City University of Hong Kong
Course Syllabus

offered Division of Building Science & Technology
with effect from Semester A 2018/19

Part I Course Overview

Course Title:	Electrical Services 2
Course Code:	BST22552
Course Duration:	1 semester
Credit Units:	3 credits
Level:	A2
Proposed Area: *(for GE courses only)*	☐ Arts and Humanities ☐ Study of Societies, Social and Business Organisations ☐ Science and Technology
Medium of Instruction:	English
Medium of Assessment:	English
Prerequisites: *(Course Code and Title)*	Nil
Precursors: *(Course Code and Title)*	Nil
Equivalent Courses: *(Course Code and Title)*	BST21553 Electrical and Electronic Systems
Exclusive Courses: *(Course Code and Title)*	Nil

Part II Course Details

1. Abstract

(A 150-word description about the course)

This course aims to enable students to understand the operating principles of major electrical and electronics systems; and to design and select appropriate electrical and electronics systems with consideration on safe, reliable and energy efficient aspect.

2. Course Intended Learning Outcomes (CILOs)

(CILOs state what the student is expected to be able to do at the end of the course according to a given standard of performance.)

No.	CILOs[#]	Weighting* (if applicable)	Discovery-enriched curriculum related learning outcomes (please tick where appropriate)		
			A1	*A2*	*A3*
1.	apply standards to design a reliable, safe and energy efficient vertical transportation system	25	√	√	√
2.	apply standards to design an energy efficient lighting installation.	25	√	√	√
3.	explain factors/considerations for the selection and erection of communication systems	20	√	√	√
4.	explain factors/considerations for the selection and erection of intelligent building systems	10	√	√	
5.	select appropriate emergency power supply systems for the reliable and safe operation of buildings	20	√	√	
		100%			

** If weighting is assigned to CILOs, they should add up to 100%.*

[#] Please specify the alignment of CILOs to the Gateway Education Programme Intended Learning outcomes (PILOs) in Section A of Annex.

A1: Attitude
Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

A2: Ability
Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to self-life problems.

A3: *Accomplishments*
Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.

3. Teaching and Learning Activities (TLAs)

(TLAs designed to facilitate students' achievement of the CILOs.)

TLA	Brief Description	CILO No.					Hours/week (if applicable)
		1	2	3	4	5	
Pre-Class Study	A Pre-Class Study is a combination of a selected text book reading and a pre-seminar quiz which requires students to read relevant text book section and complete an online quiz before a class.	√*	√*	√*	√*	√*	
Lecture (Average class size: around 50 Students)	Lecture is an in-class activity in groups involving oral presentation by lecturers and discussion with students on a selected topic through illustrating exercises, real-life examples and question generation by the students and answering by peers or by the lecturer.	√	√	√	√	√	3 hrs/wk
Home Assignment	Home Assignments are combination of case problems and/or calculation exercises for guided students self-learning. There are one group assignment and two individual assignments.	√*	√*	√*		√*	

* indirectly

4. Assessment Tasks/Activities (ATs)

(ATs are designed to assess how well the students achieve the CILOs.)

Assessment Tasks/Activities	CILO No.					Weighting*	Remarks
	1	2	3	4	5		
Continuous Assessment: 40%							
Group assignment	√	√	√		√	10%	
Individual assignment 1	√	√	√		√	10%	
Individual assignment 2	√	√	√		√	10%	
Test	√	√	√		√	10%	
Examination: 60% (duration: 2.5 hrs, if applicable)							
Examination	√	√	√	√	√	60%	
** The weightings should add up to 100%.*						100%	

Remark: A student must obtain a minimum mark of 35 in both coursework and examination components and an overall mark of 40 to pass the course.

5. Assessment Rubrics

(Grading of student achievements is based on student performance in assessment tasks/activities with the following rubrics.)

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B, B-)	Fair (C+, C, C-)	Marginal (D)	Failure (F)
1. Study assignment	Group assignment is in a technical report format containing background information, discussions, analysis results and conclusions relating to a problem solution of a selected topic of study.	High	Significant	Moderate	Basic	Not even reaching marginal levels
2. Individual assignment	Individual assignment is in a technical report format containing background information, discussions, analysis results and conclusions relating to a problem solution of a selected topic of study.	High	Significant	Moderate	Basic	Not even reaching marginal levels
3. Test	Test is in the form of short questions/multiple-choice questions to enable students understand the electrical and electronics systems	High	Significant	Moderate	Basic	Not even reaching marginal levels
4. Examination	Examination is in the form of short questions, long questions, and multiple-choice questions to enable students understand the electrical and electronics systems	High	Significant	Moderate	Basic	Not even reaching marginal levels

Part III Other Information (more details can be provided separately in the teaching plan)

1. Keyword Syllabus

(An indication of the key topics of the course.)

1. Vertical transportation and conveyors – lifts and escalators.
2. Energy efficiency of lighting installations.
3. Communication systems - public address, TV systems, structured cable wiring and telephone systems.
4. Security systems - detection and alarm systems, closed-circuit television systems and access control systems.
5. Intelligent Building.
6. Emergency power supplies - generator sets and uninterruptable power supplies.

2. Reading List

2.1 Compulsory Readings

(Compulsory readings can include books, book chapters, or journal/magazine articles. There are also collections of e-books, e-journals available from the CityU Library.)

N/A

2.2 Additional Readings

(Additional references for students to learn to expand their knowledge about the subject.)

1.	CIBSE Code for Interior Lighting.
2.	Lighting, D.C. Pritchard, Longman, latest edition
3.	Thorn, Lighting Technical Handbook.
4.	CIBSE Guide D on Vertical Transportation
5.	General Technical Specification for Communal Aerial Broadcast Distribution Systems, EMSD Specifications HKSAR.
6.	Introducing Computerized Telephone Switchboards.
7.	BS EN 50131-1:1997 Intruder Alarm System
8.	BS5051 Part 1 1988 (R1994): Bullet-resistant glazing
9.	BS EN 50172: 2004 Part 1 The emergency lighting of premises
10.	BS EN 54-5:2001 Part 5 Heat sensitive detectors, Part 8 High temperature heat detectors
11.	BS5544 1978 (R1994) Specification for anti-bandit glazing (glazing resistant to manual attack)
12.	BS5839 Part 1 Amd 15447: December 16, 2004 Code of practice for installing and servicing (Fire detection and alarm systems in building)
13.	BS5979 CORR 13090; March 2001 Code of practice for remote centre for intruder alarm system
14.	BS6100 Part 3 1984 (R1997) Amd 7257: August 15, 1992 Section 3.2.1: Glossary for internal communication
15.	BS6206 1981 (R1994) Specification for impact performance requirements for flat safety glass and safety plastics for use in buildings
16.	BS6262 1982 Code of Practice for Glazing for Buildings (Amd 8279) July 15, 1994 (R)-Amd 3; Partially superseded by BS 6262-1: 2005
17.	BS6707 1986 Specification for intruder alarm system for consumer installation
18.	BS EN 50131-1 Code of practice for wire-free intruder alarm system
19.	BS EN 50131-1 Specification for home & personal security devices
20.	BS EN 50131-1 Specification for high security intruder alarm systems in buildings
21.	BS7150 1989 Code of practice for intruder alarm system with mains wiring communication
22.	BS7230 1989 (R2002) Code of practice for article theft detection systems
23.	BS7499 1991 Part 1 Manned security system
24.	BS8220 Guide for security of buildings against crime Part 1, 2 & 3