

# The Hong Kong Polytechnic University

## Subject Description Form

<b>Subject Code</b>	LGT5105
<b>Subject Title</b>	Managing Operations Systems
<b>Credit Value</b>	3
<b>Level</b>	5
<b>Normal Duration</b>	1-semester
<b>Pre-requisite / Co-requisite/ Exclusion</b>	Nil
<b>Role and Purposes</b>	<p>This module introduces students to both the philosophy and the techniques of operations management. Students will understand the basic concepts and basic tools in operations management, and become familiar with the scientific methods used in daily management.</p> <p>This subject contributes to the following Intended Learning Outcomes for the MSc programme(s):</p> <p>MSc in Global Supply Chain Management #2 Build up operations and logistics concepts #5 Practise business ethics</p> <p>MSc in Management (Operations Management) #1: Solve business problems #3 Practise business ethics</p>
<b>Subject Learning Outcomes</b>	<p>Upon completion of the subject, students will be able to:</p> <ul style="list-style-type: none"> <li>(a) Understand the terminology of operations management.</li> <li>(b) Understand basic concepts of various areas of operations management.</li> <li>(c) Build up basic quantitative models that are used for decision-making in operations management, including assumptions and limitations of the models.</li> <li>(d) Apply these models practically in management issues with critical thinking and creative manner to solve real life problems.</li> <li>(e) Beware of ethical issues in business.</li> </ul>
<b>Subject Synopsis/ Indicative Syllabus</b>	<p><b>Introduction to Operations System</b> The concepts, the operations functions and its relation with other business functions, particularly, strategic aspects of operations management and its relationship to major elements of business models.</p> <p><b>Quality Management, Quality Control and Lean Operations</b></p>

	<p>Total quality management; quality measurement; quality cost; quality inspection; statistical quality control; lean operations.</p> <p><b>Business Process Design and Reengineering</b> Process concept; process design method; process effectiveness and efficiency; business process reengineering.</p> <p><b>Forecasting</b> Objective of forecasting; logic of forecasting; qualitative and quantitative methods for forecasting; measurement and monitoring of forecasting systems.</p> <p><b>Capacity Planning</b> Strategic capacity planning; equipment management; concept of total cost of ownership; volume analysis; breakeven models; decision tree analysis.</p> <p><b>Facility Location and Layout</b> Factors affecting location decisions; methods for analysing location problems; facility layout problems and decision analysis in manufacturing and service sectors.</p> <p><b>Inventory Management</b> Functions and costs of inventory management; ABC analysis; economic ordering quantity model; vendor managed inventory system; inventory replenishment systems.</p> <p><b>Just-in-Time Systems</b> Philosophy and concept of JIT systems; pulling versus pushing production system; JIT in service industry.</p> <p><b>Supply Chain Management</b> Concept of supply chain management; information coordination; cost and benefit of postponement; quick response; worldwide sourcing.</p> <p><b>Project Management</b> Project and its working team; project break down; Gantt charts; project time and cost; critical tasks in projects.</p> <p><b>Ethics</b> Ethical issues in operation management; codes of ethics; worker safety; product safety; the environment and quality; employees' right; and closing facilities.</p>																								
<p><b>Teaching/Learning Methodology</b></p>	<p>Concepts and techniques will be introduced through lectures. Students are required to apply the knowledge and skills to analyse and solve various realistic operations management problems in the form of case studies.</p>																								
<p><b>Assessment Methods in Alignment with Intended Learning Outcomes</b></p>	<table border="1"> <thead> <tr> <th data-bbox="513 1966 804 2069">Specific assessment methods/tasks</th> <th data-bbox="804 1966 963 2069">% weighting</th> <th colspan="6" data-bbox="963 1966 1471 2069">Intended subject learning outcomes to be assessed (Please tick as appropriate)</th> </tr> <tr> <td data-bbox="513 2069 804 2134"></td> <td data-bbox="804 2069 963 2134"></td> <td data-bbox="963 2069 1043 2134">a</td> <td data-bbox="1043 2069 1123 2134">b</td> <td data-bbox="1123 2069 1203 2134">c</td> <td data-bbox="1203 2069 1283 2134">d</td> <td data-bbox="1283 2069 1362 2134">e</td> <td data-bbox="1362 2069 1471 2134"></td> </tr> </thead> <tbody> <tr> <td data-bbox="513 2134 804 2141"></td> <td data-bbox="804 2134 963 2141"></td> <td data-bbox="963 2134 1043 2141"></td> <td data-bbox="1043 2134 1123 2141"></td> <td data-bbox="1123 2134 1203 2141"></td> <td data-bbox="1203 2134 1283 2141"></td> <td data-bbox="1283 2134 1362 2141"></td> <td data-bbox="1362 2134 1471 2141"></td> </tr> </tbody> </table>	Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)								a	b	c	d	e									
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		a	b	c	d	e																			

	1. Coursework	50 %	✓	✓	✓	✓	✓	
	2. Examination	50 %	✓	✓	✓	✓	✓	
	Total	100 %						
<p>Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:</p> <p>Students need to do a group case study, testing whether they know how to apply the theories learnt to some real life situations. Mid-term test and examination are also required to test their understanding and familiarity with the knowledge.</p> <p><i>To pass this subject, students are required to obtain Grade D or above in BOTH the Continuous Assessment and Exam components.</i></p>								
<b>Student Study Effort Expected</b>	Class contact:							
	▪ Lectures / Tutorials		39 Hrs.					
	Other student study effort:							
	▪ Reading and doing exercises		87 Hrs.					
Total student study effort		126 Hrs.						
<b>Reading List and References</b>	<p><b>Books</b></p> <p>Anupindi, R., et. al. <i>Managing Business Process Flows – Principle of Operations Management</i>, latest ed, Prentice Hall</p> <p>Jacobs F.R., Chase, R.B. and Aquilano, N.J., <i>Operations &amp; Supply Chain</i>, latest ed., McGraw Hill.</p> <p>Cheng, T.C.E. and Podolsky, S. (1996), <i>Just-in-time Manufacturing: An Introduction</i>, Chapman &amp; Hall.</p> <p>Davis M.M., Aquilano N.J. and Chase R.B., <i>Fundamentals of Operations Management</i>, latest ed., McGraw Hill.</p> <p>Heyl, J. E., Bushnell, J.L. and Stone, L.A. (1994), <i>Cases in Operations Management</i>, Addison-Wesley.</p> <p>Johnston, R. (2003), <i>Cases in Operations Management</i>, Finance Times Prentice Hall.</p> <p>Russell R.S. and Taylor B.W., <i>Operations Management</i>, latest ed., Prentice Hall.</p>							

Shafer, S.M. and Meredith, J.R. (1997), *Operations Management*, Willy.

Stevenson W.J., *Operations Management*, latest ed., McGraw Hill.

Whybark, D.C. (1989), *International Operations Management*, Irwin.

***Journals***

International Journal of Operations and Production Management

Journal of Operations Management

Management Science