

**City University of Hong Kong
Course Syllabus**

**offered by Department of Architecture and Civil Engineering
with effect from Semester A 2022/23**

Part I Course Overview

Course Title:	Building Electrical & Electronic Engineering
Course Code:	CA6605
Course Duration:	1 Semester (Some courses offered in Summer Term may start a few weeks earlier than the normal University schedule. Please check the teaching schedules with CLs before registering for the courses.)
Credit Units:	3
Level:	P6
Medium of Instruction:	English
Medium of Assessment:	English
Prerequisites: <i>(Course Code and Title)</i>	Nil
Precursors: <i>(Course Code and Title)</i>	Nil
Equivalent Courses: <i>(Course Code and Title)</i>	BC6605 Advanced Electrical & Elevator Engineering
Exclusive Courses: <i>(Course Code and Title)</i>	Nil

Part II Course Details

1. Abstract

To provide a thorough understanding of new electrical distribution systems, building electronics and control in modern buildings; to discuss the problems related to design, operation and maintenance on electrical systems and elevators.

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.	discuss the impact of power quality problems in electrical distribution systems;		✓		
2.	appraise new technologies of modern building electronics and electrical systems and keep updated of the recent developments;		✓	✓	
3.	discover the modern building electronic and control systems;			✓	
4.	create approaches for power quality investigation.			✓	
		100%			

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	
Lectures	Explain the electrical distribution systems and building electronic and control systems	✓	✓	✓	✓	
Tutorials	Solve the basic power quality problems	✓		✓		
Laboratory Visits	Practice the new technologies of modern and updated building electronics and electrical systems		✓			
Workshops	Develop modern building electronics and control systems				✓	

Semester Hours:	3 hours per week
Lecture/Tutorial/Laboratory Mix:	Lecture (2); Tutorial (1); Laboratory (0)

4. Assessment Tasks/Activities

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

Assessment Tasks / Activities	CILO No.				Weighting	Remarks
	1	2	3	4		
Continuous Assessment: 50%						
Assignment	✓	✓			15%	
Quiz	✓	✓			20%	
Project			✓	✓	15%	
Examination: 50% (duration: 3 hour(s))						
Examination					50%	
					100%	

To pass a course, a student must obtain minimum marks of 30% in both coursework and examination components, and an overall mark of at least 40%

5. Assessment Rubrics

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

Applicable to students admitted in Semester A 2022/23 and thereafter

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B)	Marginal (B-, C+, C)	Failure (F)
Assignment	ABILITY to EXPLAIN the electrical and electronic control system with power quality considerations	High	Significant	Basic	Not even reaching marginal levels
Quiz	ABILITY to APPLY the electrical and electronic control system with power quality considerations	High	Significant	Basic	Not even reaching marginal levels
Project	ABILITY to DEVELOP a modern building electronic and control systems	High	Significant	Basic	Not even reaching marginal levels
Examination	ABILITY to SOLVE the problems in electrical and electronic control systems	High	Significant	Basic	Not even reaching marginal levels

Applicable to students admitted before Semester A 2022/23

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B, B-)	Fair (C+, C, C-)	Marginal (D)	Failure (F)
Assignment	ABILITY to EXPLAIN the electrical and electronic control system with power quality considerations	High	Significant	Moderate	Basic	Not even reaching marginal levels
Quiz	ABILITY to APPLY the electrical and electronic control system with power quality considerations	High	Significant	Moderate	Basic	Not even reaching marginal levels
Project	ABILITY to DEVELOP a modern building electronic and control systems	High	Significant	Moderate	Basic	Not even reaching marginal levels
Examination	ABILITY to SOLVE the problems in electrical and electronic control 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.)

Ordinances, regulations and codes of practice of electrical installations in Hong Kong and Mainland China; concerns regarding design, installation, operation, commissioning and maintenance of electrical systems in buildings including both low voltage, extra low voltage and high voltage; power quality and electromagnetic compatibility; new technologies of electrical systems and elevator systems; building electronics and control.

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.)

1.	Nil
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2.2 Additional Readings

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

1.	Electrical and Mechanical Services Department (2003) Code of Practice for the Electricity (Wiring) Regulations, Hong Kong SAR.
2.	Richard, D.C. (ed) (1997) The Electrical Engineering Handbook, 2nd Edition, CRC Press, U.S.A.
3.	Whitfield, J. (1999) The Electrician's Guide to the 16th Edition of the IEE Wiring Regulations, BS 7671, EPA Press, Wendens Ambo.
4.	Reeves E.A. (1992) Cable Management Systems, Blackwell, Cambridge.
5.	Dugan R.C., McGranaghan M.F., Beaty H.W. (1996) Electrical Power Systems Quality, McGraw Hill, N.Y.
6.	Albert Ting-pat So, Wai Lok Chan. Intelligent building systems. Boston, Mass. : Kluwer Academic, c1999.
7.	http://www.ieee.org
8.	http://www.theiet.org
9.	http://www.hkie.org.hk
10.	http://www.elevcon.com