



University of
Lancashire



HKCT INSTITUTE OF
HIGHER EDUCATION
港專學院

Foundation Degree in Science in Fire Safety Engineering

Part-time 2026-2027

**Programme
Details**



**Online
Application**



It is a matter of discretion for individual employers to recognise any qualification to which this course may lead. Foundation Degree in Science in Fire Safety Engineering is operated by HKCT Institute of Higher Education and awarded by University of Lancashire, UK.

(Registration Number: 253370)

The University of Lancashire

“Institution for the Diffusion of Knowledge”

The University of Lancashire, established in 1828 as the “Institution for the Diffusion of Knowledge”, is the largest provider of graduate-level qualifications and one of the largest universities in the North West, UK. This international, multi-campus institution operates three campus locations in the UK, with its main campus located in Preston, and a satellite campus in Larnaca, Cyprus. It serves a diverse community of over 42,000 students and staff.

The University of Lancashire offers extensive curriculum, from the Arts and Sciences to Medicine and Engineering, with research-informed and employer-engaged teaching to ensure students are assured of the highest quality of learning experience and the best possible outcomes. Nowadays, the University’s employment-focused course portfolio with over 350 undergraduate programmes, over 200 postgraduate programmes and a rich array of CPD courses offers the skills and experience that industry needs.

The University of Lancashire always believes in helping people to seize every opportunity to flourish in education, at work and for life. Through the combination of academic excellence and real-world teaching, people will be inspired to transform their lives by seizing opportunities and achieving goals they never thought possible. Nowadays, the University has over 200,000 alumni worldwide.

In 2023, the University of Lancashire has been named “University of the Year”, the top prize for higher education providers, at the international awards ceremony “Edufuturists Awards 2023”, recognising innovation and progressive practices across the educational sector for transforming learning for the benefits of society and future generations. In 2024, the University has been ranked in the top 7% of universities worldwide (Centre for World University Rankings 2024).



Fire Safety Engineering at a Glance

Fire Safety Engineering prepares individuals for a diverse career as a fire engineering professional focusing on the design of fire protection systems, building control and fire consultancy. This field involves the application of science and engineering principles to safeguard people and their environments from the destructive effects of fire and smoke. Fire engineers develop fire safety solutions or mitigating strategies for modern buildings and structures by quantifying hazards, assessing risks and evaluating human responses.

The threats posed by fire and smoke to human lives and properties have consistently presented significant challenges to scientists and engineers. Today, these challenges are further complicated by rapid economic development and urbanisation, which have led to the construction of super-tall buildings, expansive shopping malls, intricate underground transit systems, and various large-scale structures. Additionally, the quest for innovative architectural designs, coupled with advancements in construction technologies and materials, has introduced new complexity in addressing fire safety challenges.

Foundation Degree in Science in Fire Safety Engineering

Conferred by the University of Lancashire, the Foundation Degree in Science in Fire Safety Engineering is ranked 3rd in the UK with 92% of students in graduate-level work or further study after graduation (Complete University Guide 2021). This programme offers both workplace and practical experience and covers a diverse range of areas, including skills for science, fluid dynamics of fire and fire safety management and legislation. These areas are particularly beneficial for developing a career in fire safety engineering.

Beginning in 2025, HKCT Institute of Higher Education is in collaboration with the University of Lancashire to offer this programme in Hong Kong, catering to fire services practitioners and individuals aspiring to build a career in fire safety engineering. The programme will be taught by experienced professionals who provide valuable hands-on experience to prepare students for real-world applications in the fire safety engineering field.

Upon successful completion of the programme, graduates are eligible to articulate into a Top-up programme: the Bachelor of Engineering (Hons) in Fire Engineering, supporting them to pursue a degree qualification.

Unique Features

- **Prestigious Institution:** Conferred by the University of Lancashire, which has been recognised as the “University of the Year” at the Edufuturists Awards 2023.
- **High Ranking:** The programme is ranked 3rd in the UK and boasts a 92% success rate for graduates entering graduate-level employment or further studies after graduation (Complete University Guide 2021).
- **Practical and Workplace Experience:** Students gain valuable hands-on experience from experienced professionals, preparing them for real-world applications in the fire safety engineering field.
- **Comprehensive Curriculum:** The programme encompasses a broad range of topics, ensuring a well-rounded educational experience to prepare students for real-world applications.
- **Career Progression:** Graduates are eligible to articulate into the Bachelor of Engineering (Hons) in Fire Engineering, facilitating further academic and professional advancement.

