GEE5303 Green and Intelligent Building

http://ibse.hk/GEE5303/

Group Project (2016-2017)

Theme: Green Campus

Aims

The aims of the group project are to:

(a) Learn practical skills in a multidisciplinary setting on
- group dialogue
- teamwork
- creative thinking
- strategic planning

(b) Apply principles and concepts learned in this course to real world problems.

(c) Deepen understanding of green building and its applications.

Context

This project gives students the opportunity to explore campus sustainability issues and develop constructive solutions for enhancing the quality of the environment. You will be working in small groups, each of five to six (5 to 6) students, to investigate the issues and look at possible ways to improve sustainability of an institutional campus and our local community. Literature study, site visit, field measurements, etc. may be conducted.

Each student group shall discuss and identify one location or building of an institutional campus in Hong Kong (such as universities, higher education institutes, schools, academic or research institutes) and carry out the study outside of class. They should choose one or more areas of green building as shown below for the investigation.

- Sustainable site
- Energy efficiency
- Renewable energy
- Water efficiency
- Materials and resources
- Indoor environmental quality
- Greenery and landscape

Each student team should discuss the topic thoroughly and decide upon, by consensus, a suitable project title and content, drawing upon the strengths and experiences of members. More than one group may tackle the same issue, but given the unique composition of each group, it is expected that different outcomes will result. The project title should be submitted via the Moodle system of this course **before 4 Oct 2016 (Tue)**.

Process

This project is an interactive exercise and requires you to connect your knowledge of green building to some campus or local sustainability problem or issue. You should try to identify, analyse and suggest remedy to an issue or problem related to the sustainability of the campus or building. You may gather ideas from your own experience or from other students or people as to what sorts of issues and requirements are important. You are encouraged to use the information, readings and ideas from your own discipline, from this course and/or from other courses to inspire and assist with the present study. Keeping in mind the interdisciplinary nature of the green building issues, the project may have any number of components, but each must be part of an integrated whole.

Teams devise a division of labour so that individual team members each have specific tasks to perform. At the same time, team members work collectively and are jointly responsible for the overall project. To ensure productive cooperation, each student group should choose a facilitator who is responsible for organising team meetings, maintaining team communication, and coordinating team efforts. Coordination of group efforts is likely to be facilitated by seeking agreement and then recording who is responsible for what task (from responsibility for a particular sub-component, to interviewer, to report writer and project coordinator); and by establishing a time schedule that can be reviewed on a regular basis. You may choose the research methods most appropriate to the areas you were studying and the teams are expected to set their own timelines for researching, meeting, outlines, drafts, report writing, etc.

The project must have a conceptually and academically rigorous foundation and should contain an element of action in an effort to advance the conclusions of the study. Usually, the goal of the study is to assess a given situation and recommend actions, or to raise awareness and encourage behaviour change. You may use the study results to propose recommendations for specific changes or redesign in the current practices.

Submission

The results of the study should be presented in the form of a written report not more than fifty (50) A4 pages (including appendices). The report should be neat and properly formatted, organised so that a reader with little time can find things readily. Proper credit and referencing should be provided to the information sources. Students making direct copy of the information in other publications (plagiarism), if found, will be disqualified.

As a general guideline, the following elements are typical for a professional report and will make the report clear and accessible to the readers.

- Title page (complete with group number, team name, authors' names, and other pertinent information).
- Executive summary (like an abstract; no more than one page; include recommendation).

- Table of contents (include page numbers for headings and subheadings).
- Body of the report, with clear headings and subheadings.
- Visual aids (graphs, tables, figures, photos, etc.).
- Citations (style is up to you but be consistent).
- References list or bibliography (use some standard style and stick with it).
- Appendices, if appropriate (for providing detailed support materials).

Report submission (via Moodle): **before 6 Dec 2016 (Tue)**

Assessment

The written report of the group project consists of fifty (50) percent of the final course grade. The general criteria for its assessment are given below.

Written report (total 50 marks)

- Quality of the content (20 marks)
- Clarity of thought (10 marks)
- Teamwork and report organisation (10 marks)
- Innovation and creativity (5 marks)
- Written communication (5 marks)

The report will be evaluated on synthesis of information during the course and from your own reading/study, and evidence that you have thought about the subject and the lecture topics in some depth. A clear structure and a logical argument are important and you should provide evidence of critical thinking, originality and effective writing.

References

ASHRAE, 2013. *ASHRAE Greenguide: Design, Construction, and Operation of Sustainable Buildings*, 4th ed., American Society of Heating, Refrigerating and Air-Conditioning Engineers, Atlanta, GA. [VTC ebook via Books24x7]

City of New York, 1999. *High Performance Building Guidelines*, City of New York Department of Design and Construction, New York. http://www.nyc.gov/html/ddc/downloads/pdf/guidelines.pdf

PTI, 1996. *Sustainable Building Technical Manual: Green Building Design, Construction and Operations*, Public Technology, Inc. (PTI), Washington, D.C. http://smartenergy.illinois.edu/pdf/archive/sustainablebuildingtechmanual.pdf

Web Links

BEAM Plus Online Exhibition
http://greenbuilding.hkgbc.org.hk/

Green School - The Hong Kong Green Building Council (HKGBC)
http://www.hkgbc.org.hk/eng/greenschool.aspx

Teaching Kit: Sustainable Design for Buildings (ArchSD)
http://www.archsd.gov.hk/archsd/html/teachingkits/tk1/

WBDG - The Whole Building Design Guide
http://www.wbdg.org/