The Hong Kong Polytechnic University

Subject Description Form

Subject Code	LGT6203			
Subject Title	Maritime and Air Transportation Economics			
Credit Value	3			
Level	6			
Normal Duration	1-semester			
Pre-requisite / Co-requisite/ Exclusion	Basic knowledge in Microeconomics			
Role and Purposes	 Provide an overview over current research trends in maritime and air transportation markets. Train advanced theoretical and empirical research methods common in the field of maritime and air transportation economics. Provide a forum for interactive discussions of research methods and results derived from recent studies in the field 			
Subject Learning Outcomes	 Upon completion of the subject, students will be able to: a) Identify promising own research questions in the area maritime and air transportation economics of interest to researchers in the field. b) Develop their own theoretical and/or empirical approach to solve complex research problems. c) Effectively and instructively communicate with their peers. 			
Subject Synopsis/ Indicative Syllabus	The course is divided into two parts. The first part is motivated by issues relevant in the maritime industry and second part in the air transport industry. The first part covers the topics on economic, environmental and policy analysis in port and shipping (reading list item no. 1-12). Specifically, it includes the market dynamics in liner shipping between freight rate and world fleet (1-4); modeling freight changes in imbalanced markets (9); Strategic pricing and capacity competition in port (5); Strategic capacity competition and market overcapacity in shipping (11); Externality and emission trading scheme (7,10,12); Ship registration (6, 8, 9). For each topic, the fundamental theoretical background will be introduced, and an example of empirical research will be provided. The second part discusses airline and airport topics. Airline topics cover equilibrium supply of service quality, double marginalization, uncertainty and fleet structures as well as strategic investments. The analysis of airline markets largely relies on the development and discussion of theoretical models. The airport part covers the optimality of airport charges structures, the relationship between aeronautical and non-aeronautical airport businesses as well as congestion management problems. Theoretical as well as empirical methods are discussed in the airport part.			

Teaching/Learning Methodology	This subject is based on a the lecturers and the stude	a series of lect ents.	tures ar	nd inter	ractive	discuss	sions be	etween
Assessment Methods in Alignment with Intended Learning Outcomes	Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)					
			а	b	c			
	Continuous Assessment	100%						
	Individual assignments	50%	\checkmark	\checkmark				
	Class presentations	40%	\checkmark		~			
	Class participation	10%			~			
	Total	100 %			1			1
	 Explanation of the appropriateness of the assessment methods in intended learning outcomes: Individual assignments – Students are required to submit tw assignments, one in maritime and one in air transport, disc mentioned during the lectures. Individual presentation – Students are required to present the assignments to class. Class participation – In order demonstrate their understanding discussed in the course, all students are required to take an active p lectures and presentations. 						n assess wo ind cussing neir ind ; of the part dur	ing the lividual topics lividual issues ring the
Student Study Effort Expected	Class contact:							
	Lecture/ Tutorial					39 Hrs.		
	Other student study effort:							
	 Preparation for seminars 				8′	87 Hrs.		
	Total student study effort						12	26 Hrs.
Reading List and References	 Maritime transportation part: 1. Jansson, J. O. & Shneerson, D., 1982. The optimal ship size. <i>Journal of transport economics and policy</i>, pp. 217-238. 2. Jansson, J. O. & Shneerson, D., 1985. Economies of trade density in liner shipping and optimal pricing. <i>Journal of Transport Economics and Policy</i>, pp. 							
	7-22.							

3. Luo, M., Fan, L., & Liu, L. (2009). An econometric analysis for container shipping market. <i>Maritime Policy & Management</i> , 36 (6), 507-523
4. BEENSTOCK, M. and VERGOTTIS, A., 1989, An econometric model of the world market for dry cargo freight and shipping. Applied Economics, 21, 339–356.
5. Luo, M., Liu, L., & Gao, F. (2012). Post-entry container port capacity Expansion. <i>Transportation Research B</i> , 46 (1), 120-138.
6. Luo, M., Fan, L., & Li, K. X. (2013). Flag choice behavior in the world merchant fleet. <i>Transportmetrica A: Transport Science</i> . 9(5):429-450
7. Luo, M. (2013). "Emission Reduction in International Shipping—the hidden side effects" <i>Maritime Policy & Management</i> . 40(7):694-708.
 Fan, L., Luo, M. & Yin, J. (2014). "Flag Choice and PSC Inspection—A Simultaneous Model". <i>Transport Policy</i>. 35(2014):350-357. <u>http://dx.doi.org/10.1016/j.tranpol.2014.04.008</u>.
 Fan, L. & Luo, M. & Wilson, W. W. (2014). "Pricing Joint Products in Liner Shipping," <i>International Journal of Shipping and Transport Logistics</i>. 6(4):371- 386
10. Wang K., X. Fu, M. Luo, (2015). "Modeling the Impacts of Emission Trading Scheme on International Shipping". <i>Transportation Research Part A. Vol.</i> 77, <i>July 2015, 35-49</i>
11.Kou Y. & M. Luo. (2015). "Strategic capacity competition and overcapacity in shipping". <i>Maritime Policy and Management, http://dx.doi.org/10.1080/03088839.2015.1105395</i>
12.Löfgren, K.G. Markets and externalities. Page 17-46. In "Principles of Environmental and Resource Economics—A guide for students and decision- makers" by Folmer, H., Gabel, H. L. & Opschoor, H. (ed), 1998.
Background reading
1. Maritime Economics (3 rd), Martin Stopford, ISBN: 978-0-415-27557-6
 The Blackwell Companion to Maritime Economics, Wayne K. Talley (ed), ISBN: 978-1-4443-3024-3
Air transportation part:
1. Adams, W.J., Yellen, J.L., 1976. Commodity bundling and the burden of monopoly. Quarterly Journal of Economics 90, 475–498.
2. Bulow, J.I., Geanakoplos, J.D. and Klemperer, P.D. (1985), Multimarket oligopoly: Strategic substitutes and complements, <i>Journal of Political Economy</i> 93: 488-511.
3. Czerny, A. I., Verhoef, E. T. and Zhang, A. (2015), A theory of continuous uncertainty types, <i>Tinbergen Institute Discussion Paper TI 2015-065/VIII</i> .
4. De Neufville, R. and Odoni, A. (2003), Airport Systems: Planning, Design and Management, McGraw-Hill.
5. Fudenberg, D. and Tirole, J. (1984), The fat-cat effect, the puppy-dog ploy, and the lean and hungry look, <i>American Economic Review</i> , 74: 361-366
 Spence, A.M., (1975). Monopoly, quality and quantity regulation in monopoly. Bell Journal of Economics 6, 407–414.
7. Spengler, J. J. (1950), Vertical integration and antitrust policy, <i>Journal of Political Economy</i> 58, 347—352.

8. Vickrey, W.S. (1969), Congestion theory and transport investment, American Economic Review 59, 251–260.
 Vives, X. (1999), Oligopoly Pricing — Old Ideas and New Tools, The MIT Press.
10. Weitzman, M.L. (1974), Prices vs. quantities. Review of Economic Studies 41 (4), 477–491.
11. Zhang, A. and Czerny, A. I.(2012), Airports and airlines economics and policy: An interpretive review of recent research, <i>Economics of Transportation 1: 15-34</i> .