

The Hong Kong Polytechnic University

Subject Description Form

Subject Code	LGT4012
Subject Title	Airport Management
Credit Value	3
Level	4
Normal Duration	1-semester
Pre-requisite	Nil
Objectives	<p>Airport businesses have undergone fundamental changes in their business environments in the last couple of decades. The liberalization of air transport markets, the subsequent huge growth of air traffic, the development of new airline business models, the importance of non-aeronautical businesses, privatization strategies, airport expansion plans, new and innovative methods of economic airport regulation, new technological developments and big data analytics contributed to the development of an exciting industry with tremendous business opportunities but also substantial social responsibilities. This subject handles all these issues. It explains general facts of the air transport industry, and how airport businesses and technologies have developed over time, why airports are often subject to heavy economic regulation and how regulation influences airport businesses. The purpose is to help the students to develop a profound understanding of the most important drivers of airport businesses today, and to offer ways to successfully address the challenges arising from historic and current technological developments.</p>
Subject Learning Outcomes	<p>Upon completion of the subject, students will be able to:</p> <ol style="list-style-type: none"> develop a deep understanding of the “big picture” that describes airport management environments; contribute to the solution of business problems in privately and publicly owned airports (BBA Outcome 14); critically assess regulatory policies from the standpoints of airports, airlines and governments; understand the applications and implications of the latest technologies to practices and decisions pertaining to airport management
Subject Synopsis/ Indicative Syllabus	<ol style="list-style-type: none"> <u>Data and technology</u>: Data sharing, and interoperable solutions contribute to the effective and efficient airport operation. This part explores how data can be leveraged for flexibility, resilience, efficiency and revenue generation at airports. <u>Natural monopoly</u>: Here students will be provided with a data set and econometric methods to analyze airport cost structures. This helps to understand why airports are often considered as “natural monopolies.” <u>Competition</u>: Airports are often considered as natural monopolies, while they still compete in various dimensions. This part covers competitive strategies based on new technological developments and big data analysis, competition for transfer passengers and the role of the evolving airport and

	<p>airline businesses for airport market power. The role of competition for pricing will be illustrated with the help student interactive games.</p> <p>4. <u>Public supply</u>: Many airports are owned and operated by government agencies. This is different from many other industries that are mainly driven by private companies. This part discusses some benefits of the public supply of transport infrastructure.</p> <p>5. <u>Privatization and “non-aeronautical services:”</u> Nowadays private involvement in airport ownership in operation has substantially increased. Furthermore, many airports earn a large share of their revenues from the supply of services that are not primarily related to airport infrastructure (so called non-aeronautical services. The pricing of airport infrastructure in the presence of non-aeronautical services will be illustrated with the help of pricing games.</p> <p>6. <u>Regulation</u>: Private involvement often comes together with some form of airport infrastructure charges regulation. The benefits and drawbacks of different forms of regulation are discussed in detail in this class. Regulation forms discussed in class include cost-based regulation, price-cap regulation.</p> <p>7. <u>Revenue sharing</u>: Many companies are involved in the supply chain which enables services such as airline flights and air cargo operations. The role of collaborative pricing will be illustrated with the help student interactive games.</p> <p>8. <u>Congestion</u>: The future growth in air traffic will be associated with shortages in infrastructure supply, which then leads to a drop of service quality in terms of airline punctuality. How so-called “airport slots” to control flight delays is explained in this part.</p>																																
Teaching/Learning Methodology	A combination of lectures, guest talks by industry experts (online and face-to-face), company visits, real case studies and students-directed learning activities will be included in this subject.																																
Assessment Methods in Alignment with Intended Learning Outcomes	<table border="1"> <thead> <tr> <th rowspan="2">Specific assessment methods/tasks</th><th rowspan="2">% weighting</th><th colspan="4">Intended subject learning outcomes to be assessed (Please tick as appropriate)</th></tr> <tr> <th>a</th><th>b</th><th>c</th><th>d</th></tr> </thead> <tbody> <tr> <td>1. Coursework</td><td>40%</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></tr> <tr> <td>Total</td><td>100 %</td><td colspan="4"></td></tr> </tbody> </table> <p>Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:</p> <p>To reflect the significant technology content in this subject, <i>10% (or more)</i> of the overall weighting of this subject is based on individual assessment concerning technology-related knowledge.</p>					Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)				a	b	c	d	1. Coursework	40%	✓	✓	✓	✓	2. Examination	60%	✓	✓	✓		Total	100 %				
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	Class contact:																																
	▪ Lecture			26 Hrs.																													

Student Study Effort Expected	▪ Tutorial	13 Hrs.
	Other student study effort:	
	▪ Self Study	87 Hrs.
	Total student study effort	126 Hrs.
Reading List and References	<p>Useful references:</p> <p>Airport Council International, 2019. Airport Economics and State of the Industry. Slides presented by Ilia Lioutov at the Joint ICAO/IATA Airport and Air Navigation Charges Workshop Singapore, 29-30 October 2019.</p> <p>Airport Council International, 2023. Airport Economics 2023 Report. A comprehensive view of the industry's financial performance.</p> <p>Czerny, A.I., 2021. Airport regulation. International Encyclopedia of Transportation. Elsevier.</p> <p>OAG, 2018. Battle for the Bay. Competitive Pressures for Airports around the Pearl River.</p> <p>Wiltshire, J., 2018. Airport competition: Reality or myth? <i>Journal of Air Transport Management</i> 67, 241-248.</p> <p>Thelle, M.H. and la Cour Sonne, M., 2018. Airport competition in Europe. <i>Journal of Air Transport Management</i> 67, 232-240.</p>	