

Master of Science in Fire Safety Engineering

Part-time 2026-2027

**Programme
Details**



**Online
Application**



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.

Master of Science in Fire Safety Engineering

Conferred by the University of Lancashire, the Master of Science in Fire Safety Engineering is a comprehensive programme designed for the holders of Bachelor of Engineering (Hons) in Fire Engineering. It is also available to individuals who are interested in specialising their careers to the fire and safety engineering field.

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 practitioners in fire or engineering-related fields who seek to advance their careers in fire safety engineering. The programme will be taught by experienced professionals from the University of Lancashire, local academics and practitioners.

Throughout the programme, emphasis will be placed on fostering self-motivation, independent and critical thinking, and advanced analytical capabilities. Students will be able to build advanced engineering skills to resolve complex fire safety and fire engineering challenges, communicate ideas effectively and innovatively, and develop competence in policy decision-making on fire-related issues such as fire precautions and education.

Upon successful completion of the programme, graduates will be better equipped to assume senior managerial roles within fire-related professions.

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.
- **Comprehensive Curriculum:** The programme encompasses a broad range of topics, ensuring a well-rounded educational experience to prepare students for real-world applications.
- **Link with Industry:** Valuable opportunity for students to develop a strong connection with industry and professional bodies.
- **Pathway to Professional Engineer:** A part-time study pathway designed for students to become fire and safety professionals.
- **Career Advancement:** Graduates will be able to build a strong foundation for progression into senior management roles within the fire and safety engineering sector.

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 further learning for the academic requirements for registration as a Chartered Engineer*.
(Recognition renewal is in progress.)
- **The Hong Kong Institution of Engineers (HKIE):** Graduates of BEng (Hons) in Fire Engineering PLUS MSc in Fire Safety Engineering awarded by the University of Lancashire can fulfill the academic requirements for the HKIE Membership in Fire Discipline.
(Recognition renewal is in progress.)



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



Who Should Apply

- Fire Safety Practitioners
- Building Services Engineering Practitioners
- Industrial Loss Prevention Practitioners
- Individuals interested in advancing their careers in Fire Safety Engineering

Programme Objectives

- Equip students with the essential scientific, engineering and technological principles and tools needed to solve complex design problems in fire and fire safety applications, both individually and as part of a team.
- Broaden the understanding of technologies and related sciences to tackle fire safety challenges.
- Develop analytical and computational skills to resolve fire engineering issues within the built environment and its associated infrastructure.
- Develop an in-depth understanding of the key management, leadership and organisation skills that relate to industry. This will help students to build the knowledge and skillset to implement strategies for addressing engineering design problems and projects.
- Empower graduates in engineering disciplines to enhance their engineering skills addressing fire safety challenges.
- Ensure successful graduates have the potential to make significant advancements in engineering, technological and social issues associated with fire safety engineering.
- Inspire students to view their academic and future professional careers as opportunities to become creative and innovative managers and engineers.
- Develop the students' research methods and applications.

Programme Duration

2 years, part-time

Admission Requirements

- Holders of Bachelor's degree with Honours (at least 2:2 classification) in Fire Engineering, Building Engineering, or other related disciplines, such as Architecture or Engineering including building services engineering, electrical engineering, mechanical engineering, and civil engineering.
- Applicants whose undergraduate qualifications were not taught and assessed in English are required to demonstrate their English proficiency equivalent to IELTS 6.5.

**Admission interview may be arranged for applicants.*

Programme Structure

The Master of Science in Fire Safety Engineering consists of 8 modules, with a total of 180 credits.

Module Code	Module Title	Credits
FV4006	Fire Protection Strategies	20
FV4601	Research Methods	20
FV4103	Risk Assessment and Management	20
FV4201	Advanced Engineering Design Project	20
FV4002	Fire Engineering Solutions	20
FV4001	Fires in Buildings	20
FV4003	Computational Fluid Dynamics	20
FV4900	Advanced Engineering Dissertation	40

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



Modules at a Glance

Fire Protection Strategies

This module aims to equip students with knowledge of both active and passive fire protection techniques and to develop their ability to apply these techniques in the context of modern buildings and construction projects. By exploring various strategies, students will develop their skills in assessing and proposing design solutions. This module is designed to provide non-engineering graduates with the essential skills and knowledge for fire safety protection, enabling them to work effectively alongside fire engineers.