Professional Recognition

This programme has been recognised by the two institutes below for a couple of years:

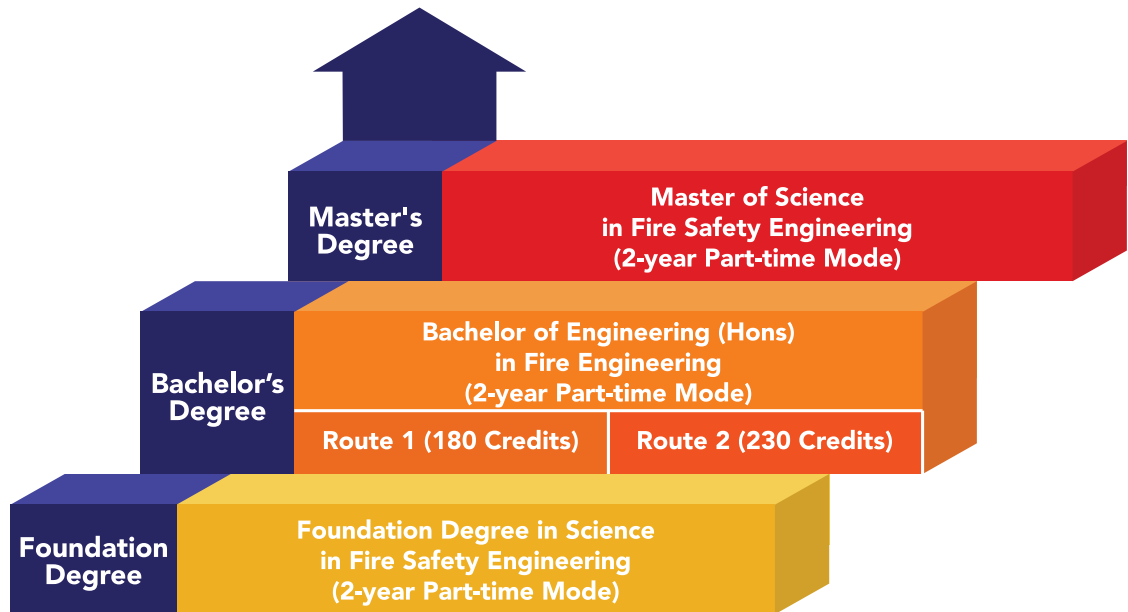
- **The Energy Institute (EI):** This programme is accredited by the EI on behalf of the Engineering Council in the UK as partially meeting the academic requirements for registration as an Incorporated Engineer*.
(Recognition renewal is in progress.)
- **The Institution of Fire Engineers (IFE):** This programme has been recognised by the IFE in the UK as a Recognised Educational Programme (with academic exemption) for Member Grade (MIFireE).
(Recognition renewal is in progress.)



*Graduates of FDISc in Fire Safety Engineering PLUS BEng (Hons) in Fire Engineering awarded by the University of Lancashire fully satisfy the academic requirements for Incorporated Engineer registration at the Engineering Council (UK).

Progression Pathway

Graduates of the Foundation Degree in Science in Fire Safety Engineering are eligible to articulate into the Top-up programme: the Bachelor of Engineering (Hons) in Fire Engineering - Route 1 and can subsequently pursue the Master of Science in Fire Safety Engineering for seeking higher academic qualification.



Who Should Apply

- Firefighters
- Individuals currently serving in the Fire Safety Engineering field but without related academic qualifications
- Individuals interested in pursuing their careers in Fire Safety Engineering

Programme Objectives

- Establish a foundation of knowledge and skill leading to further study appropriate for Incorporated and Chartered Engineers and construction managers.
- Develop fire safety engineering principles and techniques.
- Develop reasoning and problem-solving skills appropriate for an engineering technician operating in a fire safety engineering role.
- Assimilate a general knowledge of fire safety engineering within construction and fire fields.
- Inculcate generic construction engineering and key transferable skills.
- Identify the major disciplines and roles of engineers at various levels within the construction industry; and to identify personal professional development needs and strategies for achievement.

Programme Duration

2 years, part-time

Admission Requirements

Applicants should possess one of the following:

- Level 2 or above in 5 HKDSE subjects including Chinese Language, English Language and Mathematics; OR
- Grade E or above in 1 HKALE subject (or Grade E in 2 HKALE AS subjects including Use of English) and Grade E in 5 HKCEE subjects including English Language (Syllabus B); OR
- An academic qualification from a local post-secondary institution or a professional qualification acceptable to the University of Lancashire; qualifications attained by study at a local international school or a non-local high school, at Grade 12 or equivalent, are also acceptable; OR
- UCAS 180 points at A2-level or equivalent, plus 5 GCSEs (including a numerate subject at Level C or above); OR
- Mature applicants of at least 21 years of age by the commencement of the programme, who have relevant work experience and commensurate background in mathematics and engineering. (All mature applicants are considered as non-standard entrants and are required to attend an interview.)

Applicants whose qualifications were not taught and assessed in English are required to demonstrate their English proficiency equivalent to IELTS 6.0 with no sub-score lower than 5.5.

Programme Structure

The Foundation Degree in Science in Fire Safety Engineering consists of 13 modules, with a total of 240 credits.

Module Code	Module Title	Credits
FV1001	Introduction to Combustion and Fire	20
FV1207	Buildings, Materials and Fire	20
FV1101	Safety and Fire Law	10
FV1301	Introduction to Engineering Analysis	20
FV1502	Skills for Science and Engineering	10
FV1201	Energy Transfer and Thermodynamics	20
FV1501	Community Fire Safety	20
FV2003	Fire and Built Environment	20
FV2501	Community Fire Safety Strategies	20
FV2207	Structures, Materials and Fire	20
FV2001	Fluid Dynamics of Fire	20
FV2900	Fire Science Project	20
FV2004	Fire Safety Management and Legislation	20

* The order of module delivery is subject to revision by the University of Lancashire.

