Portland State University  
Department of Engineering and Technology Management  
EMGT 510/610 DSS  
Summer 2007

Decision Support System: Data Warehousing

INSTRUCTOR: Lioño Setiowijoso  
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ASSISTANT: TBA

SCHEDULE:  
Friday (6/29 – 8/10), 18:00-22:50 p.m., FAB 10

COURSE MATERIALS

ISBN: 0-07-289981-6  
(You can buy electronically from http://www.primisonline.com/cgi-bin/POL_program.cgi?programCode=MALCH)

Optional:  

ISBN 0-13-092206-4

PURPOSE

This course looks at the role and presents the critical issues in designing and developing a data warehouse for decision support systems and in designing decision support systems for technology management decisions.

OBJECTIVES

- To identify how a data warehouse can support decision making process.
- To determine when and why an organization needs a data warehouse for decision support systems.
- To understand the critical issues in designing a data warehouse system.
- To learn to identify the resources and the user needs in designing decision support systems

METHODS

To accomplish the above objectives, the course utilizes a combination of teaching methods such as textbooks, lectures, class discussions, case studies, and team/individual projects.

COURSE GRADING

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Individual Project</td>
<td>30%</td>
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<td>Case studies</td>
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<tr>
<td>Team project</td>
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<td>Class contribution</td>
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## COURSE OUTLINE
**EMGT 510/610 DSS**
**Decision Support System: Data Warehousing**

<table>
<thead>
<tr>
<th>Week #1</th>
<th>June 29</th>
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| **Class Discussion** | · Introduction to Database, Internet and Web Technology  
 · Introduction to DSS  
 · Introduction to Data Warehousing  
 | **Reading** | DS Ch. 1  
 | **Project/Review Due** | Team Formation  
 Selection of Indiv. Project  
 Assignment of Team Project  
 Assignment of Case studies  
 |
| Week #2 | July 6 |
| **Class Discussion** | · Types of DSS  
 · Data Warehouse Technology  
 · DSS Architecture  
 | **Reading** | DS Ch. 4 & 5  
 SR 1  
 | **Project/Review Due** | IP  
 |
| Week #3 | July 13 |
| **Class Discussion** | · Data Warehouse Design  
 · DSS Implementation  
 | **Reading** | DS Ch. 7 & 12  
 | **Project/Review Due** | IP  
 CS or SR presentation  
 |
| Week #4 | July 20 |
| **Class Discussion** | · DSS tools  
 · OLAP & Data Mining (Overview)  
 · SQL Server Analysis Services  
 | **Reading** | DS Ch. 6 & 13  
 SR 3  
 | **Project/Review Due** | IP  
 CS or SR presentation  
 |
| Week #5 | July 27 |
| **Class Discussion** | · Distributed Data Warehouse  
 · Data Warehouse Security  
 · Guest Speaker  
 | **Reading** | DS Ch. 14  
 SR 4  
 | **Project/Review Due** | IP  
 CS or SR presentation  
 |
| Week #6 | Aug. 3 |
| **Class Discussion** | · Metadata  
 · Data Warehouse Implementation  
 · Guest Speaker  
 | **Reading** | DS Ch. 15  
 | **Project/Review Due** | IP  
 TP progress report  
 |
| Week #7 | Aug. 10 |
| **Class Discussion** | · System Integration  
 · Project presentations  
 | **Reading** | DS Ch. 16  
 | **Project/Review Due** | IP  
 |
| Week #8 | Aug. 17 |
| **Project/Review Due** | TP presentation  
 |

**DS** = Chapters from the textbook, *Decision Support and Data Warehouse Systems*

**IP** = Individual Project presentation

**TP** = Team Project

**HO** = Hand out

**CS** = Case Studies presentation

**SR** = Selected Reading
GUIDELINES

Individual Project

A large number of companies have been implementing data warehouse for data analysis (OLAP or Data mining) or for improving their customer support. Each student will identify a company, gather information and to analyze the impact of the project on the company's performance about the success or failure of the data warehouse project using the following steps:

1. Choose a company from the list below or propose a different company:
   - Agilent Technologies, Inc.
   - ASB Bank
   - AT&T Growth Markets
   - British Columbia Ministry of Environment
   - Buy.com
   - Domino's Pizza
   - Esoterix, Inc. (medical testing laboratories)
   - Florida department of education
   - Greenbrier & Russel
   - Home Shopping Network
   - MGM MIRAGE
   - Orlando Sentinel Communications (OSC)
   - Sears/CPI
   - Starbucks
   - Swiss Post International
   - Walmart
   - Etc.
2. Inform the instructor or TA what company you have chosen (first come first served)
3. Collect data that relate to the company you have chosen from various sources including but not limited to:
   - Internet (Suggestion URL to start: http://www.dwinfocenter.org/)
   - Literature
   - Interviews
   - Publicly available documents
4. Analyze your data
5. Describe what types of systems were implemented and what approaches were used
6. Identify what hardware and software were used
7. Describe success/failure of the data warehouse
8. Analyze the impact of the data warehouse on the company's operations, business processes and performance
9. Develop conclusions based on your findings
10. Present your project in the class (10 to 15 minutes)
11. Submit a project report (hard copy and electronic formats)
**Team Project (Team effort)**

Teams will be formed in the first day of the class and the instructor will assign the team project during the 3rd. or 4th week after we have covered the main topic so the students will have good understanding about the project assignment.

1. Collect information that relates to the project by interviewing the end-user or studying the source data
2. Develop or design the DW component according to the requirements
3. Discuss and coordinate the project with the other team as appropriate
4. Make 2 presentations:
   - Progress report in week 6th (Use this chance to get feedback from the class on your design or development)
   - Final presentation in week 8th (30 to 40 minutes)
5. Submit the final project report (hard-copy and electronic formats)

**Case Studies (Team effort)**

Case studies will be assigned. The team will follow the steps below in preparing and discussing the cases:

1. Identify the issues presented in the case
2. Analyze the case
3. Discuss the case among the team members
4. Answer the questions if presented in the case
5. Be prepared to present the case in the class and answer questions that will be raised by the other team when your team is making the presentation
6. Be prepared to ask questions and to initiate class discussion when the other team is making the presentation
7. Submit report for both case studies (hard copy)
EMGT 510/610 DSS  
Decision Support System: Data Warehousing

Project Team Members

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<th>Team:</th>
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Note: Indicate the team leader with an asterisk (*)
### Project Team Members Evaluation

Team: __________________________ Project: __________________________
Evaluator: __________________________ Date: __________________________

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<th>Team Member</th>
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**Instructions:**
- Use this form as needed
- Use the following values for the level of contribution:
  - 5 = Very high
  - 4 = High
  - 3 = Medium
  - 2 = Low
  - 1 = Very Low
  - 0 = None