The Hong Kong Polytechnic University

Subject Description Form

Subject Code	LGT2509
Subject Title	Maritime Introduction
Credit Value	3
Level	2
Normal Duration	1-semester
Pre-requisite / Co-requisite/ Exclusion	Nil
Role and Purposes	To assist students in developing an appreciation of sea-borne cargo handling. To provide an introductory knowledge of ship types, cargo handling systems and their uses in maritime transport; ship stability related to the carriage of sea-borne cargoes.
Subject Learning Outcomes	Upon completion of the subject, students will be able to: a. Understand basic ship design and operation features; b. Understand the technical/operational requirements of different types of ships for specific sea trade; c. Utilise ship's basic stability information for shipboard operations; d. Appreciate use of typical shipping, port and geographical information systems; e. Apply fundamental knowledge essential to stowage plan preparation, safe cargo planning and operations; f. Understand the requirements of suitable cargo handling equipment and hatchcovers for specific ships and trade routes; and g. Solve technical problems in ship management and cargo operations. Studying this subject will also help develop students' skills in critical and analytical thinking, teamwork and their ability to pursue life-long learning.
Subject Synopsis/ Indicative Syllabus	Basic ship design and operational features; Measurement terminology; Capacity, general arrangement and stowage plans; Suitability of different ships for cargoes and trades; Cargo nature and characteristics, stowage factor, specific gravity; Measurement methods of cargoes and freight units; Stowage method, packing, hazards and cargo care; Basic cargo planning; Operational Features of Shipboard Cargo Handling Systems; Cargo compartments of dry cargo vessels - location, structure and use; Methods of opening and closing hatch covers; Simple maintenance of cargo compartments and hatch covers; Preparation of cargo spaces for receiving different cargoes; Cargo handling methods on ships; Precautions on board with regard to cargo handling in general; Stability: Factors

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<tr><td></td><td>influencing the stability of ships and other floating structures and the use of stability information provided on board such vessels. The use of shipping, port and geographical information systems. Calculations relating to load line zones, voyage planning and bunkering to advantages of zones. Characteristics of coastal and port environments affecting the voyage. Prevention of pollution of the marine environment, anti-pollution procedures and proactive measures of marine environmental protection.</td></tr>
<tr><td>Teaching/Learning Methodology</td><td>In the lectures, the general principles of topics will be presented and developed. In the tutorials, students will develop and apply the general principles of the topic in student-centred activities.</td></tr>
<tr><td>Assessment Methods in Alignment with Intended Learning Outcomes</td><td>
<table>
<tr><td rowspan="2">Specific assessment methods/tasks</td><td rowspan="2">% weighting</td><td colspan="8">Intended subject learning outcomes to be assessed (Please tick as appropriate)</td></tr>
<tr><td>a</td><td>b</td><td>c</td><td>d</td><td>e</td><td>f</td><td>g</td><td></td></tr>
<tr><td>1. Coursework</td><td>40%</td><td>✓</td><td>✓</td><td></td><td>✓</td><td>✓</td><td></td><td>✓</td><td></td></tr>
<tr><td>2. Examination</td><td>60%</td><td>✓</td><td></td><td>✓</td><td></td><td></td><td>✓</td><td>✓</td><td></td></tr>
<tr><td>Total</td><td>100 %</td><td colspan="8"></td></tr>
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Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:

Use of typical shipping, port and geographical information systems can facilitate students to conduct simple research on comparing technical/operational requirements of different types of ships for specific sea trades. Assignment requiring use of the information systems in association with assessment on understanding of ship basic design and technical/operational requirements is an appropriate method to measure the learning outcomes (a), (b) and (d). Assignment without tight time constraint can be a good assessment tool to complement written examination for measurement of the learning outcome (a).

There is no model answer to preparation of stowage plan, formulation of safe cargo plan and procedures for safe operations. In fact, these tasks are usually so time-consuming that it does not fit for a 3-hour written examination. A project work requiring use of typical simulation software is more appropriate than a written examination for assessment on students' learning outcomes (d) and (e). In addition, a project work can be easily designed to include problem solving components. It is appropriate to use a project work to complement written examination for measurement of the learning outcome (g).

Written examination is an assessment method appropriate for testing students' understanding of terminologies, concepts relating to certain technical requirements, as well as principles of problem solving. By including hypothetical cases and stability data sheet of a hypothetical ship, written examination can be designed to measure the learning outcomes (a), (c), (f) and (g).

To pass this subject, students are required to obtain Grade D or above in BOTH the Continuous Assessment and Exam components.
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Student Study Effort Expected	Class contact:	
	▪ Lecture	26 Hrs.
	▪ Tutorial	13 Hrs.
	Other student study effort:	
	▪ Self-study / research for self-learning tasks	38 to 59 Hrs.
	▪ Project / assignment / preparation for examination	30 to 35 Hrs.
	Total student study effort	107 to 133 Hrs.
Reading List and References	Australian Maritime College (1997), *Dangerous Goods: Carriage of Dangerous Goods by Sea*, Australia: Videotel Marine International Dokkum, Klaas van (2016), *Ship Knowledge: Covering Ship Design, Construction and Operation*, Enkhuizen: Dokmar Dokkum, Klaas van (2013), *Ship Stability*, Enkhuizen: Dokmar Barrass, C.B. (2004), *Ship Design and Performance for Masters and Mates*, Oxford: Elsevier Butterworth-Heinemann Kemp, J.F. (1997), *Ship Construction Sketches & Notes*, Boston: Butterworth Heinemann Lavery, H.I. (latest edition), *Shipboard Operations*, Oxford: Heinemann Newies Pursey, H.J. (2006), *Merchant Ship Stability*, Glasgow: Brown, Son & Ferguson Clark, I.C. (2008), *Stability, Trim and Strength for Merchant Ships and Fishing Vessel*, London: The Nautical Institute Morgan, N. (ed.) (latest edition), *The Marine Technology Reference Book*, London: Butterworth Scientific Isbester, J. (2010), *Bulk Carrier Practice*, London: The Nautical Institute Sparks, A. (2003), *Steel: carriage by sea*, London: LLP Rogers, P. (1997), *Coal: carriage by sea*, London: LLP Sewell, T. (1997), *Grain: carriage by sea*, London: LLP Pepper, G.M. (2016), *Thomas' Stowage: The Properties and Stowage of Cargoes*, Glasgow: Brown, Son & Ferguson Wall, M. (2008), *Hatch Covers: Operation, Testing and Maintenance*, Livingston: Witherby Seamanship International ILO (1996), *Accident Prevention on Board Ship at Sea and in Port: An ILO Code of Practice*, Geneva: International Labour Office USCG (latest edition), *Marine Safety Manual volume IX – Marine Environmental Protection* IMO (2006), *International Safety Guide for Oil Tankers and Terminals (ISGOTT)*, London: Witherby Rowbotham, J. M. (2014), *Introduction to Marine Cargo Management*, Abingdon, Oxon : Informa Law from Routledge Churcher, L. (2016), *Ballast Water Management: Understanding the regulations and the treatment technologies available*, Witherby Seamanship International	