

# The Hong Kong Polytechnic University

## Subject Description Form

<b>Subject Code</b>	LGT3800
<b>Subject Title</b>	Airline Operations and Revenue Management
<b>Credit Value</b>	3
<b>Level</b>	3
<b>Normal Duration</b>	1-semester
<b>Pre-requisite</b>	Nil
<b>Objectives</b>	<p>Airlines operate in a highly competitive environment, whilst the industry overall has been severely hampered by the Covid-19 pandemic in the past three years and very limited financing sources. Airlines, within their limited operational capability, therefore, need to make the best use of all possible revenue sources and further improve the operations optimization in order to ensure stable financial conditions and profitability. The use of leasing of aircraft as well as forms of financing can be of significant benefit to airlines, but not without risks.</p> <p>This subject provides students with the basic knowledge of and fundamental skills in airline operations and revenue management. It helps them understand not only the complexity but also the significance of airline operation businesses, as well as the optimization of the financial structure of the airlines' fleet and the different, effective, and creative ways of achieving this. These skills and the knowledge of the methods discussed in this subject are essential for the success of aviation business today.</p>
<b>Intended Learning Outcomes</b>	<p>Upon completion of the subject, students will be able to:</p> <ol style="list-style-type: none"><li>understand the challenges of airline operation and revenue generation as well as fleet financing in the post Covid-19 pandemic and competitive airline market environment.</li><li>apply the fundamental methods of airline revenue management, airline operations and fleet financing.</li><li>contribute to the solution of airline operation and fleet financing related problems and develop a sensitivity to the issues involved in such business practices.</li><li>understand the key component of airlines' annual reports.</li><li>foster intellectual and personal development, self-confidence, and the ability to find solutions in this complex environment without supervision and develop realism and practicality as a foundation for good business judgment.</li><li>develop approaches to defining, analyzing and solving operations and revenue management as well as fleet financing related problems, to enable a sustained</li></ol>

	<p>improvement of the airline’s profitability.</p> <p>g. develop the ability to communicate effectively and fluently in both written and spoken form.</p> <p>Studying this subject will also help develop students’ global outlook, critical and creative thinking, social and national responsibility, cultural appreciation, life-long learning, and entrepreneurship and leadership.</p>																																																																						
<b>Subject Synopsis/ Indicative Syllabus</b>	<ul style="list-style-type: none"><li>• Long-term and medium-term fleet planning leading to financial fleet management.</li><li>• Strategies for different airlines: LCC vs full-service airlines, government-owned vs private airlines.</li><li>• Principles of revenue management: class of reservation management, overbooking, innovative pricing strategies including dynamic pricing.</li><li>• Risk management: fuel price, currency exchange rate, interest rate.</li><li>• Principles of financial fleet management: buy or lease, when and how.</li><li>• Aircraft procurement process and requirements.</li><li>• Aircraft leasing options: financial leasing, operating leasing, direct leases versus sale and leaseback scenarios</li><li>• Airline scheduling and route planning.</li><li>• Green aviation.</li></ul>																																																																						
<b>Teaching/Learning Methodology</b>	A combination of lectures, guest lectures (face-to-face or online), seminars/ conference attendance, case studies, group discussions and students-directed learning activities will be included in this subject.																																																																						
<b>Assessment Methods in Alignment with Intended Learning Outcomes</b>	<table><tr><th rowspan="2">Specific assessment methods/tasks</th><th rowspan="2">% weighting</th><th colspan="7">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><th>e</th><th>f</th><th>g</th></tr><tr><td><b>Continuous Assessment</b></td><td>50%</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>Class participation</td><td>10%</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr><tr><td>Quiz</td><td>10%</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr><tr><td>Midterm test</td><td>30%</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td><td>✓</td></tr><tr><td><b>Final Exam</b></td><td>50%</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="7"></td></tr></table>	Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)							a	b	c	d	e	f	g	<b>Continuous Assessment</b>	50%								Class participation	10%	✓	✓	✓	✓	✓	✓	✓	Quiz	10%	✓	✓	✓	✓	✓	✓	✓	Midterm test	30%	✓	✓	✓	✓	✓	✓	✓	<b>Final Exam</b>	50%	✓	✓	✓	✓	✓	✓	✓	Total	100 %							
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	Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:	
<b>Student Study Effort Expected</b>	Class contact:	
	▪ Lecture	26 Hrs.
	▪ Tutorial	13 Hrs.
	Other student study effort:	
	▪ Self-study	87 Hrs.
	Total student study effort	126 Hrs.
<b>Reading List and References</b>	<ul style="list-style-type: none"> <li>• Bazargan, Massoud (2010) <i>Airline Operations and Scheduling (2<sup>nd</sup> Edition)</i>, Ashgate: Aldershot, UK.</li> <li>• Bourjade, S., Huc, R. and Muller-Vibes, C., 2017. Leasing and profitability: Empirical evidence from the airline industry. <i>Transportation Research Part A: Policy and Practice</i>, 97, pp.30-46.</li> <li>• Czerny, A.I. and Lang, H., 2021. Privatization and Deregulation of the Airline Industry. In <i>International Encyclopedia of Transportation: Volume 1-7</i> (pp. 397-403). Elsevier.</li> <li>• Doganis, Rigas (2010) <i>Flying Off Course (4<sup>th</sup> Edition)</i>, London: Routledge.</li> <li>• Morrell, P.S. (2021) <i>Airline Finance (5<sup>th</sup> Edition)</i>. London: Routledge.</li> <li>• Talluri, Kalyan T., Van Ryzin, Garrett J. (2005) <i>The Theory and Practice of Revenue Management</i>, Springer.</li> <li>• Vitaly S. Guzhva, Sunder Raghavan, Damon J. D'Agostino (2018): <i>Aircraft Leasing and Financing: Tools for Success in International Aircraft Acquisition and Management</i></li> <li>• Wells, A. T. (2007). <i>Air transportation: A management perspective</i>. Ashgate Publishing, Ltd..</li> <li>• Wu, Cheng Lung (2010) <i>Airline Operations and Delay Management</i>, Ashgate: Aldershot, UK.</li> </ul>	