

**SATUAN ACARA PERKULIAHAN**

**REKAYASA SISTEM MUTU**

**Oleh :**

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**Dr. Ir. Muslich, MSi**



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

## Course Syllabus

### Quality System Engineering

Course title	Quality Systems Engineering		
Course code: <b>TIN612</b>	Credits: 3(2-2)	Semester: 2	Compulsory/optional: Optional
Coordinator's name	Dr. Ir. Hartrisari H, DEA	Instructor's name	Dr. Ir. Sapta Raharja, DEA Dr. Ir. Muslich, MSi
Main reference (Title, author, year) (maximum 3 references)	<ol style="list-style-type: none"> <li>1. Sage P Andrew and Rouse B William. 2011. Handbook of Systems Engineering and Management. John Wiley &amp; Sons</li> <li>2. Eisner Howard. 2011. Essentials of Project and System Engineering Management. John Wiley &amp; Sons</li> <li>3. Oakland John S. 2003. Total Quality Management 3th Edition. Butterworth Heinemann</li> </ol>		
Additional reference (Supplemental materials)	<ol style="list-style-type: none"> <li>1. Kahraman Cengiz. 2008. Fuzzy Engineering Economics with Applications. Springer-Verlag Berlin Heidelberg</li> <li>2. Sage P Andrew. 2009. System Engineering and Management for Sustainable Development. EOLSS Publisher</li> <li>3. Amaba Ben and Dalgetty Brian. 2014. Advances in Human Factors, Software, and Systems Engineering. AHFE Conference</li> </ol>		
Brief description	<p>This course discusses a comprehensive and current understanding of the concepts and methodologies of engineering quality system, leadership in quality achievement and step in designing a quality system. Analysis of the quality problem solving and goal achievement strategies for improving the quality system as an individual within the organization including the analysis of eliminating or reducing the risks at the operational level as well as the calculation of quality costs will also be covered in this course</p>		
Prerequisite			
Course outcome	<ol style="list-style-type: none"> <li>A. Understand the importance of quality management and procedures for planning and designing quality</li> <li>B. Understand and implement the planning and design quality</li> <li>C. Mastering the standardization of quality system requirements and implement the points in the draft standard quality system documents</li> <li>D. Planning for the implementation of TQM in quality case studies</li> <li>E. Implement the material that is understood in the settlement of cases of quality system</li> <li>F. Able to choose the appropriate technique in solving the case studies provided</li> <li>G. Able to calculate the cost of quality and cost efficiency analyzes</li> <li>H. Able to analyze the advantages and disadvantages of a success story and plan the implementation of quality system implementation of quality system at national and multinational agroindustry</li> <li>I. Implement the material that is understood in the settlement of cases of quality system</li> </ol>		
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"> <li>1. The concept of quality, global competition, the importance of quality management and quality related mindset (thinking quality development)</li> <li>2. Planning and design quality</li> <li>3. Standardization of quality system (ISO 9001: 2000, Deming Prize and the Malcolm Baldrige award)</li> <li>4. Total Quality Management as the principles and philosophy of quality management</li> <li>5. Techniques of analysis of the quality system and determination of sampling (sampling, six sigma, etc.)</li> <li>6. Engineering analysis and improvement of the quality system (7 old and new tools)</li> <li>7. Determine and calculate the cost of quality, including the analysis of quality cost efficiency</li> <li>8. Success story on the implementation of quality system Agroindustry and discussion of the advantages and disadvantages of the implementation examples</li> </ol>				
Percentage	Knowledge	40 %	Facility/media	x	White board
	Skill	40 %		x	LCD projector
	Attitude	20 %		x	Computer
Activity, contact hours (hour/week)	Lecture	2 hours/week			Wifi
	Lab work	3 hours/week	x	Sound system	
	Tutorial	-		Courseware	
	Others	40 %		Other: ....	
Assessment	Assignment	30% (paper, critical review, practical report)			
	Examination	70% (midterm and final exams)			
	Quiz	-			

#### MAIN REFERENCE:

1. Sage P Andrew and Rouse B William. 2011. Handbook of Systems Engineering and Management. John Wiley & Sons
2. Eisner Howard. 2011. Essentials of Project and System Engineering Management. John Wiley & Sons
3. Oakland John S. 2003. Total Quality Management 3th Edition. Butterworth Heinemann

