

NATIONAL UNIVERSITY OF SINGAPORE  
NUS Business School  
Department of Analytics and Operations

## **DOS3712 Physical Distribution Management**

**Lecturer:** Dr GOH Shao Hung

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**Session:** Semester I, 2022/2023

### **Objectives**

This course helps students to appreciate the strategic importance of good distribution operations planning in the context of supply chain management and economic development in Asia. A strategic framework of physical distribution system design is presented to help build critical analytical skills for decision making in the management of physical distribution and transportation of goods, from the perspectives of both the user and provider of third-party logistics (3PL) services. The operating characteristics of various transport modes in international and domestic freight will be discussed. Specific considerations and requirements for distribution in different industry sectors (e.g. e-commerce, service/reverse logistics and third-party logistics) will also be introduced.

The course covers the application of operations research and heuristic techniques to physical distribution system design (e.g. facility location and mode selection) and transportation management problems (e.g. vehicle routing/scheduling and fleet planning) in Asia. Where available, Asian cases will be used to highlight and educate students on unique business operations in this region.

The objective of this course is to introduce and integrate knowledge in this area with applications in logistics and supply chain management. It exposes students to the work environment and the diverse challenges faced by business analysts, logistics planners and supply chain managers. The teaching method will be a combination of lectures, problem-based learning and class discussions on assigned reading topics and case analysis. Active class participation by students is expected.

### **Prerequisite**

Although there is no formal prerequisite, students should preferably have read DOS3701 Supply Chain Management as some knowledge from that course is assumed. Students may get a waiver subject to approval by the lecturer.

### **Assessment**

|                                  |     |
|----------------------------------|-----|
| Class Tests (Individual)         | 50% |
| Group Assignments (Team)         | 10% |
| Group Presentation (Team)        | 25% |
| Class Participation (Individual) | 15% |

### **Group Presentation**

Each project team is required to present on a current topic relevant to the subjects covered in this module. Any paper or presentation used for fulfilling requirements of other courses MUST NOT be recycled in this class.

The purpose of the group presentation is for the team to demonstrate that they are able to apply the techniques learned in this class to a physical distribution problem of their choosing. The presentation slides must include a statement of the problem, processes analyzed (and data, if available), and the principles/lessons learned.

The presentation file should be in MS Powerpoint (pptx) format and must follow the outline shown below. There is a 10-slide limit, excluding cover page, references and appendices that are not to be presented in class.

The outline of the presentation file should include the following:

- Project Title
- Names of Group Members
- Purpose (or Objectives)
- Methodology
- Results (or Findings)
- Discussion
- Conclusions
- References (To be included but not presented)
- Appendices (Optional and not presented)

### **Required Text**

Course Reading Packet

### **Software**

Excel Open Solver/Solver Studio

### **Lesson Plan**

The lecture notes and reading materials will be augmented with a series of cases and assignments to be discussed in class. Students are expected to do these assignments and participate actively in classroom discussions.