# SBS5413 Building Sustainability & Green Building Assessment

http://ibse.hk/SBS5413/

## Group Project – Assessment of Green Buildings

With the rise of sustainability, there is an urgent need to develop a better understanding in the methodology and principles of assessing buildings for sustainability. Different assessment and rating methods for green buildings have been established in the world. The shift from building environmental assessment to sustainability assessment has given rise to a more holistic life-cycle approach for the assessment of green buildings.

### Objectives

- To investigate the assessment criteria and important factors affecting the current green building assessment method in Hong Kong.
- To examine the life cycle thinking and approach for the evaluation of green building performance.

### Methodology

Students shall form a research team of 5-6 persons to carry out the investigation of the group project. Each team should select one building project from the list of certified buildings of BEAM Plus as shown below and study the content in detail. They may choose any building project that they find interesting and have proper access to.

• BEAM Plus Online Exhibition http://greenbuilding.hkgbc.org.hk/
• BEAM Plus Project Directory http://www.hkgbc.org.hk/eng/BeamPlusDirectory.aspx

The students should visit the selected building and take photos and notes on the observation of green features which are listed in the assessment results and guidelines. They should also search for and collect relevant information of the building project in order to evaluate its green building performance.

The students should identify one component or feature of the building project for conducting life cycle assessment (LCA) in order to evaluate its environmental impacts. They should develop a life cycle tree and discuss the important issues and considerations for the LCA process.

### Results and Findings

This group project will give students an opportunity to strengthen what they have learned during the lectures, by investigating the related topics further and applying the learning to practical cases. It is important the students should clearly present the work and discuss the major findings and their significance.

After the investigation, the following information should be established to report the findings.

(a) Description of the selected building project and the observation
(b) Evaluation of the green building performance
(c) LCA process and analysis results
(d) Discussion of the important issues and considerations

**Project Report and Poster Presentation**

Students should prepare a technical report describing their motivation, research methods, and major findings. They should prepare their own report based on the information obtained during the investigation. Students should generate information to show their understanding and original thinking. Students making direct copy of the information in other reports (plagiarism), if found, will be disqualified.

The report should be neat and properly formatted and organized. The report shall not exceed twenty (20) A4 pages (including report body and appendices). Proper credit and referencing should be provided to the information sources. The group project report in electronic PDF format shall be submitted via Moodle. Late submission will receive reduction in marks.

Report submission (via Moodle): **before 11 May 2018 (Fri)**

Students will carry out a poster presentation on 11 May 2017 (Fri) during the lecture time. Each team should prepare one A0-size poster (841 mm x 1189 mm) to communicate and present the major findings. All the students are required to attend the poster presentation and give assessment to the posters.

**References**

AIA, 2010. *AIA Guide to Building Life Cycle Assessment in Practice*, American Institute of Architects (AIA), Washington, DC. http://www.brikbase.org/sites/default/files/aiab082942.pdf

PTI, 1996. *Sustainable Building Technical Manual: Green Building Design, Construction and Operations*, Public Technology, Inc. (PTI), Washington, D.C. http://infohouse.p2ric.org/ref/04/03128.htm

**Web Links:**

BEAM Plus http://www.hkgbc.org.hk/eng/BEAMPlus.aspx
Green Building Standards and Certification Systems http://www.wbdg.org/resources/gbs.php
Life cycle assessment - Wikipedia http://en.wikipedia.org/wiki/Life_cycle_assessment

**Guidelines on Poster Presentation:**

How to Create a Research Poster: Poster Basics (NYU) https://guides.nyu.edu/posters
Poster presentations (University of Leicester)
https://www2.le.ac.uk/offices/ld/resources/presentations/designing-poster/poster
Poster presentation (Monash University)
https://www.monash.edu/rlo/assignment-samples/assignment-types/poster-presentation