Department of Industrial and Information Management

R330200 Logistic Systems (物流系统)
Fall 2011 (100 學年度第 1 學期)

This mission of Department of Industrial and Information Management is to cultivate industrial and information management professionals who possess TIP (Technological knowledge, Innovative foundation, and Perceptive learning).

General Program Learning Goals (goals covered by this course are indicated):

<table>
<thead>
<tr>
<th></th>
<th>Goals Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>✔ 1</td>
<td>Graduates should be able to communicate effectively verbally and in writing.</td>
</tr>
<tr>
<td>✔ 2</td>
<td>Graduates should solve strategic problems with a creative and innovative approach.</td>
</tr>
<tr>
<td></td>
<td>Graduates should demonstrate leadership skills demanded of a person in authority.</td>
</tr>
<tr>
<td></td>
<td>Graduates should possess a global economic and management perspective.</td>
</tr>
<tr>
<td>✔ 5</td>
<td>Graduates should possess the necessary skills and values demanded of a true professional.</td>
</tr>
</tbody>
</table>

Instructor:
Shine-Der Lee, Ph.D., Professor
Phone: ext. # 53146
Email: sdlee@mail.ncku.edu.tw
Class hours: Monday 14:10-16:00PM, Wednesday 15:10-16:00PM (To be scheduled)
Office hours: Monday 16:00-17:30PM, Wednesday 16:00-17:30PM, or by appointment (To be announced)

Course Description:
This course will focus on the use and the application of scientific methods or tools to solve or analyze complex logistic and distribution problems. Mathematical programming, stochastic process, probability and statistics, and various MS/OR models are deployed during the course. The modeling processes of formulation, analysis, and implementation of such complex systems are stressed. This is a lecture-based course that emphasizes on the scientific and proven MS/OR techniques for solving logistic system related problems. Various handouts are distributed throughout this course.

Course Objectives:
The primary goals of this course are:
- To demonstrate the interplay of logistic modelling process, including problem formulation, model building, solution procedures, analysis, and implementation, using well established management science tools.
- To introduce various mathematical modeling techniques for solving a variety of distribution and logistic management problems.
- To establish a solid mathematical foundation for advanced study in supply chain, logistic, and operations management field.
Content Summary:
Topics included but not limited to:
• Administration and introduction (1 & 2) (1 week)
• Distribution network (2 weeks)
• Location models (2 weeks)
• Freight management (2 weeks)
• Local delivery system (vehicle routing problems, 2 weeks)
• Distributed inventory system (3 weeks)
• Storage & warehousing (3 weeks)
• Automated warehousing (AS/RS, Carousel) (2 weeks)
• System integration (1 week)

Prerequisite:
• Fundamental knowledge in Statistics and Probability, Operations Research, Production and Operations Management or equivalent is recommended. Consult with instructor for special cases.

Textbooks:

Recommended references:

Course Requirement:
• Class rules will be strictly enforced, turn off your pagers, cellular phones, and electronic devices.
• Homework will be assigned every week. It is due in the first meeting of the coming week. Submit your homework with letter or A4 size papers. No late or sloppy homework will be accepted.
• A special problem (Case study) is assigned to each student to enforce the learning and the understanding of complex model building process in logistic management. Both a complete written report and an oral presentation will be scheduled on 17th week.
• No make-up Exam
Grading Policy:

- Homework 30%
- Mid-term Exam 30%
- Final Exam 30%
- Case study 10%

Grading Policy/評量方式:

<table>
<thead>
<tr>
<th></th>
<th>HW 30%</th>
<th>Midterms 30%</th>
<th>Project 0%</th>
<th>Final 30%</th>
<th>Case 10%</th>
</tr>
</thead>
<tbody>
<tr>
<td>COMMU</td>
<td>□ Oral Commu./ Presentation</td>
<td>20%</td>
<td></td>
<td></td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>□ Written Communication</td>
<td>20%</td>
<td>20%</td>
<td>20%</td>
<td>20%</td>
</tr>
<tr>
<td>CPSI</td>
<td>□ Creativity and Innovation</td>
<td>20%</td>
<td>20%</td>
<td>20%</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>□ Problem Solving</td>
<td>20%</td>
<td>30%</td>
<td>20%</td>
<td>20%</td>
</tr>
<tr>
<td></td>
<td>□ Analytical Skills</td>
<td>20%</td>
<td>30%</td>
<td>20%</td>
<td>20%</td>
</tr>
<tr>
<td>LEAD</td>
<td>□ Leadership &amp; Ethic</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>□ Social responsibility</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GLOB</td>
<td>□ Global Awareness</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>VSP</td>
<td>□ Values, Skills &amp; Profess.</td>
<td>20%</td>
<td></td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td></td>
<td>□ Information Technology</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>□ Management Skills</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>