

## Subject Description Form

<b>Subject Code</b>	LSGI4104
<b>Subject Title</b>	<b>Geomatics Project Management</b>
<b>Credit Value</b>	2
<b>Level</b>	4
<b>Pre-requisites</b>	LSGI2373 Surveying; and LSGI2223 Geographic Information Science
<b>Objectives</b>	This subject aims at the project management issues of engineering surveying, land boundary surveying, utility surveying and geographic information systems. The objectives of the course will be to familiarize the students with both the scope and functions of managerial operations associated with cost estimation, tendering, contract administration, data quality management, building information modelling information management and policy, formal report writing and so on. The teaching and learning adopted will help students develop critical and creative thinking
<b>Intended Learning Outcomes</b>	At the end of this subject students who gain a pass will be able to: <ol style="list-style-type: none"> <li>1. Understand the contemporary environment for geomatics business in Hong Kong (L2)</li> <li>2. Grasp the essential procedures of conducting a geomatics project or business (L3)</li> <li>3. Produce proper documentation of a geomatics project (L4)</li> <li>4. Communicate and compromise with other professionals (e.g. government departments, contractor and real estate developer) in a construction project life-cycle (L4)</li> </ol>
<b>Subject Synopsis/ Indicative Syllabus</b>	<p>A. Geomatics Projects / Business</p> <ul style="list-style-type: none"> <li>• Types of geomatics project – engineering survey, land boundary survey, utility management, Geo-IT</li> <li>• Operations management</li> </ul> <p>B. Management of Geomatics Projects</p> <ul style="list-style-type: none"> <li>• Tendering process</li> <li>• Theme or objective identification</li> <li>• Project development lifecycle</li> <li>• Project management methodology</li> </ul> <p>C. Building Information Modelling (BIM) as a project management tool</p>

	<ul style="list-style-type: none"> <li>• Interoperability among service providers in a construction project</li> <li>• BIM model for project management and environmental impact analysis</li> <li>• Legal and policy issues</li> </ul>																																					
<b>Teaching/Learning Methodology</b>	<p>The course is designed to adopt interactive lectures such that the basic information of each lecture is made available on-line. The interactive lecture starts by introducing essential basics and users group activity and debriefing to encourage active thinking and participation. Hybrid PBL and Case-based learning are used increasingly in the lecture to work on local surveying and GIS firm cases.</p>																																					
<b>Assessment Methods in Alignment with Intended Learning Outcomes</b>	<table border="1" data-bbox="529 716 1372 1262"> <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>1</th> <th>2</th> <th>3</th> <th>4</th> </tr> </thead> <tbody> <tr> <td>1. Individual writing</td> <td>20</td> <td>✓</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2. Mini Geomatics project</td> <td>30</td> <td></td> <td>✓</td> <td>✓</td> <td>✓</td> </tr> <tr> <td>3. Final Test</td> <td>50</td> <td>✓</td> <td>✓</td> <td>✓</td> <td>✓</td> </tr> <tr> <td>Total</td> <td>100</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:</p> <ul style="list-style-type: none"> <li>• An individual writing of tendering/bidding of geomatics projects is to arouse students' awareness of the disciplines of starting a project both in Hong Kong and around the world. (Students should be noticed that Gen-AIs can be used only for knowledge searching, idea development, language improvement, and the use of Gen-AIs must be referenced/acknowledged in their submitted materials)</li> <li>• A group project working on a particular /assigned aspect of geomatics is to let students gain experience on the essential procedures and proper documentary writings. (Students should be noticed that Gen-AIs can be used only for knowledge searching, idea development, language improvement, and the use of Gen-AIs must be referenced/acknowledged in their submitted materials)</li> <li>• An end-of-semester examination is to test students' knowledge learnt from the whole subject and to test their written/expression skills.</li> </ul>				Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)				1	2	3	4	1. Individual writing	20	✓				2. Mini Geomatics project	30		✓	✓	✓	3. Final Test	50	✓	✓	✓	✓	Total	100				
Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)																																				
		1	2	3	4																																	
1. Individual writing	20	✓																																				
2. Mini Geomatics project	30		✓	✓	✓																																	
3. Final Test	50	✓	✓	✓	✓																																	
Total	100																																					

<b>Student Study Effort Expected</b>	Class contact:	
	▪ Lecture/tutorial	26 Hrs.
	Other student study effort:	
	▪ literature review and web surfing	10 Hrs.
	▪ mini-project	20 Hrs.
	▪ self-study and revision	20 Hrs.
	Total student study effort	76 Hrs.
<b>Reading List and References</b>	<ol style="list-style-type: none"> <li>1. Zimmerer, T. and Scarborough, N. (2005), <i>Essentials of Entrepreneurship and Small Business Management</i>, 4<sup>th</sup> ed., Pearson Education.</li> <li>2. Course, L., Hubbard, D. and Wong, E. (2003), <i>Butterworths Hong Kong Contract Law Handbook</i>, Hong Kong: Lexis Nexis Butterworths.</li> <li>3. Willoughby, P. and Wilkinson, M. (1995), <i>Registration of Titles in Hong Kong</i>, Hong Kong: Butterworth.</li> <li>4. SMO (2005), <i>District Survey Office Technical Manual</i>. Hong Kong: Survey and Mapping Office, Lands Department.</li> <li>5. Robillard, R., Wilson, D. and Brown, C. (2002), <i>Evidence and Procedures for Boundary Location</i>, 4<sup>th</sup> ed., New York: Wiley.</li> <li>6. Harmon, J. (2003), <i>The Design and Implementation of Geographic Information Systems</i>, John Wiley &amp; Sons.</li> <li>7. Aronoff, S. (1989), <i>Geographic Information Systems: A Management Perspective</i>, WDL Publications.</li> <li>8. Huxhold, W. (1994), <i>Managing Geographic Information System Projects</i>, New York: Oxford University Press.</li> <li>9. HKEDC (1996, <a href="http://www.icac.org.hk/hkedc">http://www.icac.org.hk/hkedc</a>), Ethics for Professionals (Architecture, Engineering &amp; Surveying), Hong Kong Ethics Development Centre, ICAC, HKSAR.</li> <li>10. OCGIO (2012) <i>User Guide on PRINCE</i>, Office of the Government Chief Information Officer, HKSAR</li> <li>11. OCGIO (2012) <i>An Introduction to Structured Systems Analysis &amp; Design Methodology (SSADM)</i>, Office of the Government Chief Information Officer, HKSAR</li> <li>12. Savory S (2010) <i>Journal of Building Information Modeling</i>, The National Institute of Building Sciences. Washington, DC.</li> </ol>	

	<ol style="list-style-type: none"><li data-bbox="532 199 1323 325">13. Ruben de Laat and Leon Van Berlo (2011) Integration of BIM and GIS: The Development of CityGML GeoBIM Extension, <i>Advances in 3D Geo-Information Science</i>, Berlin, Springer. pp211-226.</li><li data-bbox="532 346 1323 441">14. CIC (2015) <i>Hong Kong BIM Standards Building Information Model - Project Execution Plan (BIM PEP)</i> Construction Industry Council, HKSAR</li></ol>
--	---