. Dapat menerapkan diagram dan pemodelan dalam pengambilan keputusan bisnis. 2. <i>Can apply diagrams and modeling in business decision making.</i>	Diagram keputusan dan Penentuan Pilihan. <i>Decision diagram and Choice Determination.</i>	Ceramah Interaktif, Diskusi, dan Latihan Soal <i>Interactive lectures Discussions, and Exercise</i>	300 menit <i>300 Minutes</i>	Tes (Observasi Aktifitas di kelas) Tugas 1 <i>Class Activity, Observation, Test (TOA) Assignment 1</i>	1. Dapat menggambarkan diagram keputusan. 2. Dapat menetapkan nilai kemungkinan dan menentukan pilihan. 3. Dapat menentukan dominasi nilai, dominasi stokastik dan tingkat aspirasi. 4. Dapat membuat kurva dan ekspektasi utilitas. 1. <i>Can describe the decision diagram.</i> 2. <i>Can set possible values and make choices.</i> 3. <i>Can determine the dominance of values, stochastic dominance and aspiration level.</i> 4. <i>Can create curves and utility expectations.</i>	33%/38%
4,5	3. Dapat menjelaskan kejadian majemuk dan nilai probabilitas. 3. <i>Can describe compound events</i>	Model dan Nilai Probabilitas. <i>Model and Probability Value.</i>	Ceramah Interaktif, Diskusi, dan Latihan Soal <i>Interactive lectures Discussions, and Exercise</i>	300 menit <i>300 Minutes</i>	TOA TOA	1. Dapat menjelaskan probabilitas bersyarat. 2. Dapat menentukan nilai prior dan posterior. 3. Dapat menyelesaikan kasus nilai probabilitas obyektif dan subyektif.	11%/49%



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	<i>and probability values.</i>					4. Dapat menjelaskan hubungan antara kejadian mutually exclusive dan kejadian independen. 1. <i>Can explain conditional probability.</i> 2. <i>Can specify prior and posterior values.</i> 3. <i>Can solve the case of objective and subjective probability values.</i> 4. <i>Can explain the relationship between mutually exclusive events and independent events.</i>	
6,7	4. Dapat menjelaskan preferensi atas resiko dan fungsi utilitas. 4. <i>Can explain the preferences for risks and functions of the utility.</i>	Preferensi dan fungsi Utility. <i>Utility preferences and functions.</i>	Ceramah Interaktif, Diskusi, dan Latihan Soal <i>Interactive lectures Discussions, and Exercise</i>	150 menit 150 <i>Minutes</i>	TOA Tugas 2 TOA <i>Assignment 2</i>	1. Dapat menjelaskan aksioma perilaku rasional. 2. Dapat menentukan sikap dalam menghadapi resiko. 3. Dapat menentukan persamaan utilitas. 1. <i>Can explain the axiom of rational behavior.</i> 2. <i>Can determine attitude in the face of risk.</i> 3. <i>Can determine utility equations.</i>	17%/66%




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8	ETS/Midterm						
9,10	5. Dapat menjelaskan Kriteria majemuk dalam kepastian dan ketidakpastian. <i>5. Can explain compound criteria in certainty and uncertainty.</i>	Kriteria majemuk dalam ketidak pastian. <i>Compound criteria in uncertainty.</i>	Ceramah Interaksi, Diskusi, Latihan, Seminar <i>Interactive lectures, Discussions, Exercise, Seminar</i>	150 menit <i>150 Minutes</i>	TOA <i>TOA</i>	1. Dapat menjelaskan leksikographi dan tingkat aspirasi. 2. Dapat menjelaskan prosedur trade-off. 3. Dapat menjelaskan fungsi nilai. <i>1. Can explain lexicography and aspiration level. 2. Can explain the tradeoff procedure. 3. Can describe the function value.</i>	6%/72%
11,12	6. Dapat menentukan asumsi perilaku dan batasan dari analisis keputusan. <i>6. Can determine behavioral assumptions and limitations of decision analysis.</i>	Asumsi perilaku dan keterbatasan keputusan. <i>Assumptions of behavior and limitations of decisions.</i>	Ceramah Interaksi, Diskusi, Latihan, Seminar <i>Interactive lectures, Discussions, Exercise, Seminar</i>	150 menit <i>150 Minutes</i>	TOA Tugas 3 <i>TOA Assignment 3</i>	1. Dapat menjelaskan asumsi perilaku. 2. Dapat menjelaskan batasan dari model keputusan. 3. Dapat menentukan kemungkinan keluaran dari model keputusan. <i>1. Can explain the assumptions of behavior. 2. Can explain the limitations of the decision model. 3. Can determine the possible output of the decision model.</i>	5%/77%



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13,14	7. Dapat menjelaskan tentang Analytic Hierarchy Process (AHP). <i>Can explain about The Analytic Hierarchy Process (AHP).</i> 2.	Analytic Hierarchy Process (AHP). <i>Analytic Hierarchy Process (AHP).</i>	Ceramah Interaksi, Diskusi, Latihan, Seminar <i>Interactive lectures, Discussions, Exercise, Seminar</i>	300 menit <i>300 Minutes</i>	TOA <i>TOA</i>	1. Dapat Menjelaskan prinsip-prinsip berfikir analisis. 2. Dapat mengklasifikasi dan mengkonstruksi hirarki. 3. Dapat menentukan estimasi dan prediksi. 4. Dapat mengukur faktor-faktor yang berpengaruh. <i>1. Can Explain the principles of analytical thinking.</i> <i>2. Can classify and construct hierarchy.</i> <i>3. Can determine estimates and predictions.</i> <i>4. Can measure influential factors.</i>	17%/94%
15	3. Dapat menjelaskan benefit Cost Ratio <i>Can explain the benefits of Cost Ratio</i> 8.	Keputusan analisis keuntungan dan biaya. <i>Profit and cost analysis decisions.</i>	DPS <i>DPS</i>	300 menit <i>300 Minutes</i>	TOA <i>TOA</i>	1. Dapat menjelaskan permasalahan analisis keuntungan dan biaya. 2. Dapat membuat struktur hirarki keuntungan dan biaya. <i>1. Can explain the problem of profit and cost analysis.</i> <i>2. Can create a hierarchy structure of profits and costs.</i>	6%/100%
16	EAS/Finalterm						

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PUSTAKA/References :

1. Kuntoro Mangkusubroto., Analisis Keputusan : Pendekatan Sistem Dalam Man-jemen Usaha Dan Proyek, Penerbit Ganeca Exact Bandung, Cetakan ke-6, 1989.
2. Holloway. C. H., Decision Making Under Uncertainty : Models And Choices, Prentice-Hall, New Jersey, 1979.
3. Saaty. T. L., , Decision Making for Leaders: The Analytic Hierarchy Process For Decisions In A Complex World, RWS Publications, USA, 1990.