

SATUAN ACARA PERKULIAHAN
SISTEM PENUNJANG KEPUTUSAN

Oleh :

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PROGRAM STUDI PASCASARJANA
DEPARTEMEN TEKNOLOGI INDUSTRI PERTANIAN
FAKULTAS TEKNOLOGI PERTANIAN
INSTITUT PERTANIAN BOGOR
2016

Course Syllabus Decision Support Systems

Course title	Decision Support Systems		
Course code: TIN713	Credits: 3(2-2)	Semester: Genap	Compulsory/optional: Optional
Coordinator's name	Prof. Dr. Ir. Marimin, MSc	Instructor's name	Dr. Eng. Ir. Taufik Djatna, MSi Dr. Ir. Hartrisari H, DEA Prof. Dr. Ir. Eriyatno, MSAE
Main reference (Title, author, year)	<ol style="list-style-type: none"> 1. Efraim Turban, Ephraim McLean, James Wetherbe. 2010. Information Technology for Management: Transforming Organizations in the Digital Economy (4th edition). Wiley 2. Ernest H. Forman Mary Ann Selly. 2001. Decision by Objectives. World Scientific Publishing Company 		
Additional reference	<ol style="list-style-type: none"> 1. Kweku, Osei Muata, Bryson, and Ngwenyama Ojelanki. 2014. Advances in Research Methods for Information Systems Research. New York : Springer Science and Business Media 2. Abonyi Janos and Feil Balazs. 2007. Cluster Analysis for Data Mining and System Identification. Boston : Birkhauser Verlag AG 3. Murty G Katta. 2015. Case Studies in Operations Research. New York : Springer Science and Business Media 4. Murthy RSG. 2015. International Series in Operations Research & Management Science. Switzerland : Springer International Publishing 		
Brief description	This course aims to provide students with knowledge about decision support systems for managers and information systems capable for supporting Agroindustry operations. Disciplines of this course is a combination of several different disciplines: mathematical models, database systems, expert systems, neural networks, data mining, operations research, management science, user interface, graphical techniques, and object directed system techniques development		
Prerequisite			
Course outcome	<ol style="list-style-type: none"> A. Understand management support systems B. Understand the theory, mechanism, and tools in decision making C. Understand critical thinking patterns in decision making D. Understand the decision support system and its elements E. Designing and developing decision support systems F. Understand the theory, trees, and methods of decision G. Understand the decision making and techniques of multi-attribute and analytic hierarchy process H. Understand patterns of critical thinking in decision-making I. Understand the decision support system along with its elements J. Understand data management K. Understand the modeling and management models L. Designing and developing decision support systems 		
Offered to	Study Program of Agroindustrial Technology-IPB and other study programs as elective course		

Topics to be covered	<ol style="list-style-type: none"> 1. Review: Management Support System 2. Systems, mathematical modeling and decision support 3. Decision theory, decision trees and decision methods 4. Analytical decision approach 5. Critical thinking in decision support and decision network 6. Review of decision support system 7. Data management 8. Modeling and management models 9. Design and development decision making system 				
Percentage	Knowledge	45 %	Facility/media	x	White board
	Skill	40 %		x	LCD projector
	Attitude	15 %		x	Computer
Activity, contact hours (hour/week)	Lecture	3 hours/week			Wi-Fi
	Lab work	-		x	Sound system
	Tutorial	-			Courseware
	Others	-			Other:
Assessment	Assignment	30 % (paper)			
	Examination	70 % (mid and final exams)			
	Quiz	-			

JADWAL DAN MATERI PERKULIAHAN

Week	Learning Outcomes	Topics	Sub Topics	References	Lecturer
1.	Memahami sistem penunjang manajemen	Sebuah telaah : Sistem Penunjang Manajemen	<ul style="list-style-type: none"> ✓ Pengelolaan dan penunjang terkomputerisasi ✓ Sistem Penunjang Keputusan ✓ Proses pengembangan SPK 	2	Marimin
2.	Memahami teori, mekanisme beserta alat dalam pengambilan keputusan	Sistem, model matematika dan pendukung keputusan	<ul style="list-style-type: none"> ✓ Sistem ✓ Model ✓ Proses pemodelan ✓ Faktor sukses kritis ✓ Kognisi manusia dan gaya keputusan ✓ Pengambilan keputusan dalam kelompok 	1, 2	Marimin
3.	Memahami teori, pohon, dan metode keputusan	Teori keputusan, pohon keputusan dan metode keputusan	<ul style="list-style-type: none"> ✓ Klasifikasi siklus keputusan ✓ Pohon keputusan ✓ Teori keputusan ✓ Keputusan kualitatif 	2	Marimin
4.	Memahami pengambilan keputusan dan teknik multi-atribut beserta proses hierarki analitis	Pendekatan keputusan analitis	<ul style="list-style-type: none"> ✓ Pengambilan keputusan multi-atribut ✓ Teknik multi-atribut sederhana ✓ Proses Hirarkis Analitis ✓ Electre 	2	Marimin
5.					Marimin
6.					Sari
7.	Memahami pola berfikir kritis dalam pengambilan keputusan	Berfikir kritis dalam penunjang keputusan dan jaringan keputusan	<ul style="list-style-type: none"> ✓ Pendekatan struktural menggunakan ISM sistem dinamis ✓ Analytical Network Process 	1	Sari
<i>Midterm Exam</i>					
8.	Memahami sistem penunjang keputusan beserta elemen-elemen pembentuknya	Sebuah telaah Sistem Penunjang Keputusan	<ul style="list-style-type: none"> ✓ Kasus ilustratif SPK ✓ Pendahuluan : apakah itu SPK; ✓ Karakteristik dan Kapabilitas 	2	Sari

			<p>SPK Komponen SPK</p> <ul style="list-style-type: none"> ✓ Klasifikasi SPK dan penunjangnya 		
9.	Memahami manajemen data	Manajemen data	<ul style="list-style-type: none"> ✓ Sumber data ✓ Suatu pengenalan : Database dan manajemen basis data ✓ Sistem generasi keempat ✓ Basis data berorientasi obyek ✓ Penunjang keputusan perusahaan dan gudang informasi ✓ Basis data intelijen 	1, 2	Syamsul
10.					Syamsul
11.	Memahami pemodelan dan manajemen model	Pemodelan dan manajemen model	<ul style="list-style-type: none"> ✓ Pemodelan di dalam MSS ✓ Model dinamis dan statis ✓ Perlakuan terhadap kepastian, ketidakpastian dan resiko ✓ Jenis-jenis pemodelan : pohon keputusan, programa matematis, simulasi, programa heuristik, diagram pengaruh, peramalan, spreadsheet, pemodelan multi-dimensi Model Base Structure and Management 	1, 2	Syamsul
12.					Marimin
13.					Marimin
14.	Mendesain dan mengembangkan SPK	Desain dan pengembangan SPK	<ul style="list-style-type: none"> ✓ Strategi pengembangan ✓ Tahapan pengembangan SPK: Life Cycle versus Prototyping ✓ SPK Team-developed versus User-developed ✓ End-User Computing dan User-developed SPK ✓ Pemilihan generator SPK dan piranti lunak lainnya 	1, 2	Marimin

			✓ Pengembangan SPK di dalam lingkungan windows		
<i>Final Exam</i>					

MAIN REFERENCE:

1. Efraim Turban, Ephraim McLean, James Wetherbe. 2002. Information Technology for Management: Transforming Organizations in the Digital Economy (4th edition). Wiley
2. Ernest H. Forman Mary Ann Selly. 2001. Decision by Objectives. World Scientific Publishing Company