STUDY PROGRAM OUTLINE

COURSE NAME   : SUPPLY CHAIN ANALYSIS AND DESIGN

BY   : SRIYANTO, ST, MT

INDUSTRIAL ENGINEERING DEPARTMENT

ENGINEERING FACULTY

DIPONEGORO UNIVERSITY

2007

STUDY PROGRAM OUTLINE

Course Name : Supply Chain Analysis and Design

Code/Credit Point : TKI 190 / 3 SKS

Course Overview : Supply Chain Analysis and Design course introduces students to the analysis and design of value-driven supply chains. The course focuses on the fundamental principles underlying supply chains, using insights from logistics. The course illustrates the analyis and design of effective supply chains, based on the principles developed and the current practices of firms, illustrated with case studies. Students will also be introduced to the role of optimization-based design tools and the capabilities of state-of-the-art supply chain management software.

Instructional Objective : At the end of this semester, Industrial Engineering Program students semester VII, will able to analysis and design a cost-effective and efficient value-driven supply chain system, and manage the process with the aim of supply chain 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, b
2	Given an introduction to supply chain management, the Industrial Engineering student semester VII will able to explain SCM definition and its elements at least 80% correct.	2. Introduction to Supply Chain Management	2.1. Supply Chain Management Definition 2.2. Supply Chain Elements	150 Min	a, b
3	Given an analysis of SC network, the Industrial Engineering student semester VII will able to explain the analysis process, key customer and key supplier analysis at least 80% correct.	3. SC Network Analysis	3.1. SC Network Analysis 3.2. Key Customer Analysis 3.3. Key Supplier Analysis	150 Min	a, b
4	Given the SC demand planning and analysis, the Industrial Engineering student semester VII will able to explain the demand planning, forecast and analysis at least 80% correct.	4. SC Demand Planning and Analysis	4.1. SC Demand Planning 4.2. SC Demand Forecast 4.3. SC Demand Analysis	150 Min	a, b
5	Given the network configuration and design of the supply chain, the Industrial Engineering student semester VII will able to configure and design the appropriate supply chain at least 80% correct.	5. Network Configuration and Design of The Supply Chain	5.1. SC Network Configuration 5.2. SC Network Design Phase	150 Min	a, b

6	Given the network design and linear programming, the Industrial Engineering student semester VII will able to apply linear programming theory to optimize the network design at least 80% correct.	6. Network Design and Linear Programming	6.1. Review of Linear Programming 6.2. Network Optimization	150 Min	a, b
7	Given the SCM strategies, the Industrial Engineering student semester VII will able to explain the responsive, efficient and others SC strategies at least 80% correct.	7. SCM Strategies	7.1. Responsive Strategies 7.2. Efficient Strategies 7.3. Others Strategies	150 Min	a, b
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 the coordination and the value of information, the Industrial Engineering student semester VII will able to explain demand-supply coordination process and the value of information at least 80% correct.	8. Coordination and the Value of Information	8.1. Demand-Supply Coordination 8.2. The Value of Information 8.3. Bullwhip Effect	150 Min	a, b
10	Given the SCM information technology, the Industrial Engineering student semester VII will able explain benefits of information visibilty, the ERP system and types of analitycal software available form SCM, at least 80% correct.	9. SCM Information Technology	9.1. Benefits of Information Visibility 9.2. ERP System 9.3 Types of Analitycal Software	150 Min	a, b
11	Given the decision support form SCM, the Industrial Engineering student semester VII will able to explain the aim of decision support system to SCM problems at least 80% correct.	10. Decision Support for SCM	10.1. Decision Support System 10.2. SCM Softwares	150 Min	a, b
12	Given the supply chain performance measurement, the Industrial Engineering student semester VII will able to explain SC performance process and models at least 80% correct.	11. Supply C hain Performance Measurement	11.1. Supply C hain Performance 11.2. SCOR Models 11.3. Balance Score Card	150 Min	a, b
13	Given the extended supply chain, the Industrial Engineering student semester VII will able to explain the supply chain integration and SC international issues at least 80% correct.	12. Extended Supply Chain	12.1. Supply Chain Integration 12.2. International SCM 12.3. Third Party Logistics	150 Min	a, b
14	Given the analysis case discussion, the Industrial Engineering student semester VII will able to analysis various SC cases at least 80% correct.	13. Analysis Case Discussion	-	150 Min	a, b
15	Given the design case discussion, the Industrial Engineering student semester VII will able to explain various SC design process at least 80% correct.	14. Design Case Discussion	-	150 Min	a, b

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. John Gattorna, *Strategic Supply Chain Management*, Gower ,1998.
b. David Simchi-Levi, Philip Kaminsky, Edith Simchi-Levi, *Designing and Managing the Supply Chain*, Irwin McGraw-Hill, Second Edition, 2003