Container Transport

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- **Learning Objectives:**

This subject is designed to provide professional study of the container transport management of liner shipping with respect to the international maritime business environment. This subject provides students with a full understanding of current developments in the liner shipping, and to enable them to understand the application of quantitative techniques in container transport management decision making. Studying this subject will also help develop students' global outlook, critical and creative thinking, entrepreneurship and leadership.

- **Course Overview:**

Shipping is a service industry that generally provides cargo transportation of international trade. Approximate 90% cargo volume of international is transported by sea. Often, the shipping industry is categorized into two major sectors: (1) the bulk shipping which provides services mainly in the transportation of raw materials such as crude oil, coal, iron ore, and grains; and (2) the liner shipping which provides services in the transportation of final and semi-final products such as computers, manufacturing product and other consumption goods…etc. Cargo carried by liner shipping has come to be known as general cargo. Liner shipping is to provide regular services between specified ports according to time-tables and prices advertised well in advance. The service is, in principle, open to all shippers and in this sense it resembles a public transportation service. The provision of such a service, often offering global coverage, requires extensive infrastructure in terms of ships, agencies, and equipment.

The vast majority of liner cargo is containerized – that is, it is carried in sealed metal containers from point of origin to destination. These containers come in standard sizes (typically 20', 40', and 45' in length) and may include various

specialized technologies, such as refrigeration units for chilled and frozen foods, or internal hanger systems for carrying garments. Containers serve, in essence, as a packing crate and in-transit warehouse for virtually every type of general cargo moving in international commerce. The standard measure of the volume of containerized cargo is a TEU (twenty-foot equivalent unit).

Most of the world's non-bulk cargo travels in marine shipping containers. The worldwide fleet of marine containers in circulation at the beginning of 2005 is estimated to be about 13 million containers with overall capacity of approximately 20 million TEUs. Containers move along a network of nodes and links. The nodes are physical locations where container movement is interrupted and/or containers are handled. Many of these concern multimodal transfer points where containers are transferred from one mode to another. The links between nodes are characterized both by a mode of transport (road, rail, inland waterway) and a supporting infrastructure (roadway, canal/river, railroad track, rail marshalling yard, etc.). As containers move along this network they can either be empty, loaded with a single consignment (Full Container Load, FCL) or loaded with multiple consignments (Less-than Container Load, LCL).

The Containerized cargo moves from inland point to inland point via a multi-modal network linking vessels, port terminals, trucks and trains. At the heart of this service network is the planning, tracking and delivery of cargo and state-of-the-art information systems needed to provide certainty and reliability to shippers.

- **Teaching and Learning Approaches:**

(1) Lecture – lecturer imparts information through illustrated and/or demonstrated talks.
(2) Seminar – a seminar comprises of an initial presentation of innovative material, such as a research paper or a focus topic, followed by an ordered critique of the presentation.
(3) Presentation – students are given reading materials and assignments before the presentation. They are required to construct and later present their views in class and be prepared to defend their views against opposing arguments.
(4) Case study – a real-life case is selected for detailed study and analysis from many different perspectives.
(5) Industrial visits – at the industrial visits, students can interact with business professionals and learn by observation and questioning.

- **Texts:**

  Lecture materials and selected research papers.

- **Tentative Course Schedule:**

  Week 1
  Introduction to the subject “Container Transport”

  Week 2
  Liner trades

  Week 3
  The containerships and containers

  Week 4
  Liner shipping operations

  Week 5
  Liner industry structure

  Week 6
  Port container terminal operations and cargo handling

  Week 7
  World container ports

  Week 8
  Intermodal transport and logistics

  Week 9
  Mid-term Presentation

  Week 10
  Mid-term Presentation

  Week 11
  Bills of lading and other documents

  Week 12
  Liner shipping cost structure and voyage estimate

  Week 13

Tariff construction, pricing and revenue management

Week 14
Empty container reposition

Week 15
Strategic alliance

Week 16
Mega trends of liner shipping

Week 17
Term Paper presentation.

Week 18
Term Paper presentation.

- **Course Requirements and Grades:**

The course grade will be based on the following:
(1) mid-term presentation (30%);
(2) term paper report and presentation (50%); and
(3) assigned homework and contribution to class discussions (20%).