## JADWAL DAN MATERI PERKULIAHAN

Week	Learning Outcomes	Topics	Lecturer	References
1.	Memahami pentingnya manajemen mutu dan tata cara merencanakan dan mendesain mutu	Konsep mutu, persaingan global, pentingnya manajemen mutu dan pola pikir terkait mutu ( <i>quality thinking development</i> )	Hartrisari	3
2.	Memahami dan mengimplementasikan perencanaan dan desain mutu	Perencanaan dan desain mutu	Hartrisari	3
3.				
4.	Menguasai persyaratan standarisasi sistem mutu dan mengimplementasikan butir-butir standar dalam draft dokumen sistem mutu	Standarisasi system mutu (ISO 9001:2000, <i>Deming prize</i> dan <i>Malcolm Baldrige award</i> )	Hartrisari	3
5.	Merencanakan implementasi TQM dalam studi kasus mutu	<i>Total Quality Management</i> sebagai prinsip dan filosofi manajemen mutu	Hartrisari	2
6.				
7.	Mampu memilih teknik yang tepat dalam menyelesaikan studi kasus yang diberikan	Teknik-teknik analisis system mutu dan penentuan sampling ( <i>sampling, six sigma dll</i> )	Muslich	1
<i>Midterm Exam</i>				
8.	Mampu memilih teknik yang tepat dalam menyelesaikan studi kasus yang diberikan	Teknik-teknik analisis sistem mutu dan penentuan sampling ( <i>sampling, six sigma dll</i> )	Muslich	1,3
9.	Mampu memilih teknik yang tepat dalam menyelesaikan studi kasus yang diberikan	Teknik analisis dan peningkatan sistem mutu ( <i>7 old and new tools</i> )	Muslich	1,3
10.	Mampu menghitung biaya mutu dan menganalisis efisiensi biaya	Menentukan dan menghitung biaya mutu, termasuk menganalisis efisiensi biaya mutu	Muslich	3
11.				
12.	Mampu menganalisis kelebihan dan kekurangan dari <i>success story</i> implementasi sistem mutu dan merencanakan implementasi sistem mutu di agroindustri nasional dan multinasional	<i>Succes story</i> implementasi sistem mutu pada agroindustri dan diskusi kelebihan dan kekurangan dari contoh implementasi tersebut	Sapta R	1,2,3
13.				
14.				
<i>Final Exam</i>				

## JADWAL DAN MATERI RESPONSI

Week	Learning Outcomes	Topics	Lecturer	References
1.	Memahami pentingnya manajemen mutu dan tata cara merencanakan dan mendesain mutu	Konsep mutu, persaingan global, pentingnya manajemen mutu dan pola pikir terkait mutu ( <i>quality thinking development</i> )	Hartrisari	3
2.	Memahami dan mengimplementasikan perencanaan dan desain mutu	Perencanaan dan desain mutu	Hartrisari	3
3.				
4.	Menguasai persyaratan standarisasi sistem mutu dan mengimplementasikan butir-butir standar dalam draft dokumen sistem mutu	Standarisasi system mutu (ISO 9001:2000, <i>Deming prize</i> dan <i>Malcolm Baldrige award</i> )	Hartrisari	3
5.	Merencanakan implementasi TQM dalam studi kasus mutu	<i>Total Quality Management</i> sebagai prinsip dan filosofi manajemen mutu	Hartrisari	2
6.				
7.	Mampu memilih teknik yang tepat dalam menyelesaikan studi kasus yang diberikan	Teknik-teknik analisis system mutu dan penentuan sampling ( <i>sampling, six sigma dll</i> )	Muslich	1
<i>Midterm Exam</i>				
8.	Mampu memilih teknik yang tepat dalam menyelesaikan studi kasus yang diberikan	Teknik-teknik analisis sistem mutu dan penentuan sampling ( <i>sampling, six sigma dll</i> )	Muslich	1,3
9.	Mampu memilih teknik yang tepat dalam menyelesaikan studi kasus yang diberikan	Teknik analisis dan peningkatan sistem mutu ( <i>7 old and new tools</i> )	Muslich	1,3
10.	Mampu menghitung biaya mutu dan menganalisis efisiensi biaya	Menentukan dan menghitung biaya mutu, termasuk menganalisis efisiensi biaya mutu	Muslich	3
11.				
12.	Mampu menganalisis kelebihan dan kekurangan dari <i>success story</i> implementasi sistem mutu dan merencanakan implementasi sistem mutu di agroindustri nasional dan multinasional	<i>Succes story</i> implementasi sistem mutu pada agroindustri dan diskusi kelebihan dan kekurangan dari contoh implementasi tersebut	Sapta R	1,2,3
13.				
14.				
<i>Final Exam</i>				