

STUDY PROGRAM OUTLINE



COURSE NAME : WAREHOUSE MANAGEMENT SYSTEM
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UPT-PUSLIK-UNDP
No. Dat 0131/BA/PT/CI
Tgl. 09-6-'09

INDUSTRIAL ENGINEERING DEPARTMENT
ENGINEERING FACULTY
DIPONEGORO UNIVERSITY

2007

STUDY PROGRAM OUTLINE

- Course Name : Warehouse Management System
- Code/Credit Point : TKI 199 / 3 SKS
- Course Overview : Warehouse Management System course introduces students to the analysis and design of warehouse management system. The course focuses on the fundamental principles underlying warehouse management, using insights from logistics. The course illustrates the analysis and design of effective warehouse management, based on the principles developed. Students will also be introduced to the role of warehouse technology and the capabilities of state-of-the-art warehouse management software.
- Instructional Objective : At the end of this semester, Industrial Engineering Program students semester VII, will able to analysis and design an effective and efficient warehouse management system, and manage the process with the aim of warehouse management software.

No	Learning Objective	Topic	Sub Topic	Time Estimation	Reference
1	Given an overview of the course, the Industrial Engineering student semester VII will able to explain the objectives, benefits and learning process correctly.	1. Overview	1.1. Instructional Objective and Relevance 1.2. Course Contract 1.3. Assignment, Exam dan Assesment	150 Min	a
2	Given the functions of a warehouse, the Industrial Engineering student semester VII will able to explain warehouse definition and its role, at least 80% correct.	2. The Functions of a Warehouse	2.1. Warehouse Definition 2.2. The Role of Warehouse	150 Min	a, b, c
3	Given the types of warehouses, the Industrial Engineering student semester VII will able to explain types of warehouses in business structure and at the supply chain at least 80% correct.	3. Types of Warehouses	3.1. Types of Business Structure Warehouses 3.2. Types of Supply Chain Warehouses	150 Min	a, b, c
4	Given the warehouse layout, the Industrial Engineering student semester VII will able to explain the warehouse layout criteria and design process at least 80% correct.	4. Warehouse Layout	4.1. Warehouse Layout Criteria 4.2. Warehouse Layout Design Process	150 Min	a, b, c, d
5	Given the warehouse operations, the Industrial Engineering student semester VII will able to explain warehouse job tasks and employee responsibility at least 80% correct.	5. Warehouse Operations	5.1. Warehouse Job Tasks 5.2. Warehouse Employee Responsibility	150 Min	a, b, c, d

6	Given material handling basics, the Industrial Engineering student semester VII will able to explain material handling purposes and material handling equipment types at least 80% correct.	6. Material Handling Review	6.1. Material Handling Purposes 6.2. Types of Material Handling Equipments	150 Min	a, b, c, d, e
7	Given the storage/retrieval systems, the Industrial Engineering student semester VII will able to explain pallet load, full case and broken case S/R systems at least 80% correct.	7. Storage/ Retrieval Systems	7.1. Pallet Load S/R Systems 7.2. Carton or Full Case S/R Systems 7.3. Small Item or Broken Case S/R Systems	150 Min	a, b, c, d, e
8	Given the midterm exam problem, the Industrial Engineering student semester VII will able to solve it at least 80% correct.	Midterm Exam	Midterm Exam	150 Min	-
9	Given receiving-putaway topic, the Industrial Engineering student semester VII will able to explain the receiving-putaway function and its performance improvement at least 80% correct.	8. Receiving-Putaway	8.1. Receiving-Putaway Function 8.2. Receiving-Putaway Performance Improvement	150 Min	a, b, c, d, e
10	Given order picking topic, the Industrial Engineering student semester VII will able explain basic order picking processes and its performance improve-ment at least 80% correct.	9. Order Picking	9.1. Basic Order Picking Processes 9.2. Order Pricking Performance Improvement	150 Min	a, b, c, d, e
11	Given the unitizing and shipping process, the Industrial Engineering student semester VII will able to explain product sortation process, unitizing system and loading/shipping operations at least 80% correct.	10. Unitizing and Shipping Process	10.1. Product Sortation 10.2. Unitizing Systems 10.3. Loading and Shipping Operations	150 Min	a, b, c, d, e
12	Given automatic identification and communication, the Industrial Engineering student semester VII will able to explain barcoding technology and radio frequency identification at least 80% correct.	11. Automatic Identification and Commu-nication	11.1. Barcoding Technology 11.2. Radio Frequency Identification	150 Min	a, b, c, d, e
13	Given warehouse management system, the Industrial Engineering student semester VII will able to explain architecture of warehouse management system and WMS functionality at least 80% correct.	12. Warehouse Management System	12.1. Warehouse Management System Definition 12.2. WMS Architecture 12.3. WMS Functionality	150 Min	a, b, c, d, e
14	Given managing warehouse inventory tople, the Industrial Engineering student semester VII will able to explain the role of warehouse manager, service level and inventory management process at least 80% correct.	13. Managing Warehouse Inventory	13.1. The Role of Warehouse Manager 13.2. Service Level 13.3. Inventory Management	150 Min	a, b, c, d, e

15	Given the inventory audit topic, the Industrial Engineering student semester VII will able to explain inventory record accuracy and inventory counting method at least 80% correct.	14. Inventory Audit	14.1. Inventory Record Accuracy 14.2. Periodic Counting 14.3. Cyclic Counting	150 Min	a, b, c, d, e
16	Given the final exam problem, the Industrial Engineering student semester VII will able to solve it at least 80% correct.	Final Exam	Final Exam	150 Min	-

Notes:

- Lecturing Event : 2400 Minutes
- Unscheduled Structured Event : 2400 Minutes
- Self Learning : 2400 Minutes

Reference:

- a. Sriyanto, ST.MT., *Buku Ajar Sistem Warehouse Management System*, PSTI UNDIP, Semarang, 2008.
- b. Mulcahy, D., *Warehouse Distribution & Operation Handbook*, McGraw-Hill.
- c. Frazelle, E., *World-Class Warehousing and Material Handling*, McGraw-Hill.
- d. *Warehousing Students Manual*
- e. Tompkins, *Warehouse Management Systems Technologies*, Tompkins Associates.