

<b>Subject Code</b>	LSGI4214
<b>Subject Title</b>	<b>Remote Sensing of the Environment</b>
<b>Credit Value</b>	3
<b>Level</b>	4
<b>Pre-requisite/ Co-requisite/ Exclusion</b>	LSGI3321A Remote Sensing
<b>Objectives</b>	<ul style="list-style-type: none"> <li>• To give students a basis to apply the skills and techniques already learned to practical problems of the environment including environmental monitoring, modeling and assessment.</li> <li>• To enable students to use their understanding of basic ecological concepts and processes, to address environmental issues, both local and international.</li> </ul>
<b>Intended Learning Outcomes</b>	<p>Upon completion of the subject, students will be able to:</p> <ol style="list-style-type: none"> <li>1 Have a working knowledge of ecological concepts and processes (L2)</li> <li>2 Have a working knowledge of current environmental issues and problems (L2)</li> <li>3 Have the ability to fulfill the requirements of Environmental Impact Assessment and those aspects which can be addressed using Geo-IT (L3)</li> <li>4 Understand the current 'state of the art' in the application of Geo-IT to environmental management in Hong Kong (L4)</li> <li>5 Solve problems arising from adverse environmental impacts using Geo-IT skills (L4)</li> <li>6 Be able to integrate environmental data of different scales and from different sources (L4)</li> </ol>
<b>Subject Synopsis/ Indicative Syllabus</b>	<p>A. Basic ecological concepts and processes</p> <p>B. Introduction to Environment – environmental concepts and issues in Asia and the world</p> <p>C. Environmental monitoring and environmental modelling</p> <p>D. Environmental Impact Assessment – principles and techniques</p> <p>E. Environmental data and its collection</p> <p>F. Application of Geo-IT to urban environmental quality: air, noise, congestion</p> <p>G. Application of Geo-IT to natural resource monitoring and control</p> <p>H. Project on environmental monitoring and evaluation</p>

<b>Teaching/Learning Methodology</b>	Teaching and learning materials will be delivered on-line for students to download easily. Contact hours will be used for formal lectures, in-class discussions and presentations, and practical work. On-line forum discussions on selected environmental issues will be scheduled for students to identify their level of understanding, and these will be used as an additional form of course assessment.							
<b>Assessment Methods in Alignment with Intended Learning Outcomes</b>	Specific assessment methods/tasks	% weighting	Intended subject learning outcomes to be assessed (Please tick as appropriate)					
			1	2	3	4	5	6
	1. Written examination	40	✓	✓	✓	✓	✓	✓
	2. Lab exercises	30				✓	✓	✓
	4. Mid-term test	20	✓	✓	✓	✓	✓	✓
	3. Group project	10	✓	✓	✓	✓	✓	✓
	Total	100%						
<b>Student Study Effort Expected</b>	<p>Explanation of the appropriateness of the assessment methods in assessing the intended learning outcomes:</p> <ul style="list-style-type: none"> <li>• Students will be assessed of their remote sensing techniques in lab sessions, by submission of practical reports and group project report.</li> <li>• The group project is to assess students' understanding of the remote sensing process, and to use remote sensing methods and techniques acquired in this subject to solve real-world environmental/ecological issues.</li> <li>• The mid-term test and end of semester examination are to test students' understanding of the theories, techniques, and methods of remote sensing.</li> </ul>							
<b>Student Study Effort Expected</b>	Class contact:							
	▪ Lectures							26 Hrs.
	▪ Lab exercises							26 Hrs.
	Other student study effort:							
	▪ Reading of journal papers							23 Hrs.
	▪ Assignment completion and report writing							30 Hrs.

	Total student study effort	105 Hrs.
<b>Reading List and References</b>	<p>Text:</p> <ol style="list-style-type: none"> <li>1. Longley, P., M. Goodchild, D. Maguire and D. Rhind, 1999, Geographic Information Systems (2nd Edition), John Wiley &amp; Sons, INC., USA</li> <li>2. Skidmore, A. 2002. Environmental modelling with GIS and Remote Sensing. Taylor and Francis</li> <li>3. Lillesand, T. and Keifer 2008, Remote Sensing and Image Interpretation, 6th ed. Wiley.</li> </ol> <p>Journals:</p> <ol style="list-style-type: none"> <li>1. ISPRS Journal of Photogrammetry and Remote Sensing</li> <li>2. Remote sensing of Environment</li> <li>3. Journal of Environmental Management</li> <li>4. International Journal of Remote Sensing</li> <li>5. GIScience and Remote Sensing</li> <li>6. Remote Sensing of Environment</li> </ol>	