Research Methods

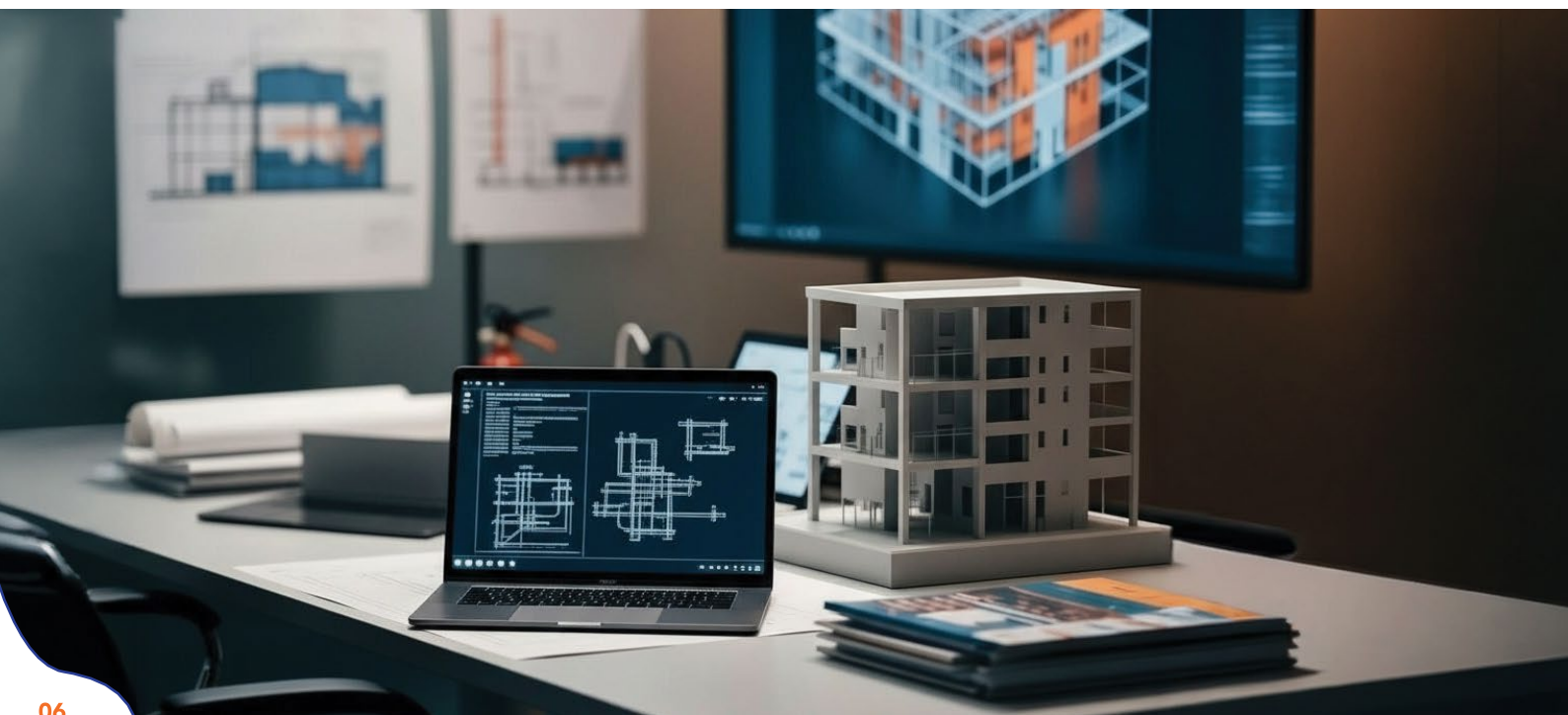
This module will introduce aspects of conducting research, reinforced by practical exercises, aiming to equip students with transferable career skills that enable them to communicate scientific ideas.

Risk Assessment and Management

This module aims to help students grasp the fundamental principles of risk assessment and its applications. It enhances students' competence in qualitative and quantitative risk analysis methods, probabilistic risk assessment, fire and explosion hazards, and risk management.

Advanced Engineering Design Project

This module enables students to extend and demonstrate engineering design skills, both collaboratively and individually. It incorporates the study of design theme, ICT and technology in a practical context. The project will help students to strengthen their critical thinking, problem-solving and key skills at the postgraduate level.



Fire Engineering Solutions

This module introduces the strategic use of fire engineering, as well as the tactical exploitation and limitations of specific engineering arguments and tools, that lead to the design and implementation of non-prescriptive solutions to fire safety problems in buildings.

Fires in Buildings

This module aims to help students understand the fundamental principles of fires in buildings, including the dominant mechanisms controlling the spread of fires, fire development in enclosures and buildings, smoke movement and smoke control, and fire resistance and fire severity, to cover the stages of fire development, human behaviour in fires and evacuation, and the mechanism of fire suppression agents. Through this module, students will develop engineering skills essential for designing buildings with fire safety and fire analysis.

Computational Fluid Dynamics

This module aims to enhance students' knowledge of Computational Fluid Dynamics theory and to develop their proficiency to use software for modelling fires in a realistic built environment.

Advanced Engineering Dissertation

This module aims to provide students with the opportunity to develop independent research and the ability to present a coherent, critical account of the work. On an individual basis, students will be required to carry out an in-depth study involving theoretical, computational, experimental or investigative analysis, or a combination of these. This module will also enhance students' employability skills, such as written communication, independent planning, execution and dissemination of research outcomes.



Programme Fee

HK\$98,000, 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.

