**Subject Code**: BRE395  
**Level**: 3  
**Contact Hours**: Lect:21 TU/Sem:14 Lab:8  
**Student Effort Hours**: 120  
**Assessment Method**: Coursework 50% Examination 50%  
**Credit Value**: 3  
**Pre-requisites**: Nil  
**Co-requisites**: Nil  
**Exclusions**: Nil  
**Subject Leader/Lecture Dept.**: S.T. Chan (BRE)

### Subject Aim:

*This subject is intended to:*

1. Provide students with an overview of the various building services engineering systems in modern buildings,
2. The basic design intent and their integration with the building fabric and architectural features.

### Learning Outcomes:

*Students will demonstrate their ability to:-*

1. Understand the basic design for the major building services engineering systems found in buildings.
2. Identify the relationship between the design of building services and the overall building design.
3. Provide comments on the design and operation of building services system at the design and construction stage.

### Brief Syllabus Content:

- Distribution services: electricity distribution and utilisation, earthing and bonding requirements, lightning protection of structures. Plumbing and drainage, flushing water supplies and refuse collection systems.
- Environmental services: basic principles to air conditioning, heating and ventilation.
- Vertical and horizontal internal transportation: lifts and escalators – planning and construction.
- Fire and security systems: equipment, prevention and detection and suppression systems.

### Learning and Teaching Approach

*Tasks and activities designed to achieve learning outcomes:*

Teaching periods will adopt a range of methods which could include lectures by staff, small group discussions, working in groups, student presentations, project-based and problem-solving tasks, laboratory and case study work.

Experimental work: a number of laboratories will be arranged.

The intention is to create an environment that encourages active learning. Students will be encouraged to reflect on their learning activities to review what they have learned and to plan further action and activity.

*Teaching activities: Lecture (LT)/Tutorial (TU)/Seminar (SM)/Drawing (DW)/Laboratory or Practical (LB)/Studio (ST)/Workshop (WS)/Project (PJ)/Field Study (FS)/Guided Study (GS)/Visit (VS)*
**Assessment strategy** (assessment of student performance resulting from learning tasks):

Examination and coursework will constitute the 50% and 50% of the overall work of the subject respectively. The coursework mark will be based on the assignments, seminar presentations and discussions.

Assessment methods are intended to ensure the students achieve the learning objectives set, and assist learning through constructive feedback. Examples of suitable assessments including assignments, projects, presentations, critiques, tests and examinations.

**Reading List:**

**Recommended:**


Hall F. (1994) *Building Services & Equipment*, 3rd Vols. 1 to 3, Longman


**Supplementary:**


HKSAR (1996) *Code of Practice for the Provision of Means of Escape Case of Fire*

HKSAR (1994) *Code of Practice for Minimum Fire Services Installations and Equipment*


H.K. SAR Government, *Building Ordinance and Regulations* CAP.123