Modules at a Glance

Introduction to Combustion and Fire

This module introduces students to the fundamental scientific principles of combustion and fire, aiming to provide a general understanding of combustion, fire, and explosion phenomena. It covers key definitions, approaches, and techniques in combustion and fire science, laying the groundwork for more advanced studies in the Fire Curriculum. Additionally, the module includes essential information from related disciplines such as chemical kinetics, thermodynamics, fluid dynamics, and heat and mass transfer, equipping students with the necessary knowledge for further education in the multidisciplinary field of fire safety.

Buildings, Materials and Fire

This module focuses on the essential role of materials in building construction and aims to teach students about the functional requirements of these materials. It describes the main characteristics of principal construction materials and how structures are designed to accommodate them. Additionally, the module covers construction methods and enhances students' understanding of the behaviour, performance, and limitations of various materials. Ultimately, it aims to cultivate an appreciation for the properties and design implications of construction materials, particularly in relation to the structural design of buildings and elements exposed to fire.

Safety and Fire Law

This module offers a general overview of the constitutional, legal, and regulatory frameworks operating in the UK and Hong Kong. It aims to impart knowledge of the legal principles relevant to workplace management, with a specific focus on Safety and Fire Law.

Introduction to Engineering Analysis

This module introduces fundamental mathematical concepts to broaden students' understanding of mathematics. It aims to develop basic techniques and apply them to analyse and solve common engineering problems.

Skills for Science and Engineering

This module aims to help students develop essential skills in mathematics, statistics, analysis, information technology, communication, and research necessary for their progression in the programme. It includes a focus on various presentation and communication skills using various types of media.

Energy Transfer and Thermodynamics

This module introduces students to the core principles of energy transfer, thermodynamics, and fluid dynamics. It outlines key definitions, approaches, and techniques to prepare for more advanced studies in the energy and fire safety engineering curriculum. Furthermore, it covers foundational knowledge from related fields such as general physics, fluid dynamics, and heat and mass transfer, providing essential elements for further education in building and fire safety engineering.

Community Fire Safety

This module establishes a foundational framework to help students provide community safety advice and enhance their awareness of factors that may hinder the dissemination of safety messages to at-risk groups. It is the first module that will explore the connections between prevention, protection, and response.

Fire and Built Environment

This module focuses on raising awareness and understanding of the environmental impact of fires. It covers topics such as engineering sustainability, sustainable building construction methods and materials, sustainable communities, and relevant legal regulations and standards. Furthermore, it examines various types of fire behaviour within the built environment.

Community Fire Safety Strategies

This module builds on the knowledge gained in the module of Community Fire Safety, enhancing students' skills to collaborate effectively with partner agencies. Students will be encouraged to make strategic decisions and evaluate problems from a broader perspective. The module introduces the concept of investigating the underlying causes of issues, fostering research skills that can influence future risk reduction strategies.

Structures, Materials and Fire

This module aims to enhance students' understanding of structural engineering, material behaviour and the impact of fire on multi-storey buildings. Students will investigate and evaluate the design, construction, and performance of both framed and masonry structures under normal and fire conditions.

Fluid Dynamics of Fire

This module focuses on helping students understand the fundamental principles of fluid flow and applying them to fires and explosions. It builds on theoretical and practical concepts, aiming to enhance students' qualitative understanding of combustion, fire, and explosion phenomena while developing skills for their quantification.

Fire Science Project

This module aims to help students develop research and evaluation skills by requiring them to conduct an individual study involving theoretical, computational, experimental, or investigative analysis, or a combination of these methods. The learning and teaching strategy will also enhance employability skills, including written communication, independent planning, and project execution.

Fire Safety Management and Legislation

This module aims to enhance students' understanding of the behaviours exhibited by occupants during emergency evacuations in fire situations. It seeks to develop awareness of the consequences of fire in the built environment and emphasises the importance of fire safety systems, means of escape, and fire safety management systems. Furthermore, the module provides insight into the legal aspects of fire safety and relevant legislation.



Programme Fee

HK\$93,600, payable in 6 instalments.

(NOTE: All fees paid are non-refundable. Additional fees will apply for retakes.)

Administration Fee

HK\$1,750

(NOTE: A non-refundable administration fee of HK\$1,750 will be collected with the first instalment upon successful application.)

Teaching Venue

Learning Centres located in Jordan, Shek Mun, Kwun Tong, Tsuen Wan, Mong Kok East, Cheung Sha Wan

(The final venues will be determined by HKCT Institute of Higher Education.)

(NOTE: All modules are scheduled on weekday evenings and/or Saturdays.)

Application Enquiries

Tel. : 2276 8514 / 2926 1222

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The information is accurate as of the date of publication and is subject to future updates.

