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:	Fire Services
Course Code:	BST22542
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)*	Nil
Exclusive Courses: *(Course Code and Title)*	Nil

Part II Course Details

1. Abstract

(A 150-word description about the course)

This course aims to:

- provide students with the understanding of working principles and construction of designated fire protection systems; and
- enable students to select fire protection systems and installation for protecting buildings against fire.

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.	explain the properties and classification of fire.	15	✓	✓	
2.	explain working principles of automatic fire alarm and detection system and installation.	15		✓	
3	explain working principles of fire hydrant/hose reel system and installation.	15		✓	
4	explain working principles of smoke control system and installation for smoke ventilation.	15		✓	
5	explain working principles of sprinkler system and installation.	20		✓	
6	Select and discover a suitable fire protection systems and installation for various types of building fire in accordance with fire properties, fire classification, local regulations and the relevant standards.	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	6	
Lecture (Around 100 students, splitting into two)	Explain the working principle and construction of designated fire protection systems. It involves 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.	✓	✓	✓	✓	✓	✓	2 hours/week
Quizzes / Tutorial (Around 100 students, splitting into two)	It is a combination of a selected text reading and/or a lecture note which requires students to read relevant information and/or complete an quiz / tutorial question.	✓	✓	✓	✓	✓	✓	1 hour/week
Coursework Assignments	To facilitate students' active learning of the knowledge and their application for solving real-life problems, students are required to complete three coursework assignments. These include independent exercise and/or a group project. This does not only help promote students' critical thinking, but also their independent learning skills.	✓	✓	✓	✓	✓	✓	

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	6		
Continuous Assessment: 40%								
Quizzes	✓	✓	✓	✓	✓	✓	20%	
Coursework Assignments	✓	✓	✓	✓	✓	✓	20%	
Examination: 60% (duration: 2.5 hours)								
** The weightings should add up to 100%.*							100%	

Note: A student must obtain a minimum mark of 35 in both coursework and examination 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. Quizzes	Ability to explain the working principles and construction of designated fire protection systems	High	Significant	Moderate	Basic	Not even reaching marginal levels
2. Coursework Assignments	QUALITY of submission in conciseness, clarify, consistency, completeness of data and content, proper use of tables, figures and reference. ABILITY to express an ideas in a logical order of written texts, calculations and graphical presentation. Ability to accomplish a real-life sprinkler system design with accuracy methods applying in the designated building floor	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. Fire classification and protection: fire classification; fire triangle; extinguishing methods.
2. Fire protection system for fire detection and warning: Automatic fire alarm and detection system;
3. Fire protection systems by cooling extinguishing method: fire hydrant/hose reel system; automatic sprinkler system.
4. Fire protection systems by ventilation means: Smoke control system.
5. Statutory requirements and the relevant standards: local Regulations; Code of Practices; FSD circular letters; Loss Prevention Council (LPC) Rules and the relevant British Standards.

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.	BS5839: Part 1 (latest edition). *Fire Detection and Alarm Systems for Buildings – Part 1 Code of practice for system design, installation and servicing.* British Standard.
2.	FSI Code (latest edition). *Codes of Practice for Minimum Fire Service Installations and Equipment and Inspection, Testing and Maintenance of Installations and Equipment*, Fire Services Department (FSD), HKSAR Government.
3.	LPC Rules for Automatic Sprinkler Installations incorporating Part 1 - BSEN 12845. *Fixed fighting systems - Automatic sprinkler systems – Design, installation and maintenance, and* Part 2 – *LPC Technical Bulletins.* The Fire Protection Association.

2.2 Additional Readings

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

1.	The latest edition of related building regulations and FSD circular letters.
2.	CIBSE (latest edition). *Guide E: Fire Engineering*. The Chartered Institution of Building Services Engineers, UK