SYLLABUS

Date / Revision : 04 September 2017/ 03
Faculty : Engineering
Study Program : MEE

SUBJECT: Quality Assurance

1 Basic Information

1.01	**Subject Name**	**Quality Assurance**
1.02	**Semester**	5
1.03	**Level**	3
1.04	**SKS**	3
1.05	**Mandatory / Curriculum**	Mandatory / D-07
1.06	**Subject Code**	QASS
1.07	**Subject Code**	MEE-D-QASS-4107
1.08	**Year**	2017 (7)
1.09	**Quality Control**	Final Test, see evaluation
1.10	**Limitations**	Min 12, Max 32 students in a class
1.11	**Combined with**	--
1.12	**Perquisite**	Manufacturing Process, CAD 2
1.13	**Responsible**	Dipl.-Ing. Wahjoe Goeritno, M.Si
1.14	**Revision**	04 September 2017

2 Description of Subject

Quality assurance (**QA**) is a way of preventing mistakes or defects in manufactured products and avoiding problems when delivering solutions or services to customers; which ISO 9000 defines as "part of quality management focused on providing confidence that quality requirements will be fulfilled". This defect prevention in quality assurance differs subtly from defect detection and rejection in quality control, and has been referred to as a *shift left* as it focuses on quality earlier in the process.

The subject Quality Assurance gives the understanding to the students the important strategy and action to maintain the quality of the products or services in sustaining the organization business. The application of quality tools in regard of improving the quality of products or services are also important to know and understand for students which later involve in company.

PO Box 150, BSD CPA 15330
Tel. +62 85212318000
info@iuli.ac.id
www.iuli.ac.id
ULI – Eco Campus, The Breeze
Jl. BSD Grand Boulevard
BSD City 15345
Island of Java

3 Objectives

- Introduces the Quality Assurance and Quality Management System
- Introduce the how Quality Management affecting the products and services
- Introduce the principle of Quality Improvement
- Introduce the principles of Quality Tool

4 Competency

After finished the course, students are expected to:

- understand the concept of Quality Management System and Quality Assurance,
- be able to identify Quality problems,
- understand the principles of ISO Quality Management System,
- understand the principles of Lean Manufacturing,
- understand the principles of Statistical Process Control
- understand the principles of Six Sigma

5 Learning Approach / Methodology

- Approach : Combination of Expository - inquiry and colaborative
- Method : Discussion, question answer, sample problem, group work
- Student Task : Presentation, homework
- Media : LCD projector, film.

6 Evaluation

5.1	**Absence maximum**	25%
5.2	**Participation in Discussion**	05 Points
5.3	**Homework / Classwork**	05 Points
5.4	**Presentation /Simulation**	10 Points
5.5	**Daily Quiz**	20 Points
5.6	**Final Examination**	60 Points
	Total	100 Points

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7 Text Book and Reference

1	**Main Text Book:** • DH Stamatis, Quality Assurance, Applying Methodology for Launching New Products, Services, and Customer Satisfaction – CRC Press,
2	**Supplementary Text books:** • Donna Summer – Quality Management, Creating and Sustaining Organizational Development – Prentice Hall – ISBN13: 9780135005101

8 Content / Topics of Lecture

Week	Content/ Topics of Lecturing	Text Book Chapter	Remark
1	**Course Organization** **Introduction to Quality Assurance:** • Quality Management: Quality Planning, Quality Assurance, Quality Control, Quality Improvement **Product Development:** • Principle of Organization Timing • APQP (Advanced Product Quality Planning)	Chapter 1	
2	**Basic OEM Quality System:** • Overview • International Industry and Customer Specific Standard • Disposition	Chapter 2	
3	**Manufacturing Site Assessment (MSA) :** • Overview • Typical MSA form	Chapter 3	
4	**Sourcing:** • Supplier Sourcing • General Procedures for Sourcing	Chapter 4	Quiz 1
5	**Segmentation** • Definition • Model • Overlays	Chapter 5	
6	**Supplier Development** • Understanding of Supplier Development • Benefit of Supplier Development	Chapter 6	Quiz 2
7	**Role of Supplier Technical Engineer** • Specific Responsibilities of Stakeholder • Specific Categories of Supplier Technical Engineer	Chapter 7	
8	**MIDTERM SEMESTER BREAK**		

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9	**Commitment of Continual Improvement** • Key Items of Continual Improvement • Visual Factory • Strategy of Control	Chapter 8	
10	**Lean Manufacturing:** • Lean goals and Strategy • Step to Achieve Lean Manufacturing • Easier Application for Lean	Chapter 9	Quiz 3
11	**Quality Operating System (QOS):** • Quality Operating System • QOS Implementation • QOS Meeting Summary	Chapter 10	
12,13	**Certification in the International Standard :** • ISO Key elements • Quality Management System	Chapter 11	Quiz 4:
14	**Statistical Process Control (SPC) :** • Model of SPC • SPC and Six Sigma	Chapter 12	Practical Exercise
15	**Problem Solving Methodology :** • Definition of Problems • Problem Solving Cycle • Tool for Problem Solving	Chapter 13	Discussion
16	**Final Examination**		